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Original Articles.

THE INTESTINAL SUTURE.¹

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THE subject of intestinal suture is one of such great interest and importance to-day, that I cannot do it full justice in this short paper. But I have endeavored by a brief review of its early history and a more close consideration of its development in the past few years to give a clear idea of the technique of the modern operation.

That this operation also is "no new thing under the sun" is shown by the fact that it was known to Celsus and practiced by many of the surgeons of early times. But notwithstanding that here and there isolated cases were operated upon, and intestinal wounds united by suture in some manner, it was still generally believed, that to meddle in any way with a tender and inflamed intestine, and above all to introduce sutures into it, was a grave and entirely unwarranted procedure. Total division of the intestine was, up to the beginning of the eighteenth century, looked upon as a necessarily fatal condition. Palfin taught, in 1710, that intestinal wounds could not unite, and advocated stitching the bowel to the abdominal wall so as to establish an artificial anus.

But the fact remains that many ingenious and often successful methods were adopted for the closure of intestinal wounds. In the Middle Ages Abulcasem and others made the most daring experiments with this operation. Roger united the intestine over a piece of elder tube, other operators used rolled pasteboard cards, pieces of candle, cork, swine's bladder, dried intestine, and the trachea of an animal.

The latter appears to have been the favorite among the materials thus used, and this method received the name of the Suture of the Four Masters, from its having been used by the four celebrated monks who practiced surgery together at Paris in the middle of the thirteenth century. I may here state that, according to Rydygier, all references to intestinal suture performed in early times, are made in regard to transverse or longitudinal wounds, as the first recorded resection with union of completely divided intestine was the operation done by Duverger in 1837. It is useless to discuss here how the great authorities of different times, and contemporaneous operators, differed in regard to the safety of intestinal suture. Scanpa was opposed to every suture, while Jobert, Reybard, Larrey, Lambert and others were in favor of their use.

In all the early methods, however, the main idea was to approximate the edges of the wound, in a general way, so as to give them an opportunity to heal together, but no definite rules were given for uniting them in any particular manner.

The great epoch in the history of this operation came in 1826, when Lambert, then an interne in one of the Paris hospitals, and a contemporary of Jobert's, who was also an interne, declared that in order to obtain union of sutured intestinal wounds the great essential was to procure careful apposition of the serous coats, and since then this has been the established fact upon which the foundation and success of all following methods have been based. Owing to a

misprint in the first publication of the method Lambert was substituted for Lembert, and hence the frequent misquotations made even at the present time.

But a short time previous to Lambert's discovery, Jobert had published an account of his Invagination Method, and it is not at all unlikely that in the study of it Lambert's idea found its source.

This consisted in invaginating the lower end of the bowel, and then drawing the upper down into it and fastening it in place by means of sutures, two or more in number. These sutures passed through the whole thickness of the bowel and were intended to finally cut their way through and pass off with the stool. This method approximates the serous coats more or less closely and gives quite good chances for union. Its disadvantages, however, are that under ordinary circumstances it is impossible to determine which is the upper end and which the lower end of the bowel. The calibre of the intestine is also too much reduced and the edges of the intestine form a flap which, if the bowels have been inverted in position, will act as a valve giving rise to more or less, often complete and fatal obstruction. It is also necessary to separate the mesentery from the invaginated and inserted portions of the bowels, and this may cause local gangrene from loss of blood-supply.

Reybard's method was particularly adapted to the closure of intestinal wounds with loss of substance. A thin piece of wood was inserted into the intestine, large enough to overlap the edges of the wound. To the centre of this was attached a double thread, each end of which was passed through the abdominal wall at one side of the external opening, and the bowel then drawn firmly against the wall of the abdomen so as to enable it to become attached and thus close the wound.

This method, like that of Palfin and other operators who insisted upon the necessity of fastening the bowel in some manner close to the abdominal parietes, had the advantage of giving the best chance, should union fail to take place, for the formation of an artificial anus, or a localized abscess by means of peritoneal adhesions.

Undoubtedly when union of the intestinal wound did occur after these operations it was because the serous surfaces had been well brought together, but that this was the great essential, none of the operators



FIG. 1.



FIG. 2.

up to the time of Lambert had recognized. He, as already mentioned, was the first to discover the fact since abundantly proved by experiment, that inflamed serous surfaces when in contact tend to unite with great rapidity. A serous and mucous coat will not unite, and mucous surfaces heal together but slowly. Lambert, therefore, made his suture so as to give the best opportunity for this adhesion of serous surfaces. Figs. 1, 2 and 3, in which the suture includes only the serous and muscular coats, illustrate the manner of making this suture.

As readily seen, the edges of the wound are always

¹ Read before the Surgical Section of the Suffolk District Medical Society, May 5th, 1886.



FIG. 3.

nically inverted when the stitches are drawn together. Lembert used the interrupted stitch. Numerous modifications of this suture have since been made, and from among them the operator of to-day must make his choice.

Before considering the modifications of Lembert's suture it will be interesting and possibly of value in connection with emergency cases, to speak of a few methods in which Lembert's principle has been applied without the use of sutures, or with but slight aid from them.

Dedan's ingenious apparatus for uniting completely divided intestine consisted of three rings of silver or tin. Two of these were similar and of a diameter slightly less than that of the intestine. The third was equal in length to both the others but smaller in diameter. The two shorter rings were inserted into the bowel and the ends of the latter invaginated over their inner surface. The third ring was then passed inside of these so that the divided ends met midway upon it. The whole apparatus was held in place by passing a suture threaded at both ends first close to the edge of the rings above and through the inner ring then out again at the edge of the rings below. At each end the needles were now passed in at the point of the former needle puncture, and then up between the outer rings and the bowel to where these rings came together. The needles were finally passed out through the intestine and the suture tied together. The rings were thus held in place and the serous surfaces enabled to unite. After a time the edges of the outer rings cut their way through the portion of bowel included between them, and the apparatus passed off with the stool.

The method of Beranger-Ferand is also very ingenious and was for the union of transverse or longitudinal wounds. Two thin pieces of cork were cut into prismatic shape with a width of about six mm., a thickness of two mm., and a length slightly greater than that of the wound. Small insect-pins were passed through these, their heads being covered in with sealing wax. One of these pieces was introduced into the bowel and the pins passed through the edges of the wound on one side about two or three mm. from its border. The other piece was placed in a similar manner on the opposite side. The edges of the wound were then inverted and the two pieces pressed together. An additional safeguard to their separation may be made at either end by inserting a piece of bent wire, and after the two pieces have been united, pressing this in from the outside. The wound was thus held together and the serous surfaces allowed to unite. The portion of bowel included between the pieces of cork soon ulcerated through and the apparatus passed off with the intestinal contents.

Amussat passed the ends of the divided bowel over a piece of cork deeply grooved in the centre. The ends were made to overlap slightly and the bowel then tied tightly down into the groove with a ligature. This also accomplished the desired result and after a time was discharged from the bowels.

Many other methods of suture, such as those of Gely, Emmert, and other operators are ingenious and interesting, but as they are no longer of much practical value, their description will be here omitted.

Probably the first change in Lembert's style of suture was that made by Czerny, who proposed to unite not only the serous coats but the edges of the wound as well. This he accomplished by using a double row of sutures (Fig. 4). This forms a sort of "Etage Naht" and is certainly, aside from the time it requires, a valuable adjunct, as it serves to protect the Lembert stitches by keeping the intestinal contents away from them. When this suture is made with the Kürschner stitch for the first row it does not require much time.



FIG. 4.

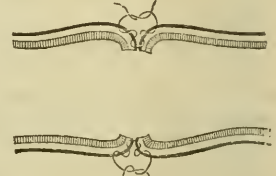


FIG. 5.

Gussenbauer then thought of doing this all with one suture and made his figure-of-eight stitch (Fig. 5). This is an ingenious but complicated suture and has the objection that should the lower portion ulcerate through, the whole stitch would become loosened and thus give rise to the escape of intestinal contents.

The Kürschner suture is a continuous one and (Fig. 6) is made by tying the first stitch and then proceeding as with any continuous suture, puncturing the intestine from within outwards, and fastening the whole when completed with a seamstress's knot. This is a very rapid and simple suture and closes the wound nicely. Nussbaum prefers it to all others and says, "The simple interrupted suture like Lembert's is very much harder to make, the needle must be laid aside ten or twenty times and the scissors taken in hand, while with the Kürschner suture this need be done but twice."

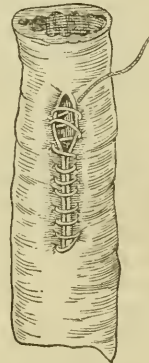


FIG. 6.

The remaining methods of intestinal suture which I am to describe are of very recent date, and have been used altogether for uniting the ends of resected intestines.

First, we have the method of Neuber used in operating for the cure of artificial anus and made as follows: A circumscribing incision was made through the skin about the anal orifices. The skin was then dissected away from the fascia beneath, and the edges of the flaps thus formed united with a continuous suture so as to prevent the escape of intestinal contents. The ends of the intestine were then loosened and brought down (Fig. 7). The abdominal wound was now closed by provisional sutures, as recommended by Madelung, so that just enough room remained for the ends of the intestine drawn through the wound (Fig. 8). The intestine thus constricted closed the abdominal wound, and prevented the entrance of fecal matter into the field of operation. The bowel was now held by digital compression and after removing a sufficiently large piece of mesentery and tying the bleeding vessels the ends were cut squarely off. (Fig. 8). Neuber now sutured the ends of the bowel together over a piece of decalcified bone tube.

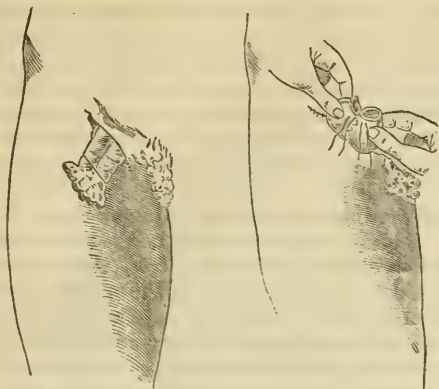


FIG. 7.

FIG. 8.

This tube was about two cm. in diameter, and turned so as to bulge in the central portion and have a deep groove in the middle line (Fig. 9). The sutures were made as follows: First before inserting the tube the ends of the bowel were united by two or three interrupted sutures, taken at the mesenteric insertion. The tube was then inserted and the ends of the bowel drawn closely together over it. The ends were now united by a number of Lembert stitches (Fig. 10 a). The intestine was then drawn down into the groove by means of a constricting "suture" or ligature (Figs. 10 b, and 9), and finally in order to get a most exact union of serous surfaces still another row of interrupted Lembert stitches was taken about one cm. apart (Fig. 10 c, and Fig. 9). Thus finally (Fig. 10 c, and Fig. 9) there was, in the depths of the groove the first row of interrupted sutures, then the constricting "suture" or ligature, and finally an outer row of interrupted sutures.

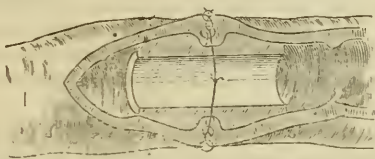


FIG. 9.

As advantages of this method Neuber claims, first, the ease with which it is performed, it being much easier to sew upon a firm foundation than otherwise. Secondly, the wound of the intestine is protected by the tube from contact with the intestinal contents. Neuber, to obtain the best possible asepsis, powdered a little iodoform into the groove. Thirdly, the tube maintains a free passage for the intestinal contents, which is not always the case with some of the other methods, where at times the collection of faecal matter above the wound owing to more or less stenosis forms a serious and even fatal complication.



FIG. 10.

The intestine has been united in this manner after resection at the Kiel clinic three times, twice by Neuber and once by Schlange, and each time with success. Experiments upon animals have shown that

after from four or five days the decalcified tube disappears. In the cases at the Kiel clinic, careful examinations of the dejections failed to give any trace of the tubes.

Professor Madelung, of Bonn, having in view the fact, well established in experimental pathology by Lister, Maas, Tillmans, Rosenberg, and others, that pieces of living tissue or other substances, when made aseptic, could be placed in the peritoneal cavity, and there become imbedded or encapsuled, and gradually absorbed without causing suppuration, devised what he calls the cartilage-plate suture. This suture is made as follows: The costal cartilage of a young calf is first cut in thin slices, which should have about the thickness, Madelung says, "of sections made by beginners in microscopic work," and the circumference of a small lentil, from four to six millimeters. These slices are prepared in the same manner as antiseptic silk. The ends of the bowel are first united with a Kürschner suture. A No. 12 needle is now threaded so that its eye comes at the middle of the suture. The ends of the suture are then tied together in a double, or better, a treble-knot. The needle is now passed through the centre of one of the cartilage-plates, and the suture drawn through until the knot

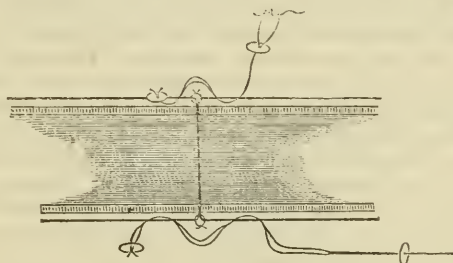


FIG. 11.

comes firmly against the plate. With the suture thus prepared, the needle is passed in the usual manner through the sero-muscular layer of both ends of the bowel, and then through a second cartilage-plate of the same size as the first (Fig. 11). The suture is now cut off close to the needle, and again tied in a treble-knot firmly down to the second plate (Figs. 11 and 12).

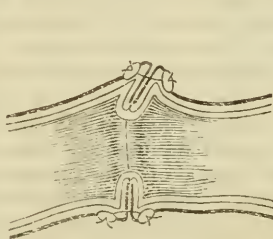


FIG. 12.

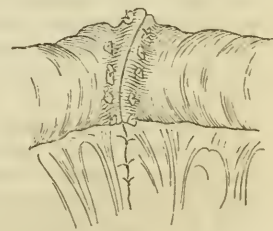


FIG. 13.

With the use of this suture, Madelung claims that it is possible, with a much smaller number of stitches, to obtain sufficient contact of the serous surfaces. Circular cutting through of the tissues by the suture is here avoided. If the wound of the serous coat made by the needle is enlarged a little by drawing upon the suture, the cartilage-plate will cover in this opening. Madelung hopes that his suture will not be looked upon as too complicated, and affirms that it is simple and practical in its application.

Mr. Bishop, of Manchester, England, has recently

devised a very ingenious suture, a full and illustrated description of which will be found in last year's January number of "Braithwaite's Retrospect." This suture is unnecessarily complicated, and presents no particular advantages. Besides, being made in a single row, it should not involve the mucous coat, which it does. It has only been used in experimental operations.

So much for the different methods of suturing the intestine. From the first Lembert suture made with the single interrupted stitch, down to the most recent of the after-coming methods, which I believe to be those of Neuber and Madelung, all have been sufficient to secure, with varying frequency of success, union of the ends of a divided intestine, or the edges of transverse and longitudinal intestinal wounds. No method has yet been devised which stands preëminently above all others. That one is the best which secures and maintains the most perfect and undisturbed contact of the serous surfaces with the least reduction of the intestinal calibre, and it will be a matter of personal choice and experience in deciding which one best answers these requirements.

The various forms of intestinal suture may be applied to any part of the alimentary tract from the œsophagus downwards, but their most frequent application comes after resection of the pylorus, or some part of the large or small intestine. This may be for the cure of (1) anus-preternaturalis or fœcal fistula; (2) gangrene following incarcerated hernia or intussusception; (3) malignant growths; (4) where adhesions to an abdominal tumor are so firm as to necessitate removal of a portion of the intestine or ligature of its blood-supply; and (5) stricture due to ulceration or other causes. Recently, a new application has been found in Wölfler's operation of gastroenterostomy, a procedure similar to the method illustrated in the "Surgical History of the War of the Rebellion," for uniting two simultaneously-wounded knuckles of intestine, with Gely's suture. Wölfler's operation, suggested to him by Nicoladoni, during a pylorus resection, where, on account of too extensive disease, the pylorus could not be removed, consisted in taking the loop of small intestine nearest the stomach, and after making a longitudinal opening in it, and a corresponding one in the stomach, a finger's breadth above the gastro-colic ligament, uniting the two by sutures, this being done instead of forming an intestinal fistula.

Let us now consider in detail the manner of making the intestinal suture. As there are now very few cases of intestinal lesion, which, if they lead to suture at all, would not be best treated by total resection of the affected portion, I will speak of the suture as applied in the latter operation. It is to be hoped that it is no longer necessary to urge the strictest adherence to the rules of antiseptic surgery, and also that any surgeon who will take upon himself the responsibility of such an operation, should it come as a case of emergency, has always in readiness all of the necessary materials, such as antiseptic sponge material, silk, catgut, needles, etc. It is also necessary to have practised the operation a number of times on post-mortem material, or in experimental operations. The operation should never be hurried; within reasonable limits, the amount of time taken, one hour to one and one-half hours is of no great importance. As far as the success of the operation as such is concerned, the greatest danger lies in failure to apply the stitches

perfectly. If the operation is done in emergency, there is, of course, no chance to get the bowels into the most favorable condition, namely, as empty and antiseptic as possible, but where the operation is a premeditated one, this should always be done. The stomach, when involved, must always be thoroughly washed out, and other parts, when possible, well irrigated.

After the intestine has been drawn out of the abdominal wound it may be held in position, either by applying provisional sutures to close the wound about it, as done by Madelung, or in the usual manner by the fingers and flat sponges or napkins placed beneath. To close the wound about the intestinal loop by Madelung's method, a number of sutures are taken through the abdominal parietes just as they usually are at the end of an operation, and after drawing the wound together tied in a beau-knot so as to be loosed at the end of the operation, when the bowel is to be replaced. They are then used with the additional necessary ones to close the abdominal wound. This method has also been used by Veit, of Bonn, in ovariectomies to prevent the protrusion of intestines while tying the vessels in the pedicle.

Now, when the intestinal loop is fixed, the bowel

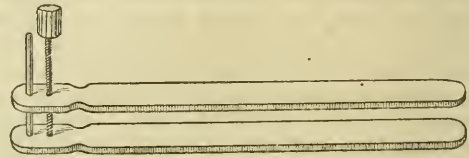


FIG. 14.

must be compressed above and below the portion to be resected, so as to prevent the escape of intestinal contents into the field of operation or the abdominal cavity. This may be done by, (1) digital compression, (2) long-bladed forceps with or without covering, (3) provisional ligature with stout catgut or silk, (4) various clamps devised for this purpose.

Rydygier's clamp consists of two flat pieces of iron notched at the ends and enclosed in rubber-tubing. They are fastened with rubber-bands. Makins' clamp is a large bull-dog forceps with a screw closure, the blades to be covered with rubber-tube. I have had made a clamp similar to the Dupuytren-Blasius, one for the cure of artificial anus (Fig. 14.) Its advantages are supposed to be, that the blades, which are also to be covered with rubber-tubing, are kept parallel and the pressure thus made equable. The screw is so arranged, by being weak and not bringing the blades entirely together, that too great pressure cannot be employed. When polypus forceps or other clamps closing at an angle are used, the pressure at the inner part is apt to be too great and give rise to sloughing.

Digital compression is very good but in a long operation the fingers are apt to become very tired, and are, above all, much in the way.

A provisional ligature passed through the mesentery and around the bowel closes the canal very thoroughly but if tied too tightly will give rise to gangrene. It also wrinkles the bowels more or less, which may at times be an inconvenience.

After having closed the bowel in some manner the next step is either to resect the desired amount of intestine with its triangular piece of mesentery and then tie the vessels, or tie the vessels first and then remove

the intestine and mesentery. It seems to me it is much better to first tie the vessels and then remove the bowel with its mesentery. The vessels going to the bowel can be plainly seen or felt and the elimination of the blood-supply made with such exactness that very little if any bleeding will occur after the intestine is divided. The field of operation is thus kept much cleaner. The only objection to this method is that it is said to require more time, but the difference, if any, is very slight and not important.

One important point must now be remembered, and that is, to resect, no matter how much this may increase the difficulty or length of the operation, all intestine which has had its blood-supply removed. This, as already stated, is always easily determined. Operations which might otherwise have been brilliant in their results, have ended fatally through neglect of this point, the post-mortem examinations having shown that gangrene of intestine thus deprived of its blood-supply always occurred.

After the bowel has been resected any contents which may escape from the portions beyond the clamp, must be carefully wiped away and the ends thoroughly cleansed before commencing the suture. At this point, if no clamps have been used it can be seen how difficult it is to distinguish the upper from the lower end of the bowel, for if both contain ingesta they will escape in about equal amount from either opening. The character of the escaping contents is an indication as to what part of the intestinal tract has been opened.

The intestines are now to be united according to the suture employed. The edges of the protruding mucous membrane may now be trimmed off, but this I think inadvisable and of no particular benefit. What seems to me to be the best of the simple sutures is, practically Czerny's, but differs from it in having the first row made with a continuous suture. The first row may be made with the Kürschner suture. For the outer row I used in an experimental operation a suture, which I do not find described, but which may be called a continuous Lembert suture. This was what I understood to be Kürschner's suture, but that suture as described and figured by Nussbaum perforates all the coats from within outwards. The continuous Lembert suture is simple and a great saver of time. It is merely the Lembert stitch made with a continued instead of interrupted suture.

If the material for Neuber's or Madelung's suture is in readiness they too might be used, and from the success which has thus far followed them, no failure of union having occurred, they are probably as certain, if not more so, than any of the others.

Bishop claims as advantages of his suture the fact that the knots are all made on the inside, and after ulcerating through, the stitches pass off with the stool. But the desired object to-day is to have the stitches become encapsuled or absorbed and not cut their way into the bowel. This should be the case with one row at least.

In making the suture it is always best to begin at the mesenteric insertion. This is the most difficult part to unite as the peritoneum over the mesentery is apt to tear away. If this occurs stitches may be later taken, outside of those that tear away. It is much better to hold the folded intestine gently between the fingers and sew with a straight needle and without forceps or needle-holder (Fig. 15). The intestine is

thus injured as little as possible and the suture, by avoiding the constant change from forceps to needle-holder, and *vice versa*, made more rapidly. In pylorus and other operations involving thicker parts, forceps and needle-holder should be used. The needle should be introduced so as to leave, in making a single row suture, two or three mm. of intestine beyond the needle puncture nearest the wound border (Figs. 1, 2, 3). Three or four mm. should be lifted upon the needle each time in sewing (Figs. 3, 4, and 5), and from the thickness of this portion which can be well judged it can be seen how much of the intestinal wall is being included in the stitch. The suture is now continued around the bowel. The stitches should be taken very close together, two or three mm. apart, as what may appear to be close stitches in the contracted bowel, will, when there is distention, as with flatus, be perhaps quite far apart. When this suture is ended it should be thoroughly inspected, and any point where good apposition is doubtful or where the suture has torn away at all, reinforced with one or more extra single stitches. The edges of the mesentery should then be united with a few interrupted sutures. After removal of all clamps and other accessories to the operation which may have been placed about the bowel or elsewhere, the intestine is carefully cleansed and dropped back into place. The abdominal wound is then untied in the usual manner.

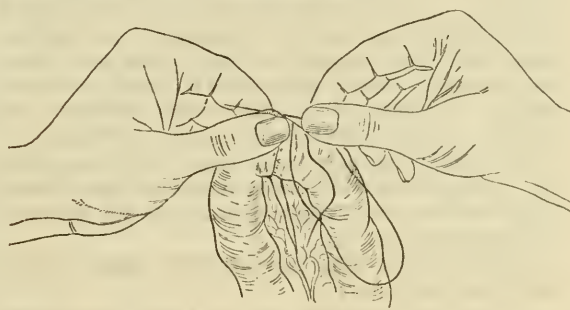


FIG. 15.

The needles used should always be plain, straight, round sewing needles and of the smallest size. A No. 12 English Pearl sewing needle is what is generally used, threaded with the finest conjunctival silk or Japanese silk twist. A No. 10 or 11 needle seems to me to be sufficiently small and is somewhat more convenient to use on account of its length. The finest catgut may also be used, but it is less pliable and above all requires a much larger needle and therefore necessitates a larger puncture wound. The suture may be threaded while dry, and then disinfected. This is done by tying the ends of the threads together and holding the needles in forceps or otherwise and then boiling them one hour in five per cent. carbolic acid solution. (Czerny's method). If it is desired to keep them in readiness they may be placed in alcohol where the needles will not rust. Rydygier in a large number of experimental operations always used catgut and never failed to get good results in cases of simple resection. But aside from the objections already made to catgut is the additional one that should suppuration occur about the wound, or pressure come from faecal masses moving down from above the wound, the silk would be there to resist their tendency to separate the freshly united surfaces, long after the catgut had disappeared. The antiseptic silk becomes readily encapsuled and may

be sewed or tied in anywhere. In order to become encapsuled it must of course remain antiseptic, and since stitches which perforate the mucous membrane must absorb more or less of the intestinal contents they should, it seems to me, never be taken unless it is desired to have them cut their way into the bowel. In addition to this, such stitches make a puncture wound through the wall of the bowel from which fluid contents may escape into the peritoneal cavity.

I have already stated that any disease or injury of the bowel, excepting slight wounds, where intestinal suture is needed, would probably be best treated by total resection of the affected portion and union of the divided ends. This I hold to be so from the fact that other operations necessarily lead to a large degree of stenosis at the point of suture, while in uniting the ends of a resected bowel, the largest possible calibre is obtained. This may be still increased by adopting a method advocated by Madelung and Weber of dividing the ends of the bowel obliquely so as to increase the room for passage at the point of union.

From the nature of the intestinal blood-supply, the edges of the bowel after resection are sure to have an abundant source of nourishment and therefore when properly sutured to unite with certainty.

Finally, let us consider briefly the value of this operation. Statistics are of but little weight in this connection as many of the early operations which were fatal in their results, owing to an undeveloped technique and imperfect or no antiseptic precautions, would have been followed in later years and to-day with success. This I think will be well seen in an analysis of seventy-three cases which had been collected up to April, 1881, by Professor Madelung.

All of these seventy-three cases were resections, that is, complete division, with removal of more or less of the intestine, from a few inches up to 2.5 meters as in Körberle's case.

Twenty-nine of these seventy-three cases resulted fatally, and as follows:

Fifteen died before the end of twenty-four hours, and one other case was probably as rapidly fatal, but owing to incomplete report this is not certain.

One death occurred on the operating table from the entrance of vomitus into the trachea.

Death never followed after the thirteenth day.

Death was due in one case to embolism of the pulmonary artery from an old venous thrombus of the thigh, and occurred four days after the operation.

One patient died from delirium potatorum, and an insane patient from œdema of the brain.

Twice death was due to other simultaneously received wounds.

In six cases peritonitis had already begun at the time of the operation, and was the cause of death.

Three deaths are referred to "wound shock" and inanition marasmus.

One death was caused by stenosis of the intestine, due to a pseudo-ligament below the point of suture.

Five times fatal peritonitis and acute sepsis developed immediately after the operation. In three of these cases faecal matter escaped into the abdomen during the operation.

In seven cases death occurred during the period of convalescence, peritonitis following the escape of faecal matter through the resection wound. Twice this escape of faecal matter was due to incomplete resection of the gangrenous portion of the bowel, and in the

other five to failure to completely close the wound with the suture.

Of these seventy-three recorded operations, fifty-two, with thirty good results, were performed in the years from 1877 to 1881, and the successful operations in this period are, without exception, those of German, Swiss, and Austrian surgeons; and Madelung says: "We have a right to be proud of the blossom to which this branch of operative surgery has come in our day, but we must, nevertheless, understand that only the first step has been made on the new way."

There is no longer any doubt as to the safety of opening the peritoneal cavity, granting, of course, that it is done in the proper manner. The peritoneum, far from being a membrane of the most vulnerable sort, as it was formerly regarded, bears with the greatest tolerance an astonishing amount of cutting, burning, tearing, and manipulation. From the time when the surgery of the serous cavities was limited to a timid approach to the opening of some of the smaller joints, it went on to the free drainage of the chest for the cure of empyema; and so it will be, if it is not already, with the surgery of the abdominal cavity.

Numerous cases of peritonitis, where the parts have been found "glued together and bathed in pus," have been treated by abdominal incision and thorough washing out of the abdominal cavity with large quantities of water, and have made good recoveries. At our last meeting, Dr. John Homans reported a similar case.

To two influences, however, the peritoneum is greatly susceptible, and they are septic absorption and loss of heat. Unlike the skin, naturally adapted to protection from rapid loss of heat, the peritoneum is a moist, evaporating surface, from which, when exposed to the air, the loss of heat is constant and rapid. Wegner, in his valuable investigations and experiments, found, in a medium-sized woman, the area of the skin-surface to be 17,502 sq. cm., while that of the peritoneum was 17,182.

By exposing the peritoneum to rapid loss of heat, a reflex paralytic influence is exerted upon the heart, and unless warmth be rapidly applied, death occurs from collapse.

If an ice-compress is laid upon the exposed intestines of a dog, the heart instantly ceases to beat, while, as Wegner found, a stream of warm vapor may be directed upon them for seven or eight hours without injurious effect.

Wegner further found that animals into whose peritoneal cavity he had injected large quantities of salt solution at the body temperature were never injured by the procedure, but moved about in as lively a manner as ever.

The capacity of the peritoneum for absorption, and, therefore, for infection, is indicated by the fact that in one hour, fluid equal in quantity to eight per cent. of the body weight may be taken up from its cavity, and in two days an amount equal to that of the entire weight of the body. A quantity of chloral solution injected into the peritoneal cavity exerts an almost instantaneous soporific effect. The large peritoneal area and the peristaltic movements are also elements aiding the rapidity of absorption.

These facts present their own argument, and are clear indications of what it is necessary to avoid in peritoneal operations.

Let us, then, hope that when occasion arises for the application of intestinal suture, no traditions in regard

to the dangers which it involves will prevent its being used according to the means of to-day, and many lives thus saved or made comfortable. Without exception, when done with no technical failure, the operation has, in the last few years, been successful, and where death has occurred, it has been not because the intestinal suture failed to accomplish its object, but owing to other conditions involved in the nature of the case.

In conclusion, let me say that to the consultation of various works, mostly recent German ones, I am indebted for the majority of ideas and figures presented in this paper.

EXCISION OF ELBOW: LOCAL ANÆSTHESIA BY COCAINE.

BY H. W. CUSHING, M.D.

IN the case to be reported, the Corning method for producing local anæsthesia by cocaine was employed for the purpose of ascertaining its adaptability to major operations.

The method consists in confining a cocaine solution injected subcutaneously in the field of operation by obstructing the circulation, and thus prolonging the anæsthetic effect at will.

The apparatus required is an Esmarch bandage, a flat-band tourniquet and clamp, a subcutaneous syringe, with short and long needles, and cocaine solution.

The operator first dilates the veins of the selected region by compressing the main afferent vessels with the tourniquet, and then maps out their position with a crayon pencil.

The tourniquet is now removed, the limb exsanguined by an Esmarch bandage applied in the usual way, from the distal end to a short distance below seat of operation. The cocaine is now injected superficially over the desired area as rapidly as possible, each injection being 2 to 5 m. of solution, and each succeeding puncture being made at the edge of the reddened surface from the preceding one. When the skin is anæsthetized, the drug is injected into the deeper tissue in amounts of from 1 to 2 minims, and the solution forced out of the needle as the point descends through the tissues, so as to diminish the pain before it pierces them.

When the injection, which, according to the originator of the method, should not require more than five minutes, is completed, the tourniquet is applied a short distance above the anæsthetized zone, the Esmarch bandage removed, and the patient is ready for the surgeon.

If the anæsthesia is found incomplete either by exploratory punctures or after the operation has been commenced, supplementary injections are made in the same manner as the original ones.

This method has been used by J. M. Roberts, of New York (October 14-17, 1885) — *New York Medical Record*, October 24, 1885), to excise the elbow and hip, and for a femoral supra-condyloid osteotomy. By J. R. Conway with the Esmarch bandage, to examine fractures and dislocations. By C. E. Bruce (*Medical Record*, October 24, 1885) for circumcision; and by Wright to remove tumors. Their reported results are extremely favorable. With the exception of the above, I have seen no other record of these uses for cocaine.¹

My patient was a fairly well-developed, anæmic woman, aged twenty-six, extremely nervous and timid, with chronic arthritis of the left elbow. After being blindfolded, the arm was prepared in the manner just described, and the skin injected with a one per cent. cocaine solution, temperature 100° F., (over an area of which the olecranon was the centre four and a half inches long and from two and a half to three inches in width) at thirty-five separate points. This required nineteen minutes, and 74-100 grains was used, after which the surface appeared as if it had been exposed to a vigorous swarm of hungry mosquitoes. The patient complained of considerable pain from the tourniquet. Pain from the subcutaneous punctures ceased eleven minutes after the first injection.

The anæsthetic area from each puncture varied from one-half to one inch in diameter. The whole area was approximately four inches in length, and from two and one-half to three inches in width. Ten deep injections were now made; amount, 20 m. = 1.5 grain. Pain was felt below a depth of one-quarter to one-half an inch from surface of skin.

The tourniquet was then applied 4 to 5 cm. above upper border of the anæsthetic area thirty minutes after the first injection, and the operation begun. The primary incision, 10 cm. in length, which divided the tissues to the bone, caused no pain, but the attempt to elevate the periosteum from the edges of the wound made the patient wince and cry out.

Nine subperiosteal injections were now made of a four per cent. solution = 17 m. = .68 grains, requiring five minutes. This rendered it possible to continue the operation till the condyles were reached. Then the complaints of pain were renewed, and as I did not care to exceed the amount of cocaine already injected = 1.62 grains, the attempt was abandoned and the operation completed under ether. It would probably have required over two grains, an amount which, in one of Wright's cases, caused such collapse that considerable difficulty was found in resuscitating the patient.

The tourniquet was removed, wound dressed, and the patient sent to the ward. Recovery from the ether occurred without any especial symptoms, except marked nausea and vomiting. At one-and-a-quarter hours after, however, the patient suddenly became unconscious, the pulse weak and rapid, respiration shallow and slow; face pale, pupils dilated; muscles relaxed, except those of inferior maxilla, which were in a state of clonic spasm.

Patient was given a subcutaneous injection of brandy and nitrite of amyl by inhalation. Resuscitation followed without difficulty, improvement of objective symptoms preceding the return of consciousness. The nausea and vomiting disappeared gradually at the end of twenty-four hours, since which time the patient has steadily improved.

The pain following the operation was apparently less than usual, and the local disturbance from the multiple injections apparently did not interfere with the process of repair at the seat of operation.

It is obviously impossible to justly criticise a method from such limited experience as one case furnishes, however carefully observed, but the results obtained seem to indicate that the method has only a limited application and value.

It seems unsafe to use a drug whose internal dose it still undetermined in such amounts as would appar-

¹ Dr. Varick, *New York Medical Journal*, February 20, 1886. Details of amputation of thigh, where ether had caused alarming symptoms; apparently successful.

ently be required to anæsthetize areas large enough for capital operations.

It is ineffectual in operations upon osseous structures, since these, as far as I know, are uninfluenced by cocaine in any available means of application. The discomfort of the tourniquet is an important factor, as any one can readily convince himself; and there seems also an uncertainty of affecting the deeper tissues uniformly, although the surface may be perfectly anæsthetized.

It increases the time of operating, necessitates additional apparatus, if performed in the manner described by Dr. Corning, and although local pain is absent, an extra strain is imposed on a nervous patient through the mental excitement caused by the strange sights of an operating theatre, and anxiety for one's personal safety, which the unconsciousness from ether prevents. Power of motion also, though at times of great assistance to an operator, will often cause great inconvenience if governed by a patient's volition.

It is, however, of value as a substitute when ether is for any reason contra-indicated, or for operations involving soft parts in limited areas so situated that strangulation of the venous circulation is possible.

The following is a summary of the injections, showing the strength of the solution and the amounts used:

1% solution.	35 injections.	19 minutes.	74-100 gr.	.74
1% "	10 " (deep)	11 "	20 m.	.20
4% "	9 " sub-periost.	5 "	17 m.	.68
	54	35		1.62

In conclusion, I wish to acknowledge my indebtedness to Dr. H. L. Burrell for the opportunity of testing this method.

A CASE OF PUERPERAL SEPTICÆMIA, FOLLOWED BY HÆMORRHAGIC CASTS OF THE UTERUS.¹

BY EDWARD J. FORSTER, M.D.

Mrs. A., American, has been three times pregnant. The first pregnancy terminated at the third month. The second at term, the only complication being a slight tear of the perineum for which two stitches were taken; these, unfortunately, sloughed out. Lactation was followed by symptoms of nervous exhaustion, which not yielding to iron and tonics, an examination was made, and, besides the laceration of the perineum, one of the cervix found, the edges rolling out, with the usual accompanying endometritis. An operation was advised and agreed to, but before it could be done, she found herself for the third time pregnant. This pregnancy terminated at term, a male child, nine and a half pounds, O. L. A., cord once around body, large amount liquid amnii.

The nurse, who had been with patient in previous confinement, was directed to wash the external genitals with phenyle solution, and to give daily a vaginal douche of the same. The temperature and pulse remained normal until the sixth day, when a chill occurred, followed by temperature 105°, falling one degree after a vaginal douche of phenyle solution. On the seventh day, the morning temperature was 103°; tenderness over uterus; an interuterine injection was given, and again on the eighth day. A vaginal examination on the tenth day showed a membrane on the sides of the lacerated cervix and on posterior wall of the vagina. After thoroughly wiping off the membrane, a douche of corrosive sublimate, 1 to

2000, was given, and the parts dusted with iodoform. The parts were douched again towards evening, and sulphate of iron and glycerine applied to the cervix. The next morning the temperature was 101°. This treatment with poultices to abdomen was continued until fifteenth day, when the temperature was slightly above 99°. The vagina was daily douched with 1 to 2000 corrosive sublimate solution. Food concentrated or predigested. Champagne, etc., were given.

Owing to my temporary illness, Dr. B. saw the case for the next three days, and found at his first morning visit a temperature of 103½°, the same at night, reaching 104° the two evenings following. At his suggestion and with my concurrence, Dr. W. L. Richardson was called in consultation, who advised the use of uterine iodoform suppositories. About five grains were so given, and this treatment I continued for three days.

Dr. D. took charge of the patient for the next five days, during which time the temperature fluctuated from 99° to 102°. The vaginal douche was continued, the membrane wiped off, and iodoform applied daily. On the twenty-eighth day, the temperature was 100°, and gradually rose to 104° on the thirty-first. During the night the patient vomited, and had a very slight show of blood. At my morning visit, the temperature had dropped to 99½°, and I was told by the nurse that probably the douche might be omitted, as the monthly period had arrived.

Examination showed this not to be the case, but a small clot was removed from the os. On the thirty-fourth day, a clot was removed from the uterus by slight pressure with the end of the speculum. It was about six inches long, and a perfect mound of the uterine cavity. Similar clots were removed from the vagina on the thirty-sixth and thirty-seventh days, and again on the thirty-eighth, but the clot was much smaller; this was the last.

The next day the cervix, for the first time, was found entirely free from membrane. The douching was now discontinued. On the forty-fifth day, induration was plainly felt at the right side of the uterus, the mass appeared about the size of an orange. I supposed we should have a pelvic abscess to treat, but the continued use of the hot douche twice daily caused the tumor to disappear, and finally, on the fifty-sixth day after delivery, the fiftieth after the chill, the temperature was normal.

Iron, strychnia, quinia, and digitalis were given at different times and in different doses during the progress of the case. Ergot was given when the clots first appeared. Hot fomentations or poultices were almost continuously applied to the abdomen, and gave much relief. I have purposely omitted many of the details.

The principal points of interest seem to me to be: The persistency with which membrane, or something which I mistook for such, reappeared, the last seen being thirty-five days after it was first noticed. The formation and passage of the clots at a time when it seemed that they could not be attributed either to the recent confinement or to menstruation.

I think that the cause of the septic poisoning was due to the neglect of the nurse to properly wash the genitals or to give any vaginal douche, as ordered. After the chill, the nurse was alarmed, and gave a douche; this I learned late in the case. An examination of the drains, etc., showed no source of contagion.

¹ Read before the Obstetrical Society of Boston, November 13, 1886.

Clinical Memoranda.

CAUTERIZATION BY NITRATE OF SILVER, TO RELIEVE PERSISTENT RETENTION OF URINE, DUE TO ENLARGED PROSTATE.

BY DAVID G. HALL, M.D.,

Second Assistant Physician to the Northampton Lunatic Hospital.

So little attention has been given to operations upon the prostate gland, that it has become the almost universal custom for surgeons, in cases of retention of urine, due to enlargement of the third lobe of that organ, to employ only palliative measures, and dismiss the case without affording any permanent relief.

In this way, it seems to me, many lives are sacrificed which might be saved or at least prolonged, by the employment of some mild, and at the same time, radical mode of treatment.

Mr. F. Swinford Edwards, in his excellent article on Prostatectomy,¹ refers to "three operations" which may be employed "to relieve retention of urine, from obstruction at the neck of the bladder, whether prostatic or valvular."

1. Excision through a perineal incision.
2. Thermo-electric prostatotomy.
3. Mercier's operation or prostatectomy.

Not daring to attempt any one of these, and yet firm in the belief that the same object could be accomplished by less severe measures; I determined to try, in the following case, the repeated application of nitrate of silver, which, so far as I have been able to ascertain, has never before been employed for this purpose, and I was not a little surprised to receive such gratifying results.

J. W., farmer, native of Germany, was admitted to the Northampton Lunatic Hospital in April, 1880, suffering from chronic mania. The records show nothing of especial interest, until September, 1885, when one of his excitements occurred, during which he insisted upon going without food and sleeping on the bare floor.

One morning he was found to have retention of urine, and examination per rectum, showed a marked enlargement of the prostate. The usual course of treatment, to reduce the inflammation, was followed; but almost complete retention continued for nearly five months. He then began to have hysterical attacks, when an enormous amount of pale urine would be secreted, requiring the frequent use of the catheter, and causing him no little inconvenience.

The first of these occurred during the night, and although an attendant was within easy calling distance, he made no attempt to arouse him.

Distension of the bladder and acute nephritis followed. After this condition of things had been twice repeated, it became evident, that unless some more permanent relief could be afforded, his strength would soon become exhausted.

Among some old discarded instruments, which had formerly been used in the hospital, was one for applying astringents to the urethra, in cases of spermatorrhoea. It was about the size of an ordinary silver catheter, with an opening at the end, from which could be protruded, for about three-fourths of an inch, a female blade, and this being attached to a spiral wire, concealed in the male, could easily be rotated throughout the whole, or any part of a circle. On one

side of the extension, or female blade, was a slot about half an inch in length, evidently designed for holding some semi-solid material, to be applied directly to the affected part. Into this I poured a quantity of melted nitrate of silver, and when cold shaved it down to the size required, that it might be concealed during introduction. The instrument was passed into the bladder when it contained a considerable quantity of urine and withdrawn a short distance. To have the bladder partially filled was thought to be a necessary precaution, to lessen the liability of injury to the parts, in case any portion of the caustic should become detached). The caustic was then exposed by pushing on the ring. After allowing it to remain on the surface of the prostate a few seconds, it was rotated several times, then concealed in the male blade, and the instrument removed. A hard-rubber catheter, well warmed, was fastened in the bladder for a few hours. The cauterization caused but very little pain, and the slight tenderness about the perineum, lasted only a few days. The urine was drawn with a soft-rubber catheter as often as required, and the bladder washed, morning and night, with a three per cent. solution of glycerine and warm water. After five days the operation was repeated.

This time I neglected to fasten a catheter in the bladder, and although less than an hour elapsed before an attempt was made to remove the urine, the instrument was passed with considerable difficulty. Two more operations, making four in all, were performed at intervals of about five days, each one being followed by a marked increase in the size of the stream of urine. It was then found that micturition could be freely accomplished, and there being only a residuum of about an ounce and a half of urine, further interference was considered unnecessary. Six months have now elapsed, and there have been no troublesome symptoms whatever. The bladder has been frequently emptied and washed with a three per cent. solution of glycerine and warm water.

A CURIOUS CAUSE OF DEAFNESS.

BY DAVID COGGIN, M.D., SALEM, MASS.

DECEMBER 31st, 1885, Mr. X., a slightly-built, American, of about thirty-five years, came to the narrator with the following story: Three weeks before, he received a fist-blow on his neck, beneath the right ear, which rendered him insensible. His adversary was an unusually large and muscular man.

On recovering consciousness, he found he could not hear with his left ear. There had been great impairment in the hearing of the right ear, with an occasional discharge, for several years. He stoutly affirmed that he had always heard well with the left ear, previous to the altercation in which he was assaulted. The right drum membrane presented a small perforation in the inferior, posterior quadrant. No secretion. Watch heard at ten centimetres. The left drum seemed to be quite normal. Tube pervious. Tuning-fork heard in right ear only.

As malingering is always to be looked for in such cases, the writer's "stethoscope-test" for simulated one-sided deafness, was employed. but it only confirmed the patient's statement, that he was absolutely deaf in the left ear.

¹ Lancet, July 11, 1885, p. 57.

Neither vertigo nor pain had at any time been complained of.

Eight months later there had not been any change, save that the hearing was less acute in the right ear, owing to a recent catarrh.

Now, if, as seems probable, the hearing was good in the left ear prior to the blow, what caused its complete abolition?

Is not this a reasonable hypothesis, the *contre-coup* may have caused a total rupture of the *portio mollis*, thus producing deafness, while the firmer *portio dura* was not injured, of which, indeed, there had not been any symptoms.

The writer regrets that he has not been able to try the effects of a blow on a cadaver, which might have helped to settle this somewhat important question.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

MAY 5, 1886, DR. GEORGE W. GAY presiding.
DR. O. K. NEWELL read a paper on

INTESTINAL SUTURE.¹

In reply to Dr. Chadwick, the reader said that the stitches should be two to three mm. apart.

DR. CHADWICK spoke of the difficulty that he had experienced in introducing the sutures properly in the living subject, as it is difficult to be sure that the needle is through only the serous and muscular coat. The intestine is also very slippery, and the coats slide upon each other, still further increasing the difficulty of manipulation.

DR. GAY also spoke of the difficulty arising from thinning and stretching the bowel, owing to paralysis of its muscular coat.

DR. MIXTER spoke of the anatomy of the blood-supply of the intestine, and referred to observations of German surgeons, showing that if the intestine is separated from the mesentery for too great an extent, sloughing occurs. Hence, as much intestine should be excised as corresponds to the mesentery detached. Dr. Mixer also referred to the value of one or two provisional sutures in the abdominal wound, so placed that the intestine being operated upon is shut off from the abdominal cavity.

In answer to Dr. Gay, DR. NEWELL said that there was no reason for interrupting the continuous suture at two or more points, as it is not shown that it causes any stricture of the bowel. Dr. Newell showed pieces of human intestine, illustrating the methods of applying the various forms of suture, and also a dog, just killed, whose intestine had been resected and sutured in two places two months previously. The union in both places was perfect.

DR. H. W. CUSHING showed several animals on which various forms of intestinal suture had been performed, and gave a report of his results.

EXCISION OF THE ELBOW FOR INJURY.

DR. JOHN HOMANS showed a patient whose elbow-joint he had excised nearly three years before without

removing the condyles of the humerus. The operation was performed at the Massachusetts General Hospital, July 5, 1883. The patient, a railroad laborer, aged twenty-seven, had been struck by a train of cars, and had received a compound fracture of the left elbow, with extensive comminution of the radius and ulna, and severe crushing of the soft parts in the neighborhood. Two and a half inches of the radius and ulna were removed, and the rough ends of the fractured bones sawn off smoothly. All the periosteum was carefully preserved. The operation was performed under the carbolic spray, with all antiseptic precautions. The patient was discharged from the hospital October 13th, having at that time very good motion, but not much power to use the arm. Early in the following April, he resumed his work in a mill, where he was obliged to carry heavy bundles of wool, and he soon found that he could use his left arm about as well as he ever could, and for the same purposes, except that he could not put up a heavy weight. He has constantly gained strength, and now has a perfectly useful arm.

DR. H. W. CUSHING reported a case of

EXCISION OF ELBOW: LOCAL ANÆSTHESIA BY COCAINE.²

DR. J. W. ELLIOT showed a pair of ovaries that he had removed by laparotomy, together with the tubes. Before the operation the ovaries had been found much enlarged, prolapsed, and very tender. The patient had suffered from neurasthenia for several years, and had been under the treatment of Dr. James J. Putnam for more than a year. The operation was done as a last resort by the advice of Drs. Putnam and John Homans. The patient made a good recovery.

DR. JOHN W. PERKINS showed a specimen of

ANGULAR CURVATURE OF THE SPINE.

The specimen was from a woman about fifty years old, with no history. The diseased vertebrae, seven in number, occupied the upper dorsal region. The spines were distinct, the bodies coalesced into one piece, with no trace of inter-vertebral substance left. This piece was about twice the height of the adjacent bodies, and bent so as to form an angle of fifty-four (54°) degrees, about which the cord passed. At this point there was an increase in the peridural fat tissue, especially marked on the outside of the canal, where it formed a thick pad opposite the apex of the body, which projected into the canal. The cord itself showed no pathological changes, nor did the vertebrae, other than those above mentioned, there being no thickening, and no signs of any inflammatory deposit, recent or old.

DR. EDWARD T. WILLIAMS exhibited

AN APPARATUS FOR THE TREATMENT OF FRACTURED CLAVICLE.

Dr. Williams said that the chief defect with most forms of clavicle apparatus was that the humerus was not properly fixed. It is not enough, as the books teach, to carry the shoulder *upwards, outwards, and backwards*, for unless the humerus is also immovably secured, a constant motion of the fragments takes place, with resulting deformity and shortening. The apparatus exhibited was simply a new form of bandage for fixing the humerus.

¹ See page 1 of the Journal.

² See page 7 of the Journal.

Take a piece of sticking-plaster long enough to go nearly, if not quite, round the chest, and wide enough to reach from the axilla nearly to the elbow. Lay it upon the table, spread-side down, and on it place a piece of cotton or linen cloth cut to the same dimensions. Stitch them together across the middle by two parallel seams, from two to three inches apart. Then tear the cloth in strips, lengthwise, after the fashion of a many-tailed bandage. You have then a broad belt of adhesive plaster, secured back to back to a many-tailed bandage.

The plaster-belt goes round the chest, the tailed bandage is to secure the arm. Adjust the belt in position, taking care to have the space between the seams exactly in the mid-axillary line. Then raise the shoulder and pad the axilla in the usual manner, securing the pad by a figure-of-eight bandage or plaster-strip crossed over the sound shoulder, and down into the sound axilla. Then bring the tails of the bandage around the humerus and pin them, supporting the forearm, as usual, in a sling. The interval between the two seams of the bandage is to give space for the brachial vessels, and to avoid undue constriction of the arm.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES M. GREEN, M.D., SECRETARY.

NOVEMBER 14, 1886, the President, DR. A. D. SINCLAIR, in the chair.

DR. SINCLAIR reported the following case of

INDUCTION OF PREMATURE LABOR IN A PRIMIPARA,
BY MANUAL DILATATION OF THE VAGINA AND CERVIX UTERI.¹

On the 12th of October last I was asked by Dr. W. L. Richardson, who was sent for but could not attend, to go to a distant part of the country, to see a primipara in the ninth month of pregnancy, who was reported as being the subject of albuminuria, general œdema and blindness. Examination of the urine showed, specific gravity 1022, acid, albumen in large amount, blood and granular casts. After a conference with her medical attendant, a personal examination of the patient, and much subsequent discussion of the case, it was decided to resort to premature delivery for the safety of the woman and child. The patient, twenty-nine years of age, became pregnant in January. The progress of gestation was not remarkable until July, when she became generally œdematous. From that time until that of my visit this state of things continued, with persistent albuminuria and casts. The amount of albumen varied under treatment from three to seven per cent. On the 8th of October she became blind. It may have some significance, that on that day the urine contained but about one per cent. of albumen. The amount of urine passed was never scanty. Ophthalmoscopic examination of the eyes reported retinal disorder characteristic of the renal disease. Everything was being done to ameliorate the patient's condition, and to carry her

over to the estimated term of natural delivery; but the blindness, the œdema, and the bad state of the kidneys remained. The patient, a refined and educated lady, was aware of the gravity of her condition and correspondingly affected. It was calculated that she might yet have seventeen to twenty days before the natural term of pregnancy would be completed. Would it have been wise to incur the risk of delay in the presence of this alarming state of things?

In view of contingencies, it was decided by the three attending physicians, and concurred in by myself, that delay might at any moment, by further complications, become fatal to mother and child; and in order to avert threatened calamity the patient was etherized and delivered, by manual dilatation of the vagina and cervix uteri, in three-quarters of an hour's time, of a living child, turned and extracted by the feet. Not a fibre of the mother's tissues was torn in the process of delivery. The placenta was taken from the uterus, which contracted firmly. The vagina was douched with a solution of corrosive sublimate (1 to 2000) and the patient made comfortable in bed. In coming out of the ether she was restless and nervous, and her physician, who remained with her during the night, gave a subcutaneous injection of morphia which relieved her. She appeared better before leaving, the morning following.

November 3d. By report: eye-sight returning gradually, no œdema, passes sixty to seventy-five ounces urine daily, one per cent. albumen, no casts, no blood, no pus. Took a short carriage drive on the twentieth day after delivery. General health improved; sleeps, eats, and digests well. Child thriving on artificial diet.

DR. B. CUSHING, present by invitation, had seen a similar case thirty years ago, in which there was total blindness; but the woman went to term, and both mother and child did well. He asked the reader if it would not have been better to leave his case to nature.

DR. SINCLAIR thought it would not have seemed so to any one who saw the case.

DR. LYMAN believed in terminating such cases prematurely, and thought statistics demonstrated better results from immediate delivery than from the choice of an expectant method. If the case were left to nature, he would fear disastrous effects on the eyesight.

DR. RICHARDSON thought it safer to induce labor for the sake of the kidneys. When the kidney symptoms are of sudden onset, even if the urine discloses a grave state of affairs, the kidney will usually clear up after delivery; but when the invasion has been gradual, and marked symptoms have developed, there was great danger of permanent injury to the kidney, if the case were not terminated promptly. He believed that albuminuric retinitis was generally recovered from.

DR. W. P. BOLLES, a guest, reported, by invitation, the following

CASE OF BRONCHORRHEA COMPLICATING LABOR.

Mrs. I. P. H., a primipara about twenty-five years of age, engaged me early to attend her. Up to the beginning of the eighth month, she reported herself as perfectly well: she had had but little nausea, did her own work, and was out a good deal besides. Naturally plump and of a phlegmatic temperament, she had grown more fat and heavy since her marriage. Two months or so before delivery, I was called one night

¹ As a contribution to the scanty literature of this subject I have brought forward my last experience on its use. At our last meeting when the subject of manual dilatation was discussed, I said that the subject was still *sub judice*, and that Barnes' bags had still the field. I agree with what was then said by Dr. Green, and think that Barnes' dilators may be combined or alternated with the hand in exceptional cases of hardness of the cervix uteri, the dilatation to be finished by the hand. I pursued this plan once in 1874, using Molesworth's dilators and finishing dilatation with the hand.

to see her, on account of a dizzy or faint spell, from which she had recovered before my arrival; and a few times after this she had several rather slight dizzy attacks: for a week or two she was pale. From these attacks she gradually recovered, and at the time of her confinement she was feeling well and strong.

At the beginning of the attendance above mentioned, a sample of urine of very light color had a specific gravity of just 1000 by my urinometer, which has an error of about four parts at that point, making the true specific gravity, say 1004. Next day it was measured and amounted to three quarts, with a specific weight of 1009 (corrected); no casts or other abnormality save dilution. At further intervals of one or two weeks it was repeatedly examined, always being in the neighborhood of 1010, and measuring about three quarts. So after searching in vain for other symptoms of trouble, the dizzy spells having passed off, I attributed it to simple polydipsia, which was her habit, and gave it no further attention.

The labor presented no peculiarities at its beginning, but was slow in consequence of the size of the child and the fatness of the patient, and was finally terminated by forceps, for which the patient was etherized. She did not take kindly to the ether; complained much of its choking her, and even when half under it in the middle of a hard pain would thrust the sponge away as if the suffocation of the ether was worse than the labor. Suddenly, when fully under its influence, she became livid, the tongue protruded, and respiration ceased: with a little shaking and air she was made to breathe again, and the labor was terminated. She remained however quite blue for several hours, and even on the next day had hardly recovered her color: the respiration, which until then had not been remarkable, after the spell of asphyxia was very hurried and remained as high as forty or fifty per minute for a number of days. The pulse was also much accelerated.

On the second day she had a sharp chill and moderate fever (101° or 102°), and the lower lobe of the left lung (which had not been listened to before) was dull and full of fine mucous râles; respiration not distinctly bronchial, but obscured by the râles. On the third day she was a little better, with about the same physical signs, when I left her in Dr. C. E. Stedman's hands, and she made a quick and complete recovery.

At the time of the asphyxia the mouth and trachea filled with liquid, and the aspect was very much like that of an instance of fatal bronchorrhœa that I once saw in a child as the result of etherization; but the flow continued for only a few minutes before it nearly disappeared, although gurgling and moist respiration were present for hours. The chills and the signs in the left lung on the following day seem to me to indicate a congestion of the lobe affected, brought on by the presence of so unusual an amount of fluid in the bronchi, and happily terminating in quick resolution, instead of solidification.

Dr. CUSHING spoke of a patient who passed through her first and second labor without trouble; but in her third labor the use of ether was followed by bronchorrhœa, and he feared she would die; but she recovered. This was his only experience of the kind.

Dr. LYMAN said that in a case of eclampsia, having given ether without effect, he gave pilocarpine: profuse bronchorrhœa followed, which he had always supposed was due to the pilocarpine; but perhaps it was attributable to the ether.

EXAMINATION OF THE URINE DURING PREGNANCY.

Dr. REYNOLDS raised the following questions: Should the urine be examined frequently during pregnancy, when there are no rational symptoms of kidney affection? Is a physician to blame, if he does not? Is he fussy, if he does? His own practice was to make frequent examinations of the urine.

Dr. BOARDMAN said: Suppose the patient is found to be albuminuric, but without renal symptoms, what should be done about it?

Dr. REYNOLDS in reply said that such a patient should be closely watched: she may not probably be eclamptic; but the condition of the bowels, the appetite, and the habits of sleep should be looked after, and the patient brought into good condition.

Dr. FORSTER reported

A CASE OF PUERPERAL DIPHTHERIA, FOLLOWED BY HÆMORRHAGIC CASTS OF THE UTERUS.²

Discussion on this communication was deferred.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, December 7, 1886.

C. L. DANA, M.D., President, in the chair.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY, WITH BULBAR SYMPTOMS.

Dr. W. R. BIRDSALL presented the patient, and read the history of a case of progressive muscular atrophy with bulbar symptoms, the atrophy limited to the left upper extremity, the abductor indicis of the right hand and the tongue, the latter affected bilaterally, predominantly on the left side. He presented the case as illustrating the non-conformity of disease to our arbitrary standards of classification and description of types of disease.

The patient showed peculiarities due to the pathological process having advanced to an extreme degree in certain regions, while its distribution had remained limited, not involving neighboring parts usually affected, the left upper extremity and tongue being the parts involved, and to a marked degree, while the right upper extremity was normal excepting the abductor indicis; the trunk and lower extremities remained healthy. A detailed history of the case was given, the patient being a carpenter, a Swede, aged thirty-nine, married, of temperate habits, without a history of syphilis or other disease. A chart was presented, showing the electrical reactions.

Dr. E. C. SEGUIN had seen very few examples of unilateral progressive muscular atrophy. He had at present one patient under observation in whom the muscular atrophy was limited to one side, presenting the electrical and other characters of progressive muscular atrophy.

Dr. W. M. LESZYNSKY had a girl aged seventeen under observation, in whom the atrophy was unilateral, affecting only the supraspinatus, deltoid, and a portion of the trapezius.

SELF-ABUSE IN ITS RELATION TO INSANITY.

Dr. E. C. SPITZKA, the author of the paper, after citing the views of the classical writers, stated that the question of the existence of a special form of insanity

² See page 8 of the Journal.

due to self-abuse and to nothing else, was complicated by the existence of another well-demarcated affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter disorder. This fact explained the similarity of many clinical features between them. The question was further complicated by the fact that hebephreniacs sufferers from pubescent insanity are often addicted to self-abuse, and that thus the features of one disorder may be engrafted upon the other.

The continental authorities do not recognize a special form of masturbational insanity in their tables. Schüle, it is true, speaks of *onanistic insanity* in the sense in which Maudsley uses that term, but he assigns no part to it in his classification, and disposes of it in a few lines. Krafft-Ebing recognizes the vice as an etiological factor, and speaks of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, follows Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to heredity and other admitted predisposing and determining factors.

I have yet to find any dissent expressed by these authorities from the position taken by Emminghaus, who claims that, owing to its causal relationship to widely differing forms of insanity, it is not proper to speak, as Skae does, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing among those writers who have attempted to define and demarcate such an affection. Skae speaks of a peculiar imbecility and shy habits as characterizing the disorder among the youthful, and suspicion and fear, and scared looks, palpitation and feeble bodies as found in older victims, who gradually pass into dementia.

The most distinguished follower of Skae attributes the following symptoms to that form of insanity of which masturbation is the chief cause and "the chief symptom present," giving "the whole case distinct features": Exaggerated self-feeling, conceited shallow introspection, frothy emotional religious notions, and a restless, unsettled state, with foolish hatchings of philanthropic schemes. Luther Bell, who, with Isaac Ray, was among the earliest to attribute special symptoms to insanity caused by masturbation, furnishes a very faithful picture of certain cases, whose particular feature he describes as being a tendency to dementia, a loss of self-respect, a sulky, mischievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who does not recognize a special form, and denies specific characters, admits that the majority of cases are marked by a profound dulness of sentiment and mental exhaustion, by religious delusions and hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter is the usual issue.

The effect of masturbation on the mind and nervous system varies according to the age at which it is commenced. Like other agents which are injurious to the developing brain, such as epilepsy, alcohol and syphilis, its effect is most rapid and serious in the young or children, less so in adolescents, and least marked in adults, unless protracted. For very young infants it causes a profound deterioration, manifesting itself in convulsive, choreic disorder, and imbecility. In those who masturbate between the fifth and tenth years, the

effects seem to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action is absent with such children; they do not play as their comrades do.

There are a number of other circumstances which modify the development of mental disturbance in masturbators. The age between twenty and thirty-five is pre-eminently the period of somatic introspection. It is at this period, if at any, that the average man begins to think about his bodily condition. In these years men weigh themselves, discover that they have too much or too little flesh, develop slight gastric or intestinal disorders, reflex nervous symptoms, or indulge to excess in tobacco, in baccho, and in venere, and consequently are on the *qui vive* for the occurrence of cardiac, renal, or venereal disease, or of sexual disability. It is at this period that the results of masturbation are most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of his age and of his associates of the same age, carries him into a veritable nosomania. Perhaps also, he attempts, under lay or medical advice, to accomplish coitus, and fails. It is for this reason that we find the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth year, classified as "hypochondriacal paranoia."

A number of typical histories were then related, from which the author drew the following conclusions:

1. Self-abuse is an etiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms is direct.

2. Self-abuse, to produce insanity, must have been carried very far, or the subject must be predisposed. Often onanism can be traced in other members of the family, and very often it is found that the maternal ancestry is a weak one.

3. Mania, melancholia, and epilepsy occasionally occur in young masturbators, the former two usually having a favorable prognosis.

4. Stuporous insanity and katatonia are both common, and the former presents good prospects.

5. The forms thus far mentioned when occurring in masturbators present no essential difference from the typical psychoses. They should therefore be designated as mania, melancholia, stupor, etc., *from* masturbation, and not as masturbational insanity.

6. There is a chronic delusional insanity in grown persons who have been devotees of self-abuse, and it is usually a hypochondriacal *paranoia*. Clinically it is very like typical *paranoia*, and etiologically it is not the direct result of self-abuse, but rather of an intermediate neurosis. A cerebro-spinal irritation which is due to self-abuse.

7. Finally, there is a form of insanity developing about or after the period of puberty which does merit the name "Masturbational insanity." It is chronic, has a tendency to aggravated dementia, is characterized in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Later there are confusion, meddlesome aggressive behavior, vague delusions, loss of memory, and finally deterioration. After these are observed spells of fury or destructiveness. This form is never due to any other cause, and resembles no other form of insanity than the one already alluded to.

8. It is not always possible to differentiate between the insanity of pubescence and the form described. But where the former disorder is uncomplicated by the latter, it may be known by a history of peculiarities in infancy and childhood, by the greater constancy of the mental state which in onanists is exceedingly variable. Hebephreniacs are more apt to be expansive in their notions, more inclined to favor projects of a chimerical character. In other words, insanity of pubescence is the paranoia of adolescence, and masturbational insanity the presenile dementia of the same period of life.

DR. RALPH L. PARSONS made some remarks with reference to the treatment. The diet should be principally vegetables and milk, with little meat and stimulating condiments. As the patient sought solitude, he should be thrown as much as possible with others, not alone of his own sex, but also of the opposite sex. He should be kept occupied, and manual labor of some form, like farming, was best. He knew of no special benefit to be derived from medicinal treatment as with the bromides, or with the application of irritating substances to the penis. Cutting off the prepuce might be of advantage in some cases. The patient should be closely watched day and night, mechanical appliances might sometimes be necessary, moral influence could be depended upon to a certain extent.

DR. KELLOGG agreed with the author in the conclusions arrived at in the main. But he should like to know Dr. Spitzka's views as to the relative importance of artificial sexual indulgence and indulgence in the natural manner as factors in the production of insanity. Masturbation was a wide term, and ought to be defined. The effects in some cases were more observable in spinal lesions, in others in cerebral lesions. He believed that masturbation itself was not capable of producing insanity in a person of sound heritage. He was convinced that it was capable of suspending mental growth and producing forms of imbecility in those of sound parentage. He knew it could produce insanity at the time of pubescence, and there were persons of mature age who had a predisposition to insanity in whom the attack was excited directly by sexual excess. Occasionally persons indulged to excess for a year or two only, as did sailors sometimes when on long voyages. Masturbation was also capable of producing insanity in old persons who were on the decline; it hastened dementia. He did not think there was a peculiar set of symptoms; the age of the patient, his education, his heritage, his whole mental make-up influenced the symptoms more than the exciting cause. He did not believe it possible to separate masturbation from other forms of sexual excess, and the title "sexual-abuse" would have been more appropriate because more comprehensive than self-abuse.

DR. NOYES said the case referred to by the author as having been cured, was the only one in the Bloomington Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his whole mode of life, including diet, was changed, and for the better.

DR. L. C. GRAY thought the author had given an accurate description of the mental disturbances often seen associated with the habit of masturbation, but he asked if he did not also find similar mental disturbances in individuals who were not masturbators.

DR. SPITZKA replied that in individual cases he had, but not in groups of cases as occurred in masturbators.

DR. GRAY had seen the mental disturbances described in patients addicted to masturbation, but he had been unable to decide as to what extent masturbation could be considered as a cause or simply an associated habit. He had two cases in mind in which that group of symptoms were followed in the course of a few weeks by masturbation in individuals who had not previously been addicted to self-abuse. He had seen the same symptoms follow excessive sexual intercourse. He had in some cases noticed very exaggerated and extensive cremaster reflex.

In closing the discussion, Dr. Spitzka said that there were undoubtedly some forms of sexual vice which were physically as injurious as onanism, but he had not seen a sufficient number of cases to enable him to say anything about their mental sequelæ, unless he cared to risk being premature. He had known epilepsy and stupor to follow natural sexual excess in a young person, and parietic dementia in more than one cunnilinguist and sodomist. The form he had sketched was, as far as his experience went, only found in masturbators. While he admitted with Dr. Kellogg that the single act of onanism was physically not a formal thing, and not much, if anything, different from normal coitus; there were two respects in which the onanist and libertine differed most widely, one was a moral, the other a physical, feature. The onanist practices a secret crime, the social and gregarious element is excluded. Knowing that his act is despised, he becomes inclined to suspicion and fear of discovery. A libertine cannot exceed beyond a certain limit. Coitus requires a certain condition of the organs which implies the existence of certain normal energies. When these fail the limit is set to further excess. With the onanist it is much different. There are masturbators who require no erection; yea, who succeed in their injurious act without any manipulation. The consequence is that they pass far beyond the limit set by nature to natural excess, and no calculation can be made of the damage done.

Dr. Parsons's dietary propositions were endorsed by the highest authority. Individually, the speaker was not decided in his own mind whether a highly nutritious diet would prove injurious in certain phases.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

REGULAR Meeting, Friday, November 19th, 1886. The PRESIDENT, CHARLES WARRINGTON EARL, M. D., in the chair.

DR. W. W. JAGGARD read a paper entitled,

A CASE OF CHRONIC INVERSION OF THE UTERUS, OF TWENTY-ONE MONTHS STANDING, REDUCED BY COLPEURYSIS.

History. E. S., thirty-six years old, German; married at the age of twenty-two years; seven children, no miscarriages. Her first six confinements were normal. She was in the habit, common among German peasant women, of rising upon the third day and of making up her own bed. In each of her labors she was attended by a midwife.

Her seventh confinement occurred in October, 1884.

According to the statement of the patient and the attendant midwife, the delivery of the child was normal. The placenta was removed, as in the six former labors, by traction on the cord. During the labor and the *puerperium*, no unusual loss of blood was observed, and the patient does not remember any extraordinary sensations of pain or faintness. The midwife consulted a physician on the second day of the lying-in period, with reference to the sudden development of high bodily temperature. On the same day, a well-known obstetrician saw the case. He made the diagnosis of puerperal fever, instituted the usual plan of treatment, but declined further connection with the case, as he feared the infection of his regular puerperal patients, of whom he had a large number. No examination of the uterus, either by abdominal palpation or vaginal exploration, was made. On the third day an equally competent practitioner inspected the patient, confirmed the diagnosis of puerperal fever, and gave directions with reference to treatment. The contour of the uterus was not investigated either through the abdominal parietes or by the vagina. He continued to visit the patient for eight days, when he pronounced her convalescent.

At the expiration of three weeks the woman rose from her bed for the first time, when she observed a fleshy tumor protruding from the vulva. Seven weeks after delivery she resumed her work as a washer-woman. She suckled her child fourteen months. During this period, painful coitus and the sensation of the presence of a foreign body within the vagina were the only symptoms which attracted her attention to her condition. She noticed no fluor, no hæmorrhage, and felt no pain except during coitus. The sexual act was not attended by any perceptible loss of blood. On account of the two symptoms mentioned she sought medical advice. The fleshy mass, situated entirely within the vagina, was supported by a large sponge.

The child was weaned in December, 1885. About March 17th, 1886, she experienced severe metrostaxis, entirely without pain, and lasting six days. She supposed menstruation had been re-established, and gave the subject no further thought. About April 15th, another severe hæmorrhage occurred, painless and lasting one week. On May 28th, she came under the writer's observation, and was admitted into the wards of Mercy Hospital. She sought relief, as she very distinctly expressed it, on account of painful coitus, the sensation of the presence of a foreign body within the vagina, and the excessive loss of blood during her last two menstrual periods. The woman was of medium size and height, with well-developed muscles and clavicles like a man's. She presented evidence of marked anæmia.

Diagnosis. Bimanual palpation revealed a pyriform tumor, the size of a hen's egg, protruding through the *os uteri*. The base of the tumor rested upon the pelvic floor, and upon coughing or straining appeared at the genital fissure. A shallow sulcus between the pedicle of the tumor and the walls of the cervical canal extending around the left semi-circumference of the canal, could be felt by the finger and traced with the sound. On the right side, no sulcus could be detected, and the membrane covering the tumor was reflected directly upon the external *os*. The long axis of the tumor was deflected to the left of the median line. The *corpus uteri* was absent from the normal position. The tumor, insensitive to pressure,

was covered by a soft, villous membrane, and possessed the consistence of an œdematous myoma. The enveloping membrane was of a bluish-red color, presenting some spots of superficial ulceration, and bled upon the slightest touch. Tubal ostia were nowhere visible. Traction of the tumor downwards caused the sulcus on the left side to disappear entirely, an important diagnostic sign of inversion of the uterus, to which Carl Braum, Robert Barnes and Schroeder, in particular, have called attention. Reamy, of Cincinnati, has recently described a sign which might have furnished corroborative evidence at this stage of the diagnosis in the case under consideration. Reamy says that when the tumor, grasped by the fingers within the vagina, can be easily rotated on its vertical axis, it is probably a polyp, since such rotation could not occur to any marked extent in an inverted uterus, stiffened as it is by its muscular walls and the thick, strong, fibrous guy ropes furnished by the broad ligaments.

To make the differential diagnosis between inversion of the uterus and a pedunculated fibroid, positive, the patient was etherized. A sound in the bladder and a finger in the rectum were easily approximated above the tumor. The funnel-shaped cavity at the seat of inversion was easily recognized by the finger in the rectum, and by the hand on the abdomen in bimanual palpation.

No appearances were present that would indicate the invasion of the uterine walls by any new formation.

Treatment. The patient was etherized, the contents of the rectum and bladder were evacuated, and the genitalia disinfected. The right hand was passed into the vagina, "and with the fingers and thumb encircling the portion of the body close to the seat of the inversion, the fundus was allowed to rest in the palm of the hand. This portion of the body was firmly grasped and pushed upward, and the fingers were then immediately separated to their utmost; at the same time the other hand was employed over the abdomen in the attempt to roll out the parts forming the ring, by sliding the abdominal parietes over its edge." At the expiration of forty-five minutes, the writer's right hand was almost powerless, and Dr. E. C. Dudley kindly relieved him. Dr. Dudley gave up the attempt at reduction after thirty minutes' trial, fearing perforation of the fundus. Apparently not the slightest progress in the reinversion of the organ had been made. Some hæmorrhage occurred as the result of manipulation, although the fundus had been enveloped with absorbent cotton and gauze. The manœuvre was repeated on the following day, under the same conditions, through the same period of time, with no more favorable result.

Emmet's method was then abandoned, for the following reasons. The separation of the fingers to their utmost had no effect whatever in the dilatation of the *os externum*. As pointed out by Fenger, and as brief reflection will convince the most casual observer, mere extension of the fingers can have but little effect in the dilatation of the cervix, owing to the relatively feeble character of the extensor muscles of the forearm. The necessary manipulation of the congested *mucosa*, even when protected by cotton or gauze, caused a loss of blood of moment in an already anæmic woman. The uterine musculature had evidently undergone fatty degeneration and there was serious

danger of perforation. Finally, there was reason to entertain fear as to the patient's power to endure the shock from taxis, and the effect of prolonged anaesthesia.

Compression of the body of the uterus opposite to each tubal ostium, between the thumb and forefinger, so as to produce indentation of one side or the other, the Kiwisch-Noeggerath method was equally ineffectual.

On Sunday, May 30th, at the suggestion of Dr. W. H. Byford and Dr. Christian Fenger, the writer began an attempt to effect reinversion by colpeurynter. After the evacuation of the contents of the bladder and rectum, and disinfection of the genital canal, the colpeurynter was introduced while empty, so that it lay on the posterior wall of the vagina and the *fundus uteri* was adjusted so that the long axis of the uterus and the axis of the pelvic inlet were coincident. The bag was then injected with water until it was fully distended. The patient was placed in bed in the dorsal decubitus. The instrument was removed at the expiration of twenty-four hours, and the genital canal disinfected. A suppository containing thirty grains of iodoform was placed in the vaginal *cul de sac*, and the colpeurynter, after being cleansed, was reintroduced. Colpeurynter was continued in the manner indicated without interruption until June 9th. Very gradually the sulcus between the pedicle of the tumor and the neck of the uterus deepened, until on the eleventh day the organ was so far reinverted that the fundus was on the same plane with the *os externum*. During this period gentle efforts at taxis were made daily but without any apparent effect. No perceptible progress was made during the succeeding eight days. June 17th, a serous fluid tinged with blood began to escape from the vagina, and it was thought the patient was about to menstruate. The colpeurynter was accordingly withdrawn. During the nights of June 18th and 21st the patient suffered severe uterine hæmorrhages which threatened to prove immediately fatal. Hot vinegar was used as a vaginal douche, but did not prove so efficient a styptic as a hot saturated solution of alum. Menstruation ceased on June 23d. On account of the hæmorrhages, it was deemed inexpedient to expose the patient to the fatigue consequent upon any attempt to observe the *mucosa* during menstruation. During the subsequent nine days the writer was indisposed, so that the treatment by colpeurynter was resumed on July 2d. On examination, before replacing the bag, the inversion was found to be as complete and as irreducible as the day on which the treatment began. The uterus was gradually reinverted, as before, until on July 8th, the fundus was on the same plane with the *os externum*. From the 8th until the 15th of July no apparent progress was made in reduction. On the evening of July 16th the writer was very much pleased to find the uterus completely reinverted, and the vaginal portion of the cervix occupying its normal position. The sound passed into the uterus to the extent of three and one-half inches. The *corpus uteri* was felt on bimanual palpation, in a position of slight retroversion, below the promontory of the sacrum. The patient was not aware of any change in her condition. She said, however, that she had felt a sudden, sharp pain in the hypogastric region some four hours prior to the examination. Owing to the patient's enfeebled condition — due in the main part to anæmia — she was not permitted to leave her bed until July 18th.

The colpeurynter was in the vagina altogether thirty-three days. On three occasions during this period the bodily temperature rose to 102° F., but invariably fell to the normal after irrigation of the vagina and disinfection of the rubber bag. The presence of the colpeurynter in the vagina did not interfere at all with the functions of urination and defæcation. The writer desired to express in words his appreciation of the constant attention devoted to the somewhat tedious plan of treatment, by Dr. Louis E. Lawson, late Resident Physician, Mercy Hospital.

Dr. Alex. J. Stone, of St. Paul, kindly repaired the bilateral laceration of the cervix, on July 20th. The operation was unusually difficult on account of the extent of the tear, and the shortness of the vaginal portion. Dr. Stone's method of operative procedure differs materially from Emmet's, but its description is obviously out of place in the present report. The sutures were removed on August 4th, perfect union having been secured.

The patient, after leaving the hospital, gained rapidly in strength. Menstruation occurred September 26th; the process was painless, lasted four days, and the quantity of blood lost was normal. At the time of writing she had resumed her former occupation.

REMARKS.

The case is of particular interest with reference to (1) anatomy, (2) symptoms, and (3) treatment.

(1) *Anatomy.* The uterus was in a state intermediate between the second and third degree of inversion. In the second degree of inversion — the incomplete inversion of Puzos, Levret, Leroux, Donné, the third degree, or perversion of Crosse — the anatomical limit of inversion has been indicated by Baudelocque as the vaginal insertion around the *cervix uteri*. Under these conditions, according to Veit and Freund, the cervical canal is intact, the uterus is only inverted as far as the internal os, and the uterine globe remains within the vagina. In the third degree, the complete inversion of Puzos, Levret, Leroux, the utero-vaginal inversion of Donné, the *corpus uteri* and *cervix uteri* are completely inverted and the anatomical limit, as indicated by Levret, is the vaginal insertion at the vulvar orifice. Under these conditions, the inverted uterus is also prolapsed and protrudes beyond the plane of the genital fissure.

In the case under consideration, the cervical canal was completely inverted on the right side, the cervico-uterine sulcus (Donné) had disappeared, the cervico-vaginal sulcus was shallow. On the left side, the cervico-uterine and cervico-vaginal sulci were perfectly distinct. In consequence of the complete inversion of the right half of the cervix the long axis of the uterine globe was sensibly deflected to the left of the median line. The vaginal portion of the cervix was short, and lacerated on either side to the vaginal junction. The inverted uterus was perfectly mobile, and no trace of inflammatory infiltration could be detected about the pelvic peritoneum or in the connective tissue. The position of the ovaries, tubes and round ligaments could not be mapped out with any degree of certainty.

(2) *Symptoms.* The writer thought it was fair to assume that the inversion of the uterus, in the case under discussion, occurred at the time of delivery. The weight of probable evidence is in favor of this assumption. The inversion must have occurred before

the third week following labor, because at that time the presence of an intra-vaginal tumor was discovered by the patient. This interval of three weeks was spent quietly in bed in the dorsal decubitus. The conditions for inversion would be at no time during this period so favorable as during or at the completion of the third stage of labor. During this period, no cause adequate to the result was in operation. On the other hand, during or at the completion of the third stage of labor, all the causes and conditions known to be necessary to the production of inversion were present, that is, the enlarged and relaxed corpus, dilated cervix, traction on the cord; possibly, also, fundal insertion of the placenta (Hennig), and paralysis of the placental site (Rokitansky). If this assumption be granted, the case demonstrates that inversion of the uterus may "take place without sufficient symptoms to attract attention, or to indicate that anything has gone wrong." Dr. J. C. Reeve has already called attention to this subject, and has sustained the proposition just quoted, by the citation of well-authenticated cases, in his classical essay, "Moot Points in Regard to Inversion of the Uterus."

The patient, a woman of at least average intelligence, and the midwife, a "qualified" practitioner, that is, examined and registered by the State Board of Health of Illinois, observed no symptoms sufficient to attract attention, or to indicate that anything unusual had happened at the time of delivery. A well-known and skilful obstetrician saw the case forty-eight hours after the probable time of the occurrence of the accident, and the absence of symptoms was so marked that the condition escaped his critical observation. Seventy-two hours after the probable time of occurrence of the accident, the patient was seen by another thoroughly competent medical man, who also failed to recognize the complication upon his first, or upon any subsequent visit.

Dr. Reeve's proposition has an important bearing upon the differential diagnosis between inversion of the uterus and sessile polypus, and indicate that no reliable evidence can be obtained from the history of the case.

(3) *Treatment.* Carl Braun, in 1851, introduced a simple, convenient, and safe method of the vaginal tamponade (colpeurysis) by means of a caoutchouc bag (colpeurynter). The reduction of chronic inversion of the uterus by colpeurysis was inaugurated by a communication from Tyler Smith to the Royal Medical and Surgical Society of London, April 13th, 1858. In this communication, Tyler Smith reports the reduction of a chronic inverted uterus by taxis in connection with continuous elastic pressure by means of Gariel's air-pessary. Barrier, of Lyons, in 1852, employed an air-pessary to retain the uterus in position, but with no avowed intention of using continuous elastic pressure to effect reduction, as intimated by Donné. M. P. Teale, Jr., of Leeds, and West effected reductions of the inverted uterus in 1859 by Tyler Smith's method. It was reserved for Bockenthal, as remarked by Thomas, to demonstrate in the same year that reduction could be effected by the colpeurynter, unaided by taxis.

As a matter of practical import, the colpeurynter used in the case described was a quadrilateral, caoutchouc bag, ten cm. long, five cm. wide when collapsed, and possessing a maximum circumference of twenty-one cm. when distended. It is known in the shops as

"No. 5 pear-shaped water-pessary." The selection of a properly-shaped and properly-sized instrument demands some care. Dr. Byford's treatise is the only American text-book on gynecology which gives an adequate exposition of colpeurysis as one of the methods of reduction of chronic inversion of the uterus. This fact may be interpreted as indicating that the method is not extensively practised in the United States, and a survey of American medical literature upon this subject will serve to confirm such an opinion. In the very large majority of cases, more heroic measures have been adopted. On the other hand, colpeurysis has largely replaced all other modes of treatment in Germany. Fritsch says: "Gradually, almost all gynecologists have gone over to Braun's colpeurynter." "The treatment with the colpeurynter is the sovereign method of treatment in cases of inversion of the uterus. Inversions yield to it which have resisted all other methods. The resistance which the cervix opposes may be so great that Muzeaux (quadri-valve) forceps inserted into the portico tear out, and still the uterus remains unmoved. If colpeurysis is now resorted to, earlier or later, a successful result is bound to follow, without the application of violence and without danger. It is, therefore, urgently advised to give up every attempt at forcible reposition of the uterus." He adds the significant sentence: "Colpeurysis cannot be held as without effect, even if the end is not immediately attained; it may be continued, with interruptions, fourteen days, yes, even three weeks." "The best method of treatment of chronic inversions," says Rheinstaedter, "is the introduction of a colpeurynter, which is gradually distended with water." Schroeder has repeatedly effected the reduction of the chronic inverted uterus after the failure of all efforts at manual reposition.

(The discussion on this paper is deferred to next week.)

— A certificate of disability, issued by Dr. A. Y. P. Garnett to a government employee, was returned by a United States pension officer, with the demand that the doctor should strengthen it with implicit information. Dr. Garnett declined to furnish this information, on the ground that it would involve the violation of professional obligations. In this decision he has been sustained by Secretary Lamar, who has thus established a precedent which petty courts and government officers will not presume in future to set aside.

— The Graefe medal, recently instituted by public subscription, in perpetual memory of Albrecht von Graefe, is awarded every ten years by the Ophthalmological Society, meeting annually at Heidelberg, to the man of whatever nation who may be designated as having rendered the greatest service to ophthalmology. The ceremony of the first presentation of the medal took place at the close of the Quincentenary Festival of the University of Heidelberg, on the 9th of August, 1886, Professor von Zehender, of Rostock, presiding, in presence of the Pro-Rector, Professors, and many distinguished visitors. The medal was awarded to Professor von Helmholtz, and the oration on the occasion of its presentation was given by Professor Donders, of Utrecht. It is given in full in the *British Medical Journal* of December 11th.

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SEVERED DIGITS.

DURING the last few months the JOURNAL has contained several communications in regard to the reunion of portions of fingers to the stump from which they had been completely severed. Five different physicians have recorded ten cases which have fallen under their own observation; eight in the reporter's practice and two in the practice of the reporter's father. Of these ten cases four are reported as perfect; three cases were successful but there was more or less impairment of sensation; one lost half the last phalanx by sloughing; two only can be considered as failures, both of them united but one afterwards separated, the other shrivelled and was practically worthless. We have also quoted during the same time a case from a Russian surgeon in which a portion of a thumb became reunited with perfect sensation but limited motility, and this week's JOURNAL contains another equally well-authenticated case occurring in domestic practice.

That as large a number of cases should be reported in so short a time is quite surprising. It establishes however, the fact that reunion is possible: a fact in opposition to the former belief of the majority of the profession. The cases reported are, with two exceptions, all successful; how great a proportion they would bear to the utter failures it is impossible to guess, but twelve cases in which some sort of adhesion has taken place, are enough to warrant much more careful attempts to restore small portions of the body which have been accidentally amputated.

The fingers most suitable for preservation, or those most likely to reward the attempt, would seem to be those which have been removed by a clean cut, so that suppuration between the two portions may be avoided. The time which may elapse between the accident and the successful replacement of the separated portion would seem to be very long. In Dr. Nivison's case three or four hours had elapsed during a portion of which time the fingers had been covered by snow. In these successful cases great care was evidently

taken to secure perfect cleanliness of the cut and careful apposition of the fragments together with such other care as seemed likely in the eyes of the surgeon to secure union without suppuration.

The literature of the subject is evidently not very large; still a very considerable number of reported cases are accessible, of fingers and other portions of the body, which have reunited after separation. An interesting case, for the fulness of detail with which it is reported, is that of Dr. Goschler, in the *Wiener Medizinisch Wochenschrift* for 1868. A man of sixty chopped off nearly the whole of the last phalanx of the ring finger, preserved the fragment for three-quarters of an hour in water at a temperature of 11° Réaumur. In thirty-six hours there was evidently agglutination, during the third, fourth and fifth days the extremity was cold, but adherent and evidently sensitive. On the ninth day the reunion of the soft parts was assured, but there was no union of the bony fragments. At the end of a month recovery was complete.

EXPERIMENTS IN TRAP SIPHONAGE AT THE NAVY MUSEUM.¹

REPEATED experiments on trap siphonage have shown beyond question that the ventilation of soil-pipes and traps is a safeguard against the entrance of sewer gas into dwellings except in unusual contingencies, provided the general plan of the drainage and sewerage is correct and the workmanship good. The experiments at the Navy Museum in Washington have confirmed the results of those reported to the National Board of Health by Philbrick and Bowditch, and are stated in the following terms:

- (1) The seals of ventilated traps are safe against siphonage and back pressure.
- (2) The seals of unventilated traps are never safe from siphon action or back pressure, except in deduction four.
- (3) The vertical vent should be three inches, with a four-inch soil-pipe.
- (4) Traps connected on a horizontal pipe and fixtures discharging on the same level into horizontal pipe apparently have no effect on unventilated traps.
- (5) All varieties of non-mechanical traps are more easily affected by back pressure than by siphonage.
- (6) The ball-traps were not affected by back pressure, but by siphonage.
- (7) The Sanitas trap withstood siphon action better than any of the patent traps, but was easily affected by back pressure.
- (8) The sewer air is more liable to enter unawares by back pressure through the seal of the trap, because the seal remains unbroken.
- (9) Difference in friction of iron and lead pipes made no apparent difference in the effect on the traps.

¹ Report on Experiments in Trap Siphonage at the Museum of Hygiene, United States Navy Department, Washington, D. C. By Glenn Brown, Architect. Washington: Judd & Detweiler, Printers. 1886.

We are left in the dark, however, as to the precise nature of the unusual contingencies under which it is admitted that ventilated traps may be siphoned out and the emanations from the sewers enter houses; and Putnam and Waring think that they have shown that the so-called unusual conditions may occur where not in the least suspected, although a patent trap and water-closet intended to meet these "unusual contingencies" might perhaps serve as a bias against entirely unprejudiced judgments in the case.

It is true, however, that the approved methods of plumbing are now so costly as to make them practically unattainable to many householders, and that, outside of a very simple system of plumbing for moderate-sized houses, it is difficult to know with certainty what is safe and what not. The Museum of Hygiene, under the Navy Department, has an excellent opportunity to show just what the conditions are by which water-closets and soil-pipes inside a house may be made free from danger, and, it is to be hoped, that this will be done, no matter what the cost of time or money. If plumbing can be simplified and cheapened at the same time, the benefit to society will be incalculable.

CEREBRAL SYPHILIS.

DURING the past year various publications on the subject of Cerebral Syphilis have appeared which are well worthy of notice.

The view that syphilis rarely attacks the brain substance itself but rather the membranes, the sheaths of the vessels that arise from the pia, and especially the arachnoid at the base of the brain, from the optic chiasma to the pons, finds support from Gerhardt.¹ In the majority of his cases the first symptoms appeared at least five years after infection. Mental overwork, alcohol, and disordered living lead to cerebral congestion, and thus aid the development of syphilitic disease. Traumatism is an important exciting cause, and so, to a less degree, is emotional excitement. In many cases a diagnosis can be made without a previous history of infection, which should be our aim. Repeated apoplectic attacks in young persons without any cardiac disease, ocular paralyses, ptosis, epilepsy coming on after childhood without known cause, cortical epilepsy, monoplegia, acute bulbar symptoms, and inexplicable symptoms of hernia are all important in diagnosis. Apoplexy is common; it usually comes on slowly with prodromata, from an advancing thrombosis. A gumma does not cause the signs of a massive tumor like glioma. More cases are detected now than formerly, and the diagnosis can be made earlier, hence more recover, as the early stages are curable. The treatment should be early and energetic, and should be kept up as long as possible. Gerhardt thinks we ought now to improve on Fournier's data in prognosis, that one-third get well, one-half improve, and one-sixth die.

¹ C. Gerhardt. Ueber Hirnsyphilis. Berlin, kl. Wochenschrift, Nr. 1, 1886.

Amidon² thinks that the importance of syphilis as a cause of nervous disease has been over-rated, because alcohol, tobacco, excess, worry, etc., are overlooked. Many obscure cases are not syphilitic, although there is a history of syphilis. A gumma is curable, but, if not treated, may cause pathological conditions, which will not yield to subsequent treatment. He cites ten cases, in which the period of incubation averaged nine years. Three cases showed symptoms of periencephalitis, secondary to the syphilitic lesion. Endarteritis may be cured, but not the thrombotic softening following it. A frank growth yields more easily. The late lesions of syphilis are local or diffuse, and not systemic, and hence in Dr. Amidon's opinion *tabes dorsalis* is not a syphilitic disease. The treatment must be prompt and persistent; and when the early symptoms appear, such as headache, neuralgia, vertigo, insomnia, vesical weakness, sexual excitement, etc., the patient should at once consult a physician.

Luys³ had stated as an interesting and previously unknown fact, that in doubtful cases of cerebral syphilis he has found little sclerosed nodules, which can be felt on the cut surface of the pons and basal ganglia.

THE GASEOUS MEDICATION, PER RECTUM, OF PULMONARY DISEASES.

THE latest novelty in therapeutics comes from a Frenchman, Bergeon by name. The "new medication" consists in treating certain pulmonary diseases attended with cough (chronic bronchitis, whooping-cough, phthisis, etc.) by rectal injections of certain gases, which are readily absorbed and eliminated by the lungs, such as carbonic acid, sulphuretted hydrogen, and sulphide of carbon. These gases, at the moment of elimination, are believed to have a favorable modifying influence on the diseased mucous membrane, promoting the resolution of inflammation, the healing of ulcerations, and wonderfully diminishing cough and expectoration.

It has long been known that certain medicines given in pulmonary complaints for the relief of cough, such as copaiba, turpentine, and carbonate of ammonia, largely owe the benefit which frequently attends their use to the modifications which they effect on morbid states of the pulmonary mucosa, while being eliminated by that emunctory. It has been known, too, that various gases, such as those above mentioned; when absorbed by the venous system, also pass out in the air of expiration.

It was, many years ago, proposed to treat diseases of the lungs by causing patients to respire medicinal vapors, and many have been the attempts made to fulfil this indication, with, however, but indifferent success; the medicated vapors, as ordinarily inhaled, were found not to penetrate very deeply, and to be far less diffusible than was thought *a priori* to be the

² R. W. Amidon. On the Incurability of Certain Nervous Affections occurring among Syphilitics. Medical News, January 16, 1886.

³ Des Syphilomes de l'encéphale. L'encéphale, January, 1886.

case; some gases, as carbonic acid and sulphuretted hydrogen, could not be respired with impunity. It remained for M. Bergeon, basing himself on some experiments of Claude Bernard, to show the practicability of the treatment of pulmonary diseases by causing these latter gases to be absorbed by the rectum. This method, according to M. Bergeon, has also another advantage, namely, that of distributing the medicament throughout the entire pulmonary mucous membrane, and thus ensuring its contact with such parts as are diseased.

The method employed by M. Bergeon is quite simple; he makes use of a mixture of carbonic acid and sulphuretted hydrogen. Pure carbonic acid, generated on the spot from *cartouches* containing an exact quantity of tartaric acid and bicarbonate of soda, is conveyed into a rubber bag of just the capacity of four liters; the latter is connected by suitable tubing, with a rubber-ball injector which is worked by the hand, and which also makes part of a rectal tubing and canula, resembling that of a Davidson syringe. The rubber bag is filled with carbonic acid, which flows into it from a glass-generator, in which the contents of the cartouche are dissolved; the gas, before being injected, is made by an ingenious device to pass through a glass flask or *barboteur* containing a solution of sulphuretted hydrogen, where a blending of the two gases takes place, and it is this gaseous mixture which is utilized for injection. It has been found by M. Bergeon that no other solution of sulphuretted hydrogen gives so satisfactory results as natural mineral waters, particularly the *Eaux Bonnes* of the Pyrenees.

Apparatuses for the manufacture *in loco* and therapeutic application of this new remedy are now for sale by the instrument-makers of Paris. The directions given for the use of the apparatus are as follows: "Only one, or, at the most, four liters of the gas are used on each occasion. The injection must be made slowly and without force, and it is necessary to leave an interval of from ten to fifteen seconds between the successive pressures made on the rubber ball, and to allow about half an hour for the entire operation. One, or, at the most, two injections (or 'séances') are practised per day.

Bardet, in the *Journal Nouveaux Remèdes*, and Dujardin-Beaumetz in the *Bulletin Général de Thérapeutique*, have reported the results of several trials of this new system of pulmonary therapeutics in the Hospital Cochin. "All agree," they say, "as to the signal benefits derivable from this treatment. In chronic bronchitis of whatever nature, the three following modifications are constantly obtained: diminution and rapid modification of the expectoration, diminution of the cough and of the oppression; there ensue, as a consequence of this amelioration, better sleep, better appetite, and an augmentation of weight." These gaseous rectal injections are said to be generally well tolerated, when slowly and carefully made. In pulmonary phthisis, it is claimed that marked amelioration has been obtained.

Dr. J. Henry Bennet gives, in the *British Medical Journal* of December 18, 1886, an account of his personal conversation with the inventor of this new process of medication, and while claiming to have heard of it at first only with incredulity, he ended by acknowledging its reasonableness in theory, and its efficacy in some cases in practice. In a lecture which M. Bergeon gave upon the subject to a score of the physicians of Mentone, he claimed that the failures which have resulted from the process have been due merely to faults in its performance. Thus, if the bag of carbonic acid is not scrupulously emptied and freshly filled before each operation, some atmospheric air will penetrate it, and, being injected, will cause intestinal pain and irritation. Not only is air an irritant to the bowel, but so are other chemical agents that have been tried, as chlorine, turpentine, ether, and ammonio-bromine, some of which even produced gangrene in the animals on which they were tried. Dr. Bennet was much impressed by the relief given to an aggravated case of asthma by the injections.

We shall await with interest the results of further trials in the Parisian hospitals of this new method of treating pulmonary diseases; it is not a mode which is destined rapidly to become popular, in this country, at least, nor will it be likely soon to come into favor with physicians in private practice.

MEDICAL NOTES.

— A contemporary points out the fact that of the fifty-five signers of the Declaration of Independence, five were physicians.

— According to the *Medical Record*, London has only 90,000 paupers, according to its census, yet it treats in free hospitals 1,000,000 of patients annually, at a cost of \$2,500,000. Its annual hospital deficit is \$250,000.

— "Pneumatic differentiation" seems likely to mean differences between manufacturers of the pneumatic cabinets. The Pneumatic Cabinet Company of New York, announces that they will prosecute every physician using any other cabinet than the one they manufacture.

— The *Maryland Medical Journal* says that a very poor and aged white woman was murdered on November 10th, at her home in Baltimore, by two colored men named John T. Ross and Albert Hawkins. The object of the murder was to get fifteen dollars for the body of the victim. Anderson Perry, well-known to many of the recent graduates of the University of Maryland, first as a ward-master at the infirmary, and more recently as an attendant in the dissecting-room at the University, is charged as an accessory to the crime. The murder was conceived and executed in the most premeditated and cold-blooded manner.

— *Truth*, November, 1886, makes the following comment upon the infallibility of analysts. "Six samples of beer were to be sent to Guy's Hospital for analysis;" and in the presence of Councillor Taylor,

a member of the Food and Drugs Committee, and a professional chemist, "a large quantity of a most deadly poison" was placed in one of the samples by way of checking the analysts. The report on this sample was: "I am of opinion that this sample of beer is genuine." The experts subsequently explained in their own defense "that the above result is perfectly natural, inasmuch as an analyst can only test for what he has reason to suspect."

— We find in a Western contemporary a quotation from a Boston letter to the *New York Tribune* which paints a very glowing picture of the openings for female physicians in Boston. The writer says that "a properly educated woman physician can secure in Boston a paying practice within one year." It is further affirmed that there are nine women physicians who have the "swell practice" of Boston. These have been in practice from five to twenty-five years, and have incomes ranging from five to twenty thousand dollars a year. Whether these are all "properly educated" physicians is not stated. If so it would be money in the pocket of a medical man if he could be born a female.

BOSTON.

— The melodramatic suicide of two young women recently, by means of that common article of "domestic consumption," "Rough on Rats," calls attention again to the folly of allowing the sale of deadly poisons without restrictions. It is very generally known that "Rough on Rats" contains arsenic in large quantities, and it is still more generally known that it can be purchased from grocers or apothecaries, no questions asked, by any one having the few cents to pay for a box. If a servant girl, otherwise known as the "lady-help," thinks she is not treated with a sufficiently distinguished consideration, she puts a box full of "Rough on Rats" in the flour barrel or in the family tea-pot; two such actual cases have been commented on in these columns within a year or two; if a young woman has a jealous "tiff" with a lover after dinner on Christmas evening she puts half a box of the compound into her own stomach; and, most startling of all, another young woman swallows a full box out of mere sympathy and affection for her friend and companion. We shall take occasion to revert to this subject again.

NEW YORK.

— The receipts reported up to Friday, December 31st, from the Annual Hospital Saturday and Sunday Collection, which was made December 24th and 25th, amount to \$13,146.54.

— The Brooklyn Health Department estimates the present population of that city, based upon the returns from various municipal departments, at 745,108, an increase of 35,108 since July 1, 1886.

— On Thursday morning, December 30th, an extra meeting of the Academy of Medicine was held, when Dr. F. H. Bosworth read a paper on "Deformities of the Nasal Septum"; A new operation for its correc-

tion, with an analysis of its results in 160 cases, as throwing new light on the pathology of intra-nasal diseases, and their relation to laryngeal and bronchial affections, hay fever, asthma, and other so-called nasal reflexes.

— The fair which was recently held at the New Central Park Garden in aid of the Montefiore Home for Chronic Invalids, a Jewish institution, was attended by over seventy thousand visitors, while the receipts amounted to more than \$160,000.

— A peculiarly sad case is reported from the German Hospital at Newark, N. J., where Dr. Anatol Roessler, the house physician, died from diphtheria, December 30th, having contracted the disease one week previously from a child suffering from it, in whose case he had performed tracheotomy. Dr. Roessler was born in New York in 1862, and his mother, who is a widow of limited means, and whose only child he was, had made many sacrifices in order that he might be enabled to pursue his medical studies. He was a graduate of Bellevue Hospital Medical College, and only received the appointment as house physician to the hospital in Newark on the 1st of December last.

— The Superior Court, Justice Sedgwick presiding, last week rendered a decision which has been received with much gratification by the entire profession. This reverses the judgment in the case in which Angelina M. Brown obtained \$500 damages from Dr. Purdy, on the allegation that he had caused her to be placed in the small-pox hospital on Blackwell's Island when she was not suffering from this disease. Judge Sedgwick holds that there was no ground of action against the defendant, and states that it was the doctor's duty to report the case if he believed it to be of an infectious nature. He furthermore decides that the defendant was not, under any circumstances, liable, as the plaintiff was sent to the small-pox hospital by the sanitary inspector who had charge of the investigation of the case.

— The report of Dr. John T. Nagle, of the Bureau of Vital Statistics, shows that in the past year there were 31,819 births, 12,216 marriages, and 37,330 deaths in the city, an increase of 1,289 births, 500 marriages, and 1,648 deaths over the previous year. The deaths from zymotic diseases numbered 9,657; from constitutional diseases, 8,210; and from local diseases, 15,817. There were 1,466 violent deaths, 31 deaths from small-pox, one from yellow fever, 775 from measles, 1,731 from diphtheria, 370 from scarlatina, 966 from membranous croup, 576 from whooping-cough, 324 from typhoid fever, 14 from typhus fever, 369 from puerperal diseases, 211 from alcoholism, 778 from cancer, 1,707 from bronchitis, 3,665 from pneumonia; heart diseases, 1,892; sunstroke, 42; apoplexy, 761; and kidney diseases, 2,214. There were 224 suicides — 173 men and 51 women — of whom 99 were Germans and 59 native born.

Of the deaths reported, 2,495 were of persons over

70 years of age, and five over 100 years. The deaths of children under one year numbered 9,871, and those of children under two years, 13,064. The deaths of children under five years were 43.3 per cent. of all deaths, numbering 16,151, against 15,267 in 1885, and 17,520 in 1882. Diphtheria was the most fatal zymotic disease of the year. Of the total number of deaths, 7,136 were in institutions, 21,454 in houses containing over four families, and 526 in the streets or rivers. Of the 31,319 births, 16,191 were males, and 15,127 females. The foreign-born mothers numbered 19,058, and native mothers, 12,259. One foreign-born mother bore her twentieth child, and one native mother her twenty-second child.

Miscellany.

THE MEDICAL AND MEDICO-LEGAL FACTS IN THE COLIN CAMPBELL CASE.

THE Colin Campbell case has really amounted to something more than a newspaper *bonne-bouche*, having involved, as we learn from the medical facts published in the *Medical Press*, a question at once novel and important in forensic medicine. At the first trial, wherein Lady Colin obtained a decree of judicial separation, which decree on appeal to a higher court was reaffirmed, it was shown in evidence that before marriage the husband had been suffering from perineal abscess, the sequel of gonorrhœa contracted some few years previously, for which abscess he had undergone one or two surgical operations — namely, perineal section into the urethra. Marriage took place before the parts were restored to health, but it was previously agreed that separate beds should be occupied for two months or so in order to permit of recovery. The contention of the wife was that although he had been operated upon and was not as yet recovered at the time of marriage, yet she had no idea he was suffering from any disorder of the genitals, but had thought it was something of the nature of piles. Communications had been made to her by medical men, but she asserted that this was thus understood by her. However, after some time permission was given to commence intercourse; but as the husband was again laid up it had to be discontinued, and further operations became necessary. Intercourse was occasionally resumed, but ultimately the wife's health was affected, and it was found she was suffering from irritation of vagina and vulva, with uterine leucorrhœa. Local applications were made to the vagina and cervix uteri, but without much benefit. Dr. Braxton Hicks was called in after an attack of very severe pain on one side of the pelvis, who found there a cellulitic effusion; after a few weeks this subsided, but still the uterine catarrh remained with much irritation of the vagina. As the canal had been well medicated without benefit, the os was dilated. It was evident that the uterine cavity was larger than normal. A silver tube was passed, through which the interior of the uterus was painted over by a brush charged with iodized phenol. This cured the complaint. However, upon overtures being made by the husband for renewal of cohabitation, she begged him to refrain in future, he being still uncured, and to occupy a separate bed. He said if

this was to be the case he would leave her; but she rejoined that if so, she must make clear the reason. Hence this action for separation. And the question asked the Court was whether under these circumstances it was obligatory on a wife to permit cohabitation; and, if not, then an order in her favor was requested. Evidence having been taken on the above-mentioned facts, the question put by the Court to many witnesses was whether the endometritis and other symptoms from which the wife suffered were likely to result from coitus where purulent secretion found its way into the urethra. It was then stated by several medical men, that although there were many causes which produce like symptoms, it was a result quite to be expected under the circumstances. The result of the evidence on his part was to confirm the cause and circumstances of his illness and severe operations, as above described, and the jury (special) after a brief consultation found that the husband had been "guilty of cruelty," which was the legal form of the plaint, and the Court decreed a judicial separation. An appeal was granted. The husband argued the case in person, but the upper Court confirmed the decree of the Court below. No similar case had been in the Divorce Court before, and in any way the decision in its principle was important.

YELLOW FEVER INOCULATION BY ONE OF THE PROTECTED.

OUR readers will recall the interesting communication by Dr. Lane, of Brazil (*JOURNAL* June 10, 1886), on Freire's yellow fever inoculations. We find in the *Lancet*, November 6, a description, summarized from the *Journal de Médecine de Bordeaux* of the observations and experiments of Dr. Freire by Dr. R. Issartier, surgeon in the Messageries Maritimes, who has submitted himself to Dr. Freire's anti-yellow fever inoculation. The microbe found in all the fluids of persons and animals dead of yellow fever, in their vomit, and even on the walls of yellow fever wards and in the earth of the cemetery, is named *Cryptococcus xanthogenicus*. Wherever it existed it served to inoculate animals, and a guinea-pig kept in a confined space containing a jar of fresh earth from the cemetery, very soon died, while other guinea-pigs kept in a similar space with the same earth, sterilized by heat, remained sound. A series of animals could be inoculated from one another, and the virus appeared to lose nothing of its activity by transmission, so that Prof. Freire had to try some other plan for attenuating it for "vaccination" purposes. This he succeeded in doing by means of gelatine cultures in Pasteur's flasks. After the seventh culture guinea-pigs inoculated with the attenuated virus appeared to suffer only a slight indisposition, instead of dying, as those inoculated with each of the preceding ones did. The writer and a number of other medical and lay persons, together with Dr. Freire himself, were inoculated or "vaccinated" with the seventh culture, and none of them experienced more inconvenience than slight headache and transient malaise. They were subsequently proved to be quite unaffected by much more virulent cultures. Dr. Issartier states that the yellow fever mortality among the protected persons in Rio was 1.6 per cent., while among the rest of the population it was 13.7 per cent.

Correspondence.

SEVERED DIGITS.

BEVERLY, MASS., Dec. 24, 1886.

MR. EDITOR,—In a letter dated "Burlington, Feb. 24, 1840," from Professor Joseph Torrey to Dr. Augustus Torrey, I find that domestic surgery has been successful in repairing severed digits.

"My eldest son, Joseph, a few days since, cut off the end of his thumb, taking about half the nail, with a hatchet. He left the piece among some shavings, on the floor. After a little search I found it still warm; his mother fixed it on with sticking plaster, and it has grown as firm and even as if there had been no cut at all." An

extract from a letter written me lately by the patient above alluded to, says: "The healing was perfect, and for many years the line of the cut was quite distinct. Now it is just visible, though it seems much nearer the end of the thumb than it did when I was a boy. I don't think the detached portion has ever grown much, though the end of the thumb is entirely symmetrical. That is, without increasing in size, the little piece has adapted itself in shape to the place, so that what was once quite a considerable fraction of my boy thumb has become the proportionally much smaller terminus of the man thumb.

It was when I was seven years old, and I well remember the whole scene—including the *lint* in which it was done up for some days before the bandage was removed."

Respectfully yours, S. W. TORREY, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 25, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhoeal Diseases.
New York	1,439,039	805	358	39.60	28.08	14.40	16.08	2.64
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	690,000	338	157	19.43	13.81	3.77	8.12	.53
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	187	64	13.78	12.19	1.59	6.36	1.16
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	116	41	11.08	13.40	—	6.88	.86
Cincinnati	325,000	138	55	16.79	13.14	7.30	2.92	1.42
New Orleans	238,000	134	28	13.33	15.50	—	2.22	5.18
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	94	44	23.44	8.48	10.60	9.54	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	8	22.75	18.20	—	13.65	4.55
Charleston	60,145	34	9	5.88	5.88	—	—	—
Worcester	68,383	17	4	11.76	29.40	—	—	5.88
Lowell	64,051	33	8	12.12	6.06	3.03	3.03	—
Cambridge	59,660	19	9	5.26	10.52	—	5.26	—
Fall River	56,863	18	4	5.55	—	—	—	5.55
Lynn	45,861	10	1	—	20.00	—	—	—
Lawrence	38,825	12	3	25.00	16.66	—	—	—
Springfield	37,577	13	4	—	15.38	—	—	—
New Bedford	33,393	16	6	31.25	13.00	—	—	25.00
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	5	1	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	10	3	20.00	30.00	—	20.00	—
Taunton	23,674	8	0	25.00	37.50	—	—	—
Haverhill	21,795	12	7	16.66	25.00	—	8.33	—
Gloucester	21,713	3	2	—	33.33	—	—	—
Brookton	20,783	7	2	—	14.28	—	—	—
Newton	19,759	3	2	—	—	—	—	—
Malden	16,407	8	2	—	12.50	—	—	—
Fitchburg	15,375	8	2	12.50	25.00	—	—	—
Waltham	14,609	4	0	—	25.00	—	—	—
Newburyport	13,716	4	2	—	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,082: under five years of age 736; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 368, consumption 290, lung diseases 384, diphtheria and croup 140, measles 98, diarrhoeal diseases 32, scarlet fever 24, typhoid fever 23, malarial fevers 19, whooping-cough seven, erysipelas 14, cerebro-spinal meningitis five, puerperal fever four. Small-pox (Brooklyn) two. From scarlet fever, Brooklyn nine, New York eight, Pittsburgh four, Cincinnati two, Haverhill one. From typhoid fever, Boston five, Cincinnati four, New York three, Brooklyn, Baltimore and New Orleans two each, Worcester, Lowell and Lawrence, New Bedford and Fitchburg one each. From erysipelas, New York five, Baltimore and Charleston two each, Brooklyn, Boston, Cincinnati, New Orleans and Taunton one each. From malarial fever, Brooklyn eight, New Orleans five, New York four, Nashville and Lawrence one each. From whooping-cough, New York, Brooklyn, and Boston two each, Pittsburgh one. From cerebro-spinal meningitis, New York four, Boston one. From puerperal fever, New York, Boston, Lowell and Taunton one each.

In the 18 cities and greater towns of Massachusetts, with a population of 943,470 (population of the State 1,941,465) the

total death-rate for the week was 20.50 against 21.05 and 23.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending December 11th the death-rate was 22.9. Deaths reported 3,984: infants under one year of age 975; acute diseases of the respiratory organs (London), 494; measles 181, scarlet fever 65, whooping-cough 60, fever 50, diarrhoea 35, diphtheria 32, small-pox (Leeds) one.

The death-rates ranged from 33.3 in Wolverhampton to 12.1 in Brighton; Birmingham 18.0; Bradford 20.7; Hull 17.7; Leeds 25.7; Leicester 22.0; Liverpool 25.2; London 21.9; Manchester 29.2; Newcastle-on-Tyne 25.2; Nottingham 19.9; Sheffield 24.8.

In Edinburgh 17.0; Glasgow 26.9; Dublin 35.6.

For the week ending December 11th, in the Swiss towns, there were 34 deaths from consumption, lung diseases 21, diarrhoeal diseases 17, diphtheria and croup nine, measles four, whooping-cough one, erysipelas one.

The death-rates were: at Zurich 7.6; Geneva 20.2; Basle 14.8; Berne 37.4.

The meteorological record for the week ending December 25, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending Saturday, Dec. 25, 1886.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 19	30.030	40.0	46.0	35.0	89.0	60.0	74.0	74.0	W.	W.	N.W.	9	8	6	C.	C.	C.	—	—
Monday, ... 20	30.172	32.0	37.0	28.0	64.0	53.0	65.0	61.0	N.W.	N.W.	N.W.	7	7	8	O.	F.	C.	—	—
Tuesday, ... 21	30.161	33.0	41.0	21.0	81.0	43.0	64.0	63.0	W.	S.W.	W.	5	14	14	C.	F.	C.	—	—
Wednes... 22	30.278	37.0	40.0	25.0	61.0	57.0	58.0	59.0	W.	W.	N.W.	8	2	5	O.	O.	O.	—	—
Thursday, 23	30.433	36.0	40.0	30.0	78.0	68.0	77.0	74.0	N.	S.E.	S.E.	11	6	5	C.	F.	O.	—	—
Friday, ... 24	29.897	50.0	55.0	35.0	92.0	88.0	100.0	93.0	S.	S.	S.W.	15	16	22	O.	R.	R.	—	—
Saturday, 25	29.976	30.0	54.0	18.0	76.0	36.0	44.0	52.0	N.W.	N.W.	N.	12	18	14	O.	C.	O.	12	1.01
Mean, the Week.	30.135	36.8	45.0	27.0				68.											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 25, 1886, TO DECEMBER 31, 1886.

KOESPER, EGON A., major and surgeon. Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Granted one month's extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JANUARY 1, 1887.

ANDERSON, F., passed assistant surgeon. To United States Steamship "Metis."

AUZAL, E. W., assistant surgeon. Detached from Revenue Steamship "Independence," and ordered to Coast Survey Steamer "McArthur."

GREEN, E. H., passed assistant surgeon. Detached from Naval Laboratory for temporary duty on Revenue Steamship "Independence."

GATEWOOD, J. D., passed assistant surgeon. To Naval Academy, January 5, 1887.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, January 12, at 7.45 o'clock. A debate upon "Poisoning by Arsenical Wall Papers," will be opened by Dr. J. R. Chadwick. Drs. S. W. Abbott and H. P. Walcott, of the Massachusetts State Board of Health, Prof. E. S. Wood, Prof. E. J. Young, Prof. H. P. Bowditch, Prof. W. B. Hills, and Prof. Lyons, of Harvard University, Dr. J. M. Harlow, of Woburn, Drs. E. C. Stedman, F. H. Brown, and F. W. Draper, Mr. Gregory, and Mr. J. P. Bumstead. Paper-Dealers and others are expected to take part in the discussion.

ALBERT N. BLODGETT, M.D., *Secretary*.
F. I. KNIGHT, M.D., *Chairman*.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The annual meeting of the Society will be held at No. 19 Boylston Place on Thursday, January 13, 1887, at 4 o'clock, p. m. Communications: a paper by Dr. Apostoli, of Paris, entitled, "A New Method of Treatment of Chronic Metritis—and especially Endometritis—by the Intranterine Chemical Galvano-Cautic," will be read by Dr. L. S. Fox, of Lowell. President's Address by Dr. H. O. Marcy, "Recent Advances in Abdominal Surgery." Refreshments will be served after the meeting.

H. J. HARRIMAN, *Secretary*.

OBITUARY. HORATIO NELSON SMALL, M.D.

Died in Portland, Me., December 29, 1886, Horatio Nelson Small, M.D., aged forty-seven. For many years their associate in the medical profession, having been removed from their midst by death, the physicians of Portland, desiring to give public expression of their estimate of his character and of their

grief at his loss, make the following statement of their sentiments:

Dr. Small justly occupied a foremost place among the practitioners of this region. Devoted to the interests of his patients, remarkably successful in ministering to their infirmities, cheering and sustaining them in their despondency, he quickly won the confidence and affection of a large clientage. As an obstetrician he easily took the lead, and was, in this capacity, alike valued by patients and physicians. In every position of trust and responsibility to which he was called—as army officer, examiner of pensioners, teacher, practitioner, husband, citizen—his conduct was marked by the qualities which ever distinguish a pure, noble, and exemplary life. But, while these traits compelled respect and admiration, the characteristics for which he will be longest and most tenderly remembered was the abounding kindness of spirit, which endeared him to all who knew him well. Equally to the dreary hovel of the poor and the sick-chamber of the rich became like a beam of sunshine. The cheeriness of his face and voice was but the manifestation of his happy disposition, and made him always welcome in every company. Even when feeling deeply wronged, he was slow to attribute sinister motives, and displayed hardly a trace of disturbance of serenity. The older of his fellows held him as a wise and faithful counsellor, and to the younger he was a willing and generous support in their troubles. All his brethren unite in mourning his untimely fate, and will ever fondly cherish the memory of his sweet nature as a precious heritage.

FREDERICK H. GERRISH,
AUG. S. THAYER,
CHAS. O. HUNT,
Committee.

APPOINTMENT.

Dr. Richard L. Hodgdon, of Arlington, and Mr. C. C. Coffin, of Boston, have been appointed members of the Massachusetts Board of Lunacy and Charity.

BOOKS AND PAMPHLETS RECEIVED.

The Contagious and Parasitic Diseases of Animals. Issued by the State Board of Health of Maine.

Circulars of Information of the Bureau of Education. No. 1, 1886. The Study of Music in Public Schools. Washington. 1886.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M.D.F.C.S. Third Edition. London: H. K. Lewis. 1887.

The Physician's Handbook for 1887. By William Elmer, M.D., and Albert D. Elmer, M.D. New York: W. A. Townsend. 1887.

Memorias Leidas en la 2a Serie de Sesiones de la Sociedad Española de Laringología, Otología y Rinología 2o Fasciculo del Tomo I.

Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell, M.D., London, Fellow of the Royal College of Physicians; Physician to the Middlesex Hospital and to the Hospital for Consumption and Diseases of the Chest, at Brompton; late Assistant Physician and Lecturer on Materia Medica at the Charing Cross Hospital. Third edition, rewritten and enlarged, with illustrations, including two lithographic plates; being Vol. XI. of Wood's Library for 1886. New York: William Wood & Co.

Original Articles.

A CASE OF LAPAROTOMY FOR RECENT ADHESIONS OF THE INTESTINES TO THE ABDOMINAL PARIETES: RECOVERY.¹

BY GEORGE W. GAY, M.D.
Visiting Surgeon, Boston City Hospital.

THE following case is reported not so much on account of its favorable termination, as for the valuable hints it gives us for our guidance in the future. Laparotomy for recent peritoneal adhesions is not so common an operation, but that each case is of interest and value in helping to establish the best method of treatment. There comes a time in many of these cases when little benefit can be expected from medicine; how much may be expected of surgical treatment is to be determined only by the crucial test of experience, and I herewith contribute my mite for what it is worth, being fully aware that few, if any, conclusions can be drawn from a single case.

Although Frank R. was only fourteen years of age when he was taken sick, yet he weighed 150 pounds, and was strong and rugged in proportion. He worked in a cordage factory, where it was his business to carry bundles of bobbins weighing about fifty pounds. On the 27th of August, 1886, he got up in the morning feeling as well as usual. He went to stool, and contrary to his usual custom, he then passed an enormous quantity of flatus, and was immediately seized with a severe pain in the abdomen to the right of the umbilicus. The stool was free and easy, and the boy went to his work, but remained only about an hour on account of the severity of the pain. Soon after patient arrived home he was seen by Dr. W. H. Emery, who was obliged to give him three subcutaneous injections of morphia to alleviate the pain. The patient was fairly comfortable through the night but the next day the abdomen was tympanitic and tender all over. Morphia in moderate doses was required. Twenty-four hours later the tympanites had disappeared, and a bunch was discovered about three inches in diameter situated to the right of the median line just below the navel. It was prominent to touch and sight, movable, and tender. The treatment consisted mainly of morphia, fomentations, and poultices. The temperature ranged from 101° to 102°+, and the pulse from 92 to 100. Little vomiting. Bowels were constipated for first four days only; afterwards they were free, and at times rather too much so. The tumor increased for a week, when it had nearly doubled in size. It then slowly diminished, and the pain gradually disappeared.

Two months from the beginning of the attack (September 11th), I saw the patient with Dr. Emery. He had been quite free from pain for several days until that morning, when, with no apparent cause, it had returned and was more severe than ever. The patient had lost flesh and strength, was confined to the bed, had lost his appetite, and was beginning to vomit. Bowels were free and regular.

The seat of pain was confined to a spot about four inches in diameter, located to the right of, and a little below the umbilicus. While there was no distinct tumor to be felt, yet the abdomen was more prominent at that point than elsewhere. It was quite tender and the resonance was nearly or quite normal. There was

no fluctuation or œdema, or enlarged veins. The affection evidently involved the deeper structures. The pain corresponded to the peristalsis of the intestines, and during their action the coils could be seen through the parietes. From the location and character of the pain I concluded that the intestines were attached to the abdominal wall, but that the adhesions did not encroach upon their calibre to any extent was evident from the fact that the stools were of normal frequency and quantity. A blister was applied to the affected spot, followed by poultices, and morphia was given under the skin in considerable doses to control the pain.

Despite this treatment the patient grew rapidly worse. Pain and restlessness increased, and were only partially relieved by large doses of morphia. Hiccough began to manifest itself, and all the symptoms tended toward destruction. On the fourth day of the relapse (September 14th), the patient's condition was so deplorable, that little benefit could reasonably be expected from a further trial of medical treatment, and the question of surgical interference demanded consideration and decision.

If the diagnosis was correct what would be gained by cutting into the peritoneal cavity and breaking up the adhesions? Would they not at once re-form, either in the same place or elsewhere? They do not, as a rule, after ovariectomy, why should they in the case under consideration?

Again, as it would be a difficult matter to separate all the adhesions of the various coils of intestines with each other, would not their contraction, as time went on, produce stricture with even more severe and obstinate obstruction than had yet taken place? With all due respect to the future it seemed to me that the present condition claimed the benefit of all our resources, and hence I advised an exploratory operation. The family physician strongly seconded the advice, and finally the parents consented. The patient was immediately removed to the City Hospital, and the operation performed under antiseptic precautions.

Ether having been given and the boy surrounded by hot-water bottles, and covered well with blankets, an incision about two inches long was made on the median line just below the navel. The peritoneal cavity was opened, and a very little fluid escaped. The intestines were found to be adherent to the parietes over a space four or five inches in diameter corresponding to the sensitive spot on the surface. With the fingers the bowels were slowly and carefully separated from their unnatural attachments without doing unnecessary violence. The adhesions were quite firm in only one small spot, elsewhere they gave way readily. The hæmorrhage was of little consequence, and no ligatures were required. Two or three "sweepers" (small sponges) sufficed to free the peritoneum of blood, and the wound was closed by two sets of sutures; a continuous one for the peritoneum, and interrupted ones for the other structures. No drainage-tube was required. The standard dressing of the hospital, iodoform, absorbent gauze, and sheet-wadding was applied, and the patient put to bed.

He rallied well from the operation and had little vomiting, but he was restless and had some considerable pain through the night. The pain, however, was more controllable than previous to the operation. The next day there were marked signs of improvement. The bowels moved freely and much less morphia was

¹ Read before the Boston Society for Medical Observation, November 1st, 1886.

required. Two days after the operation the look of suffering and anxiety had disappeared and he was very comfortable. Took food well without nausea or vomiting. Bowels moved four times, not much pain. Opiates were omitted on the third day, and he could lie on the right side, but not on the left without a dragging sensation. The wound was examined on the fifth day and found to be united. The superficial sutures were removed twenty-four hours later. They came out perfectly dry, their being no suppuration in their track. Tympanites gave no trouble after operation, the passage of flatus being free. The pulse and temperature came down to normal on the third day and has remained there. All through his convalescence the patient was troubled more or less with diarrhœa. Bismuth, calomel and opium did little good, but it improved greatly under the use of small doses of castor oil, and finally ceased.

Ten days after the operation there was a good deal of pain in the bowels for one day, which in the light of subsequent events I am inclined to ascribe to the peritoneal suture. In the course of a month the end of the deep suture appeared at the orifice of a small opening in the wound, and was removed. The silk had not been properly prepared, and hence it ulcerated out.

Six weeks after operation the wound was soundly closed, and the patient was up and about the ward feeling "first-rate," as he expressed it. Bowels regular, appetite good, and flesh and strength fast returning. The scar was an inch and a half in length, and apparently firm and solid. The indications at present are favorable for a complete restoration to health.

Speculations as to the future of this case are of little value, as it is impossible to say with any degree of certainty what may take place at the seat of the affection. It is possible that a stricture may develop, or new adhesions form followed by their characteristic symptoms. We all know the insidious nature of peritoneal bands and adhesions, that they may remain latent for a long time, and then without any apparent cause, develop a remarkable activity for mischief. Something of this kind may appear in this patient at almost any time, but the fact remains, that whatever the future may have in store for him, he has been rescued from a very dangerous condition by this operation, and possibly he may be again relieved by surgical measures should the occasion demand them.

Another point is worthy of notice in this connection and that is the following: If adhesions of the bowels to the abdominal walls can be destroyed mechanically, why may not those, which unite the coils of intestines with each other, or with the omentum? Extensive adhesions of the various pelvic and abdominal organs are frequently broken up in removing tumors from the peritoneal cavity, and with the exception of those involving the stump of a pedicle, or excised mesentery, they seldom re-form or give future trouble. A peritoneum which is recovering from a recent attack of inflammation is probably less susceptible to irritation, and hence bears operative procedures much better than it would in its normal state. The operation under these conditions may be looked upon as a secondary one, and hence freer from danger than a primary one would be. Should time prove these statements to be true, then it would seem reasonable to hope that benefit may be obtained by surgical measures in certain cases of peritoneal adhesions not amenable to other

methods of treatment. Observation and experience must determine the class of cases, if any there are, which may be relieved by operation. The extent of the attachments, their duration and strength, their location, the organs involved, the general condition of the patient, the urgency of the symptoms, are important points and require consideration. It would seem that in these days of antiseptics, when the peritoneum is no longer sacred to the eye or to the manipulations of the surgeon, the questions suggested above are worthy of further experimental observation.

INJURIES OF THE SHOULDER.¹

BY J. H. MCCOLLOM, M.D.

No attempt will be made in this paper to bring forward anything new in the treatment of injuries to the shoulder, but I have thought that it might be of interest to briefly report a few cases of dislocations which were under observation a much longer period than is usual, and in which the results were not as satisfactory as might be desired, and will also add three other cases of comparatively rare injury to the shoulder. These injuries are to be divided into fractures, dislocations, separation of the epiphyses and impairment of the function of the nerves supplying the part, particularly that of the circumflex. Contusions are only of importance from their liability to mask other and more serious injuries. The discussion of fractures about the shoulder-joint is beyond the scope of this paper. The remark is frequently made that a dislocation of the head of the humerus is a comparatively trivial injury, and that the result of the treatment is all that could be desired both by the patient and by the surgeon. Now while this is true in a certain proportion of cases, there are still many instances of properly-reduced and skillfully-treated luxations which are a source of annoyance to the surgeon and of trouble to the patient. It may be stated as a principle that the more muscular a patient the greater is the likelihood of trouble following the dislocation; the reverse may be said to be true of fractures. A word in regard to partial dislocations. When we take into account the shape of the glenoid cavity, the conformation of the head of the humerus, the powerful muscles which surround the joint and the laxity of the capsular ligament, it is extremely doubtful if these ever occur. How is it possible for the rounded head of the bone to remain upon the narrow rim of the glenoid cavity? It is true that the long head of the biceps may in some way prevent the head of the humerus from being thrown very far downwards or forwards, but if the head of the bone leaves the socket why should it not be called a complete dislocation? Concerning the subject of ancient dislocations so-called I have nothing to say; but the following account of the reduction of a luxation of four years standing, published in the "International Encyclopedia of Surgery," Volume 3, page 671, is unique and quite interesting. "Mr. B., a patient of Dr. Rice, a prominent physician of La Moille, Ill., met with an accident in November, 1877, by which he dislocated his shoulder. The patient, who was a farmer, failed, for some reason to obtain proper treatment, and applied after eighteen

¹ Read before the Boston Society for Medical Observation, November 1st, 1886.

months to Dr. Rice, who discovered the true nature of the injury and made patient efforts to reduce the luxation. After using as much force as he dared, this physician pronounced the case beyond cure and advised that no more hope be entertained of replacing the bone, as no nerves seemed pressed upon and as the arm was still measurably useful to the patient. In November, 1881, four years after the injury, the man was riding upon a horse and at the same time leading a blind horse behind him by a halter which he had carelessly wound about the hand of the arm dislocated four years before. While in this position the animal behind, becoming startled, suddenly jumped back, and Mr. B., who was unable to release his hand from the halter strap, was dragged forcibly backward, so that the traction was both backward and as he leaned further back somewhat upward. The shock of this sudden strain was so severe that the patient was taken to his house and placed in bed, it being believed by himself and others that he was seriously hurt. He slept for some hours, the pain not being severe, and upon awakening discovered that his arm was changed in some way. Further examination showed that the luxation had been reduced and the member soon recovered its mobility, and nearly its old strength."

In regard to the separation of the epiphyses it may be observed, that these injuries almost invariably do well if they are recognized. The local disturbance, however, is frequently so trivial that no physician is called, and the first thing noticed by the patient is a deformity, which, although comparatively slight, not only mars the symmetry, but also interferes to a certain extent with the motion of the joint. It is impossible in the greater proportion of cases, to make a correct diagnosis without ether.

CASE I. Miss A. B., forty-five years of age, while attempting to go down stairs lost her balance and endeavoring to save herself, seized one of the balusters with her right hand causing a dislocation of the humerus into the axilla. When the patient was seen, which was about one hour after the injury was received, she complained of pain near the joint, which was immovable and very sensitive to the touch. As the patient was very fleshy and as the bones were quite small, the deformity was very slight, so slight that a casual glance would not have detected any difference in the contour of the shoulders. There was no numbness of the fingers, and in fact, with the exception of the severe pain when any motion, passive or otherwise, was attempted, there was nothing that would indicate any severe injury of this joint. The patient was etherized, when it became evident by the application of the test of Dugas that there was dislocation of the head of the humerus into the axilla. The reduction was accomplished with very little difficulty. A pad was placed in the axilla and an immovable apparatus adjusted. There was considerable constitutional disturbance as is nearly always the case in these injuries. The apparatus was kept on the shoulder for two weeks, at the end of which time slight passive motion was commenced and continued at intervals of a day for three weeks. There was no difference in the appearance of the joints, but the motion was very much limited in the injured one. At the expiration of four years, the patient was unable to place the hand easily upon the top of the head, and in fact, has never fully recovered the use of the joint.

CASE II. J. T., a man fifty-eight years of age, was riding in a stage-wagon when the axle broke and the vehicle was overturned and the patient was at the bottom of a confused mass of humanity. The exact manner in which the accident was caused it is impossible to state. An eminent surgeon of New Hampshire was called, who administered chloroform, diagnosed a downward dislocation of the humerus which he easily reduced. The patient came under my observation twenty-four hours after he received the injury. When seen there was considerable swelling about the joint and very great constitutional disturbance. As the patient had travelled over one hundred miles the apparatus had become disarranged. Adhesive plaster, wedged-shape pad and bandages were applied, so as to render the joint immovable. Opium was administered and the patient placed in bed. At the end of two weeks the apparatus was removed and passive motion was used every day. There was no wasting of the deltoid. The man never fully recovered the use of his arm. Up to the period of his death, which occurred five years later, he was unable to raise his arm at more than a right angle to the body. Rotation of the humerus, however, was comparatively good. There was more or less neuralgic pain, however, as long as the patient lived. There was a slight prominence in the anterior portion of the joint, the cause of which has never been satisfactorily explained. Hamilton in his work on dislocations and fractures, speaks of this deformity as of very frequent occurrence after dislocations, and attributes it to the injury of the long head of the biceps; but as the long head of the biceps is comparatively rarely injured in dislocations it would seem as if this conclusion was erroneous. Other observers consider that it is due to the injury of the spinatus muscles and probable thickening of the capsule.

CASE III. A man, about forty years of age, was standing on a ladder about eight feet from the ground, when the foot of the ladder suddenly slipped and he was precipitated from this height, and put out his left arm to save himself, thereby causing an axillary dislocation. When seen, which was about three hours after the accident, there was a deformity characteristic of this dislocation. As the man was of a very spare habit, the diagnosis could be made at a glance. The patient was etherized, and the dislocation was easily reduced by means of placing the heel in the axilla. A pad was placed under the arm, which was firmly bandaged to the side. There was very little constitutional disturbance, and the subsequent swelling and inflammation of the joint were very slight.

The bandages were removed, and passive motion commenced at the end of two weeks. At the expiration of six months, although the motion of the joint was comparatively good, the man did not have free and perfect use of the arm. There was no change, however, in the appearance of the injured joint, as compared with the other. The limited amount of pain in this case is of interest when compared with the severe pain in the previous cases.

CASE IV. J. G., a man about fifty years of age, standing at the door of a saloon, was suddenly pushed down two steps, causing an axillary dislocation of the right humerus. It was impossible to discover just how he received this injury. When the patient was seen, he was somewhat under the influence of alcoholic stimulants. There was comparatively slight deformity,

but as there was great pain and tenderness about the joint, sufficient to render an examination without an anæsthetic impossible, he was etherized. A dislocation diagnosed and easily reduced. The usual apparatus was adjusted and kept in place for ten days. The patient stated that four years previous, he had received a similar injury to his arm. At the end of three weeks, at which time the patient passed from observation, there was comparatively good motion of the joint.

CASE V. A. B., while in a state of intoxication, fell on the sidewalk, and in some way dislocated his shoulder. When the patient came under observation, which was three days after the receipt of the injury, there was great swelling about the joint, so much as to mask the characteristic deformity, accompanied with very severe pain and marked constitutional disturbance. The man was etherized, and the dislocation reduced. Edema of the hand and numbness were present in a marked degree. At the end of a week the swelling was very much diminished, but, unfortunately, at this time the patient disappeared.

CASE VI. A woman, thirty years of age, was knocked down by the horses of a street-car, and received an injury of the right shoulder-joint. The patient was seen about an hour after the accident. There was loss of power, numbness of the hand, and severe pain in the shoulder. The deformity of the joint was not very marked, but on account of the pain, a satisfactory examination could not be made without an anæsthetic. The patient was placed under the influence of ether, and the diagnosis of a downward dislocation made. This was easily reduced, and the usual apparatus adjusted. At the end of two weeks passive motion was commenced. In this dislocation, as is frequently the case, there was wasting of the deltoid, and also marked inflammatory thickening of the capsule of the joint. At the end of six months the movement of the joint was much impaired, although there was very little pain. A slight prominence on the anterior aspect of the joint was very evident. The deltoid muscle was considerably smaller than the one on the opposite shoulder. At the end of a year there had been very little improvement either in the appearance or motion of the joint. At the end of four years the motion was not perfect, but it had improved slightly. The patient could now place the hand upon the vertex, but she was unable to place the upper part of the arm in contact with the side of the head. There was considerable loss of symmetry. For all usual avocations, however, this arm was nearly as useful as the other.

CASE VII. A. B., a man thirty-five years of age, fell on an icy sidewalk, and while trying to save himself by grasping the railing of a fence, caused a downward dislocation of the left humerus. The patient was seen about one hour after the accident. He was etherized, and the dislocation easily reduced. The usual apparatus was applied, and at the end of two weeks was removed. There was very little constitutional disturbance in this case, and the swelling and pain in the joint were comparatively trifling. At the end of four weeks there was a fair amount of motion in the joint, but there was very marked deformity on the anterior portion of the shoulder. Allusion has been made to this deformity in Cases II and VI. So great was this enlargement, that a superficial observer might mistake it for a dislocation. The head of the bone in this case

was certainly in the glenoid cavity, because the motion of the joint, although limited, was perfectly free and unembarrassed. The hand could be placed upon the opposite shoulder, and the inner elbow brought in contact with the thorax. A rule placed upon the arm projected about three-quarters of an inch from the acromion. At the end of three years the deformity had somewhat diminished, but the motion of the joint was still quite limited. Without multiplying cases, it has been shown, I think, that a dislocated shoulder-joint rarely, if ever, fully recovers its functions. It may be of interest, before finishing this subject, to allude to a remarkable result of a dislocation of the humerus, described by Baron Larrey in "Cooper's Surgical Dictionary," page 314: "Among the curious anatomical preparations (says he) which I saw in the cabinet of the University of Vienna, there was a dissected thorax, shown to me by Professor Prokaska, in which the whole orbicular mass of the head of the right humerus, engaged between the second and third true ribs, projected into the cavity of the chest. This singular displacement was the result of an accidental luxation, occasioned by a fall on the elbow, while the arm was extended and lifted from the side. The head of the humerus, after tearing the capsular ligament, had been violently driven into the hollow of the axilla, under the pectoral muscles, so as to separate the two corresponding ribs and pass between them. The diameter of the head of the bone surmounted this obstacle, and penetrated entirely into the cavity of the thorax, pushing before it the adjacent portion of the pleura. Every possible effort was made in vain to reduce this extraordinary dislocation. The urgent symptoms which arose were dissipated by bleeding, warm bathing, and anti-phlogistic remedies. The arm, however, remained at a distance from the side, to which condition the patient became gradually habituated, and after several years of suffering and oppression, he at length experienced no inconvenience.

"The patient was about sixteen or seventeen when he met with the accident, and he lived to the age of thirty-one, when he died of some disease which had no connection with the dislocation. His physicians were anxious to ascertain the nature of this curious case, of which they had been able to form only an imperfect judgment. They were much surprised to find, upon opening the body, the head of the humerus lodged in the chest, surrounded by the pleura, and its neck closely embraced by the two ribs above specified. They were still more astonished to find, instead of a hard, spherical body covered with cartilage, only a very soft, membranous ball, which yielded to the slightest pressure of the finger. The cartilage and osseous texture of the whole portion of the humerus, contained within the cavity of the chest, had entirely disappeared. Of the humerus, there only remained some membranous rudiments of its head, and a great part of these seemed to belong to the pleura costalis."

WASTING OF THE DELTOID.

CASE I. J. G., a man about forty years of age, fell on the sidewalk and injured his right shoulder. About three weeks after the injury he applied for treatment. At this time there was considerable pain on motion of the joint, and its movement was very much embarrassed. In order to prevent any possible error in diagnosis, the man was etherized, and a very careful examination was made. No fracture nor dislocation

could be detected. There was considerable diminution in the size of the deltoid muscle. A stimulating embrocation was advised, together with frequent champing of the joint. At the end of a week after the commencement of treatment, the thickness of the deltoid had diminished considerably. Electricity was now advised, in the form of the interrupted current. The man was under observation about eight weeks, at the end of which time the condition of the deltoid had not improved. There was complete paralysis of this muscle.

SEPARATION OF THE UPPER EPIPHYSIS.

This is spoken of by the authorities as a very rare accident, and were it not for the fact that a most careful examination had been made, I should be inclined to think that there had been an error in diagnosis.

CASE I. B. D., a boy, twelve years of age, was forcibly compressed between a high-board fence and the tail-board of a wagon, the wagon being brought in contact with his left shoulder. He was seen about one hour after he was injured, at which time there was a deformity in the anterior portion of the shoulder, just below the coracoid. When one hand was placed upon this projection, and rotation, with a slight upward pressure, made with the other, a peculiar, soft crepitus could be felt; when rotation was made outwards, this prominence moved slightly, but seemed to pass through the arc of a comparatively small circle. The forearm could be flexed and extended, both pronated and supinated without pain. Slight pressure downwards and backwards caused this deformity to disappear. There was comparatively little pain about the joint, so that a satisfactory examination was made without ether. An Ahl's shoulder-cap splint was moulded to the part, with a soft pad so adjusted as to bring firm, yet moderate pressure over the deformity. The arm was bandaged to the side. At the end of two weeks the splint was removed, in order to make an examination. Slight passive motion did not cause a recurrence of the deformity. The splint was re-adjusted, and at the end of ten days was removed. Slight passive motion was employed, the deformity did not return, and the patient had ultimately perfect use of the joint.

CASE II. A girl about six years of age, of a somewhat strumous diathesis, was forcibly thrown against the side of a house, and received an injury of the left shoulder. She was seen about an hour after the accident. There was slight swelling of the shoulder, and the characteristic deformity, to which allusion has been made in the preceding case, was observed. Owing to the slight amount of pain, an examination was possible without ether. Shoulder-cap splint was adjusted and kept in position three weeks. Passive motion was now used for a short time. The girl recovered perfect use of the joint, and there was no lack of symmetry in the shoulders.

My reasons for considering that the two preceding cases are examples of this injury, rather than fractures, are the peculiar appearance of the deformity, which is a distinct prominence just below the coracoid; a peculiar, soft crepitus (if I may be allowed the term), which is entirely different from the rough, grating feel, characteristic of a broken bone; the comparatively trivial pain, which rendered satisfactory examination of the joint possible without etherization; and the fact that at the end of three weeks, the union of the separated parts seemed to be perfectly firm.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

MEETING, November 1st, 1886. DR. A. N. BLODGETT in the chair.

DR. G. W. GAY read a paper upon

A CASE OF LAPAROTOMY FOR RECENT ADHESIONS OF THE INTESTINES TO THE ABDOMINAL PARIETES: RECOVERY.¹

DR. RICHARDSON said that the paper was suggestive in bringing forward the question, What circumstances justify laparotomy? In some cases there can be no doubt, but in a large proportion the operation has to decide a doubtful point, and this is especially true of cases of obscure intestinal disease accompanied by obstruction. The severe cases of abscess about the vermiform appendix would be excluded from the list of doubtful cases. The speaker thought the practice of opening the abdomen to satisfy curiosity as to the disease and when nothing was to be gained further was altogether too common; he was sure that the success of over twenty laparotomies in his practice was such as to tempt him to perform the operation perhaps too freely. In the case reported, had the result been other than successful, it seemed to him the operation was justifiable when the percentage of mortality in similar cases left alone, was considered. While advising delay in operating in such cases of obstructive disease as did not present grave symptoms, yet one must be on his guard against delaying too long; in his own experience the delay of a few days in the case of a woman of seventy years, allowed her to become so exhausted that she died twelve hours after resection of the intestine, although the operation itself was perfectly successful, the joint holding both air and water.

DR. GAY said that the point on which he especially wished discussion was the one of most importance to the patients, that is, how much benefit is it to have peritoneal adhesions broken up. In cases of idiopathic peritonitis the patient may live for a long time suffering from adhesions, can he be cured by operating and breaking these bands? The question seems to turn upon the point as to whether these bands will re-form. It is known that they may not when only covering a comparatively small space. May not the same be true of very extensive ones? The limit of successful operations seemed to be between the two extremes of acute peritonitis, where the patient died of shock, and very severe cases where the patient was collapsed, and in the cold and sweating stage. He had operated in four cases when collapsed, but always with fatal result.

DR. BLODGETT asked the reader if the location of the intestinal adhesions in relation to their distance from the stomach would have any important bearing upon the result of treatment by operation? that is, if adhesions situated at a point upon the bowel nearer to the stomach would of necessity increase the perils of the patient either in the way of immediate shock during or after the operation, or would induce less favorable conditions during convalescence from the operation?

DR. GAY stated that the higher up the adhesions

¹ See page 25 of this number of the Journal.

are situated the more primary shock there is, and the greater liability of complications during convalescence.

An operation near the stomach is more dangerous than the same procedure nearer the cœcal end of the intestine.

Dr. RICHARDSON alluded to the manner of suturing the abdominal wound.

Dr. GAY said that in this case he had followed his usual method. He employed it from theoretical reasons at first, but always having had good success continued it.

Dr. FITZ inquired as to the ease with which the adhesions were broken down.

Dr. GAY said that there was but one spot that gave any trouble, although it was not always easy to find the dividing line between the adhesion and the bowel. He did not use the knife.

Dr. J. H. McCOLLOM read a paper upon

INJURIES OF THE SHOULDER.²

Dr. A. H. NICHOLS thought that the cases presented of uncomplicated shoulder dislocation, followed by long-continued after-effects, should be considered as rare exceptions; and that the surgeon would still be justified in predicting that the patient would regain the substantial use of the limb within a few months. The period intervening between the inception of the injury and the reduction, is an important element in considering the prognosis. Where this interval amounts to several days, the functions of the limb are less speedily resumed; possibly owing to the greater force necessary for accomplishing reduction under such circumstances. Hamilton mentions two years as the longest period of continuance of muscular ankylosis and weakness following a dislocation promptly reduced.

The paralysis and loss of symmetry, or atrophy of the muscles, particularly of the deltoid, cannot always be referred to the effects of muscular contusion or rupture; for these same phenomena have been observed when the arm has been subjected to violent extension only, where there existed no suspicion of dislocation or muscular injury. Such symptoms would seem to be most satisfactorily explained upon the theory of rupture of the circumflex nerve.

Dr. GAY said, one important point is suggested by Dr. McCollom's paper, and that is the question of a permanent injury. Every medical expert is pretty certain to be asked this question: "In your opinion, Doctor, will the patient ever have as good an arm, as before the accident?" In other words, is the injury a permanent one? The cases reported here would indicate that the question cannot be answered by either a yes or a no. It should be qualified somewhat as follows: The arm, which has been dislocated at the shoulder, will probably never be quite as free in its movements in certain directions as it was before the accident, but for most of the ordinary uses of the arm it will be as good as ever it was. While the effects of the injury may never wholly disappear, yet it is by no means permanent, in the sense of total or even partial disability to fulfil all the ordinary functions which may be required.

Another feature of these cases is, that improvement continues to manifest itself for a long time after the ordinary convalescence. This is particularly true of joints. At the end of six months, or even a year, the patient may experience a good deal of trouble in con-

sequence of the injury, but that is no good evidence that they will never recover. Chronic joint affections oftentimes require years for a complete, or even a fair recovery. Hence it behooves the expert to be slow in pronouncing any doubtful case of injury to joints a permanent one, in the sense of permanent impairment of the ordinary functions of the limb.

Dr. McCOLLOM said that one of the patients, seen six years ago, was still unable to put the hand to the head. The case was interesting because at the time it was a legal matter and the question of how much disability was simulated arose. The case having been long settled, that element was removed.

Dr. BLODGETT remarked that he had hoped to hear some allusion by the reader to a condition of the shoulder which has at times presented itself in his practice. He alluded to the habitual and recurrent dislocation of the shoulder after a primary injury of greater or less severity, by which the head of the bone was in the first instance dislocated into the axilla.

One such case has been seen by Dr. Blodgett, in which a primary dislocation of the shoulder fully recovered as far as the ordinary treatment of such cases is concerned, but in which any unusual exertion or incautious movement is liable to be followed by an immediate and complete displacement of the head of the humerus into the axilla. The patient was so accustomed to this accident, that he was not alarmed by its occurrence, but sought surgical aid, giving directions how the dislocation was to be reduced; and on the accomplishment of the reduction the patient quietly put on his coat and departed, to be seen no more until a recurrence of the dislocation made it necessary that he should again seek surgical aid. The very trifling amount of disturbance caused by the dislocation of so important a joint as that of the shoulder may well excite surprise, and the comparatively little disability following this injury in most cases is remarkable.

Dr. E. O. OTIS stated he had a patient in whom the accident had occurred several times.

Dr. STRONG said that he had had under his care a woman of about seventy years who could at will produce complete downward dislocation of the shoulder but could not get it back without medical aid. He had reduced it four times.

Dr. MARION had reduced one shoulder three times, and knew that others than himself had reduced it. He inquired as to the necessity of placing a pad in the axilla.

Dr. McCOLLOM said the pad made the patient more comfortable and certainly diminished the chances of the head of the humerus slipping on.

— Prof. F. S. Dennis, of New York, while crossing the Atlantic, made some experiments for testing the purity of air one thousand miles from land, in the line of those by Tyndall upon the mountain air of Switzerland. In one capsule of sterilized gelatine exposed in the state room upon the main deck of the steamer, within eighteen hours over five hundred points of infection had developed. Two capsules exposed in a similar manner in the cabin on the promenade deck, where the circulation of air was free, showed five or six points each ten days afterwards. A capsule exposed over the bow was entirely uncontaminated.

² See page 26 of this number of the Journal.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, December 20th, 1886.

DR. FRANK GRAUER read a paper on

THE PATHOLOGICAL ANATOMY OF SCARLATINAL NEPHRITIS.

Although a great deal had been done within the past ten years in the pathology of scarlatinal nephritis, he said, there still existed differences of opinion as to the minute changes which occur in the various forms of the trouble. Friedländer had classified the different forms met with post-mortem, under three types, namely, initial catarrhal nephritis; large, flabby, hæmorrhagic kidney; and acute glomerulonephritis, or nephritis post-scarlatinosa.

The initial catarrhal nephritis was the form that we met with in the first week of the disease; generally accompanying the exanthema, lasting from a few days to a week, and then gradually disappearing. It rarely led to death, and was only recognized by a chemical examination of the urine; in which were to be found a slight amount of albumen and mucus and hyaline casts—more rarely red and white blood-corpuscles, renal epithelium, and granular casts. The symptoms very rarely pointed to kidney trouble, and if any such were present, they were liable to be overlooked.

In this affection the kidneys were slightly enlarged and hyperæmic, the capsule stripped off very readily, and in a cut-surface there was some thickening of the cortical substance, with more or less loss of striæ, while the glomeruli appeared as red dots. Microscopical examination showed swelling and granular degeneration, with desquamation of the epithelium, especially that lining the convoluted tubules. Hyaline and granular casts were often found in the straight tubes, and, where the process had been more severe, the beginning of a round cell infiltration in the interstitial tissue. It was only in those cases in which children died from the sequelæ or complications of scarlatina, such as diphtheritis and broncho-pneumonia, that we were able to notice the changes referred to. It might be supposed that these changes were indications of a parenchymatous inflammation, but Friedländer had pointed out the following differences: parenchymatous inflammation, according to Virchow, leads to fatty degeneration of a cell, with disturbance of its function; and this process does not occur in the epithelial cells lining the uriniferous tubules in the affection in question. Then, on the other hand, we have a cellular proliferation in initial catarrhal nephritis which does not, as a rule, occur in parenchymatous inflammation of the kidney.

The second form of nephritis, characterized by large, flabby, hæmorrhagic kidney, was not as common as either of the other two forms, and was met with in only twelve out of two hundred and twenty-nine cases in which Friedländer made autopsies. It generally occurred from the first to the fourth week of the disease, and ran a rapid course. In some cases the urine was normal up to within twenty-four or forty-eight hours of death, and œdema rarely occurred. This form of nephritis was generally found in those cases accompanied by extensive angina and diphtheritic inflammation.

The kidneys were found to be enlarged and softened, and the cortical substance was thickened, and greyish-red in color. There was complete loss of the striæ,

and the glomeruli, as a rule, were invisible. The cortex was studded with ecchymoses and large hæmorrhagic infiltrations. Microscopically, the tubules were seen to contain the various forms of casts, red blood-corpuscles, degenerated and desquamated epithelium, and an increase in the connective tissue characterized by a round cell infiltration situated mainly around the glomeruli and between the convoluted tubules. Besides the above changes, small abscesses were often found in the cortical substance, in which, by means of one of the aniline dyes, it was not infrequently possible to detect micrococci. Whether these microbes had any distinct relation with the etiology of scarlatina or diphtheritis, or whether they were merely one of the forms of micrococci commonly found in acute abscesses, Dr. Grauer was not able to state. This form of nephritis was not characteristic of scarlatina, as it had been found in some forms of primary diphtheritis; and Friedländer regarded it as a septic inflammation of the kidney.

The third variety, acute glomerulonephritis, was almost characteristic of scarlatina, and rarely occurred in other diseases. Dr. Grauer had met with it once, however, in a case of heart trouble. It generally occurred in the third or fourth week of the disease, when the patient was convalescing. Usually without other symptoms, œdema was noticed about the eyes and lower extremities, and an examination of the urine showed evidences of albuminuria. The urine was also turbid, diminished in quantity, and of a high specific gravity.

Microscopical examination showed hyaline casts, renal epithelium, red blood-corpuscles, and, occasionally, epithelial and blood casts. While in some cases recovery promptly took place, in others the process was progressively unfavorable. The œdema increased, fluid accumulated in the peritoneal, pleural and pericardial cavities, the urine kept on diminishing and became bloody, and the albuminuria became more marked. Microscopic examination now showed it to contain a large number of red blood-corpuscles, pus and renal epithelial cells, and hyaline, blood, granular and epithelial casts. Then came uræmic symptoms, with anuria and death. Friedländer found this form of nephritis in forty-two out of the two hundred and twenty-nine cases that he examined.

Klebs was the first to point out that the glomeruli were affected in scarlatinal nephritis. On making fresh sections of the kidney with a double knife, he found that the glomeruli were anæmic, and on washing out the same in water they became dark and cloudy. Microscopically he noticed small irregular nuclei imbedded in a granular mass, and within the capsule proliferation of the capsular epithelium; while the capillaries were almost completely covered by a mass of nuclei. On tearing apart the glomeruli with needles he found the glomerulo-epithelial cells more adherent than normal, and varying in shape. Occasionally some of the cells were found to be fatty. Situated between the glomerulo-epithelial cells and the walls of the capillaries were small irregular nuclei, and from their shape and appearance he came to the conclusion that they were nuclei of the proliferated connective tissue cells, and that they produced a compression of the capillaries, which caused the diminution and suppression of the urine. In this Dr. Grauer thought he was probably mistaken, as there was no evidence of connective tissue situated between the

glomerulo-epithelium and the walls of the capillaries in a normal kidney.

Having devoted some time to the discussion of the microscopical anatomy of the glomeruli, in regard to which he said there still existed some differences of opinion among histologists, he stated that Klein, in twenty-five autopsies of those who had died of scarlet fever, observed the following changes: increase of nuclei, probably covering the glomeruli, and hyaline degeneration of the elastic intima of the minute arteries, especially the afferent arterioles. The intima of these vessels in places appeared swollen up into cylindrical or spindle-shaped hyaline masses, which produced a distinct narrowing of the lumen of the vessels. In connection with this he observed a similar hyaline degeneration of the capillaries of the Malpighian corpuscles in the course of which greater or smaller parts of the glomeruli became obliterated. The degenerated parts were at first hyaline, and later on assumed a more fibrinous aspect; Bowman's capsule at the same time becoming thickened. A third change that he observed was multiplication of the nuclei of the muscular coats of minute arteries and a corresponding increase in thickness in the walls of these vessels. The changes in the glandular part of the kidney he thought were indications of a parenchymatous nephritis, and he did not think that the anuria and uræmic poisoning were due to compression of the vessels of the glomeruli, but to the changed state of the arteries.

Having referred to the observations of Ribbert and Langham, he went on to describe his own researches, based upon nine cases of glomerulo-nephritis that occurred at the Allgemein Städtisches Krankenhaus in Berlin, and conducted at the pathological laboratory of Dr. Carl Friedländer. He gave the results of the post-mortem examination in each case, and then went on to say that in glomerulo-nephritis, the kidneys were enlarged and hyperæmic. There was no loss of cortical striae, and in some cases the cortex might be somewhat thickened. The glomeruli were pale, prominent, and more or less enlarged.

As regards the microscopical examination, the uriferous tubules were apparently normal. There might be some evidence of a slight parenchymatous inflammation, and the epithelium might be somewhat swollen, while occasionally a cast in the tubules could be seen. The glomeruli were bloodless. Very rarely, a red blood-corpuscle could be found in the lumen of a capillary. When examined with a low power, the glomeruli were found larger than normal, and covered with a mass of nuclei. With an immersion-lens, the following changes could be noticed in the capillaries: In some, the only change was a thickening of the endothelial layer, which became more granular. In others, the lumen of the vessel was filled with a rich, nuclear protoplasm. Dr. Grauer's opinion was that these nuclei were the nuclei of proliferated endothelial cells, rather than the nuclei of white blood-corpuscles, as held by some authorities. They were, he claimed, smaller and darker than the latter; and he had also seen an endothelial cell swollen and projecting into the lumen of the capillary, and completely obliterating its calibre.

With reference to the glomerulo-epithelium, he had noticed swelling and proliferation. It was still considered by some that it was the proliferation of the glomerulo-epithelium that produced a compression of

the capillaries, and thereby obstructed the circulation; but in all the specimens examined by Dr. Grauer, although proliferation was present, the loops, as a rule, were larger than normal, showing that the pressure was from within, and not from without. Proliferation of the capsular epithelium, as described by Klebs, was not observed in eighty-two sections that he examined, although he had noticed it in other forms of scarlatinal nephritis.

Hypertrophy of the left ventricle of the heart was always present in cases of glomerulo-nephritis, as first pointed out by Friedländer, and it was due to the heart's being compelled to do more work, on account of the obstruction in the Malpighian tufts. In conclusion, he expressed the opinion that the term glomerulo-nephritis ought to be limited to those affections in which there is an obliteration of the loops of the capillaries, and not applied to those in which there is only a proliferation and desquamation of the glomerulo- and capsular epithelium, as this change has been noticed in all forms of chronic nephritis. After reading his paper, Dr. Grauer exhibited, under the microscope, a number of specimens illustrating some of the points referred to in it.

DR. A. FLINT remarked that Dr. Grauer was worthy of much commendation for the careful manner in which he had studied this subject. Our knowledge of glomerulo-nephritis was of comparatively recent origin, and was chiefly due to the improved microscopes and improved methods of staining now at the command of the investigator. He had lately been much impressed with the immense advantages of the modern lenses over the most perfect ones formerly in use while making some examinations of tubercle bacilli.

One of the questions of interest which was suggested by the paper was that relating to death from so-called uræmic poisoning. This was a live question, and, personally, he had very decided convictions in regard to it, which were considerably at variance with the views which he had formerly held. From the investigations which he had made during the last few years concerning excrementitious substances, he now entertained doubts as to whether urea was, after all, a poison. His experiments had convinced him that water was formed *de novo* in the system from a combination of the elements composing it, so that, under these circumstances, water itself was an excrementitious product, and yet it was certainly not a toxic agent. As to the cause of death in these cases of scarlatinal nephritis, which were commonly attributed to uræmic poisoning, he believed that the parenchymatous changes which were noted in the patient after death were due very largely to the excessive pyrexia of the scarlet fever. The special direction which these parenchymatous degenerations took in different infectious fevers were governed, he thought, by the special cause of the disease, each affection having its own peculiar *contagium vivum*, with its specific mode of action in the system. In scarlatina, there was a strong tendency for trouble to locate in the kidneys, and in scarlatinal nephritis, the urine was diminished in quantity and concentrated, and contained a large amount of albumen, because these organs became choked with excrementitious matter, and could no longer be washed out by the water derived from the Malpighian tufts.

DR. ISAAC E. TAYLOR said that in the cases to which Dr. Grauer had devoted special attention, death had occurred in from four to eight weeks. He should

like to inquire what would be the condition of the kidneys in those cases which terminated fatally within thirty-six hours from the onset of the attack of scarlatina. In this connection, he related several cases which had occurred in his own experience.

DR. L. J. McNAMARA said that if there was swelling of the endothelial cells, filling up the calibre of the tubules, as described by Dr. Grauer, it would overthrow the theory formerly entertained, that these tufts of capillaries are composed of nothing but epithelial cells without nuclei. Or, possibly, the condition might be explained on the hypothesis of the existence of two sets of cells, one variety being nucleated, and the other not.

DR. DANIEL BROWN thought that the virus of scarlatina found a soil peculiarly fitted to it in the skin, the intestines, and the lining membrane of the glands, and that, by its effect upon these structures, an irritation of the nervous system was set up that was sufficient to account for the class of cases referred to by Dr. Taylor. It was very much as though the child died from shock. Scarlet fever had the effect of arresting almost all the secretions of the body, and, therefore, in his treatment he was in the habit of employing such remedies as tend to stimulate the secretions. By pursuing this course, he had found that the temperature was kept down, and that the danger of unpleasant sequelæ was greatly diminished.

DR. J. W. S. GOULEY said that a number of years ago, during several epidemics of scarlatina at the Nursery and Child's Hospital, it had been somewhat surprising to him, as well as to Dr. Elliott, who was one of the attending physicians, that so many of the children were affected with nephritis; and the point that interested him most was, that of the many who recovered, the larger number recovered promptly and completely. He should like to inquire, therefore, whether it was not rare for chronic nephritis to result.

The President, DR. LEALE, said that some fifteen years ago, when he was attending physician for diseases of children at one of the largest dispensaries of the city, he was struck by the large number of cases of dropsy that presented themselves; and he found that the great majority of these were in children who had passed through an attack of scarlet fever without any medical attendance. An interesting point that he had noticed in examining the urine from day to day in cases of scarlatina was that, although for a time there might be no sign of kidney trouble, it was a fact that albumen appeared in it almost invariably on the twenty-first day. It thus followed close upon the desquamation of the skin. When scarlatinal dropsy was moderate in amount, there was usually little difficulty in promptly relieving the patient.

DR. GRAUER said that in the cases referred to by Dr. Taylor, in which death occurred within twenty-four or forty-eight hours, there was complete suppression of urine, and that the condition found after death was acute glomerulo-nephritis. In reply to Dr. Gouley's question he stated that while in the majority of cases the children undoubtedly recovered promptly, in a certain proportion of cases the kidney trouble became chronic. He had at present, under observation, a child of eight years, who had an attack of scarlet fever two years ago, and who now, as a result was suffering from chronic interstitial nephritis, with bloody urine.

PERFORATION OF THE APPENDIX VERMIFORMIS: LAPAROTOMY.

DR. JOSEPH D. BRYANT presented a vermiform appendix which he said he had removed from a patient last summer. The case occurred in a neighboring town, and was seen in consultation with Drs. Janeway and W. T. Bull. The cause of the illness, which occurred in a gentleman, forty-five years of age, previously in good health, was entirely unknown.

Almost fifty hours before Dr. Bryant saw him he was suddenly attacked, without appreciable cause, with a moderately severe pain in the epigastrium region. He attached but little importance to it, and, attributing it to a mild diarrhœa, from which he had been suffering for ten or twelve hours previously, took a gentle cathartic, which afforded him marked relief. He noticed no pain or tenderness in the right iliac region.

About fifteen hours afterward the pain became more severe than at the outset; but was still located in the epigastrium. The family physician was now called in and he prescribed another cathartic, followed by an anodyne. The medicine did not move the bowels, and the pain increased; while the abdomen now became tympanitic, and nausea, with occasional vomiting, set in. The vomiting, however, was not characteristic of any special morbid process. Enemata were administered, but served to dislodge only a few small scybulous masses.

The condition of the patient became gradually worse, and Dr. Janeway was called in consultation; arriving about forty-five hours from the first attack of pain. Five hours later he was seen by Drs. Bryant and Bull, and the following facts were noted: The patient's perceptions were intact, although somewhat blunted by the previous use of opium. Persistent, though not severe, nausea existed, with occasional vomiting. The vomited matter had no distinctive characteristics. The abdominal walls were extremely distended, with tympanitic resonance well marked in all situations. Hepatic dulness normal. Tenderness on pressure was general, but best marked at the lower portions of the abdomen. No isolated point of special tenderness was discovered, and all pain was still referred to the epigastric region. The abdominal walls were too tense to render deep palpation of any service as a diagnostic measure, and digital rectal examination disclosed nothing abnormal. Temperature 102°, pulse 108. Respiration increased in frequency, but painless. Bowels obstinately constipated, with an absence of all intestinal sounds, and of appreciable vermicular movements. The thighs were flexed. Urine drawn off with a catheter.

As the result of this examination the consultants believed, (1) that a more or less general peritonitis existed; (2) that it was secondary to either obstruction of the intestinal tract or perforation of it; (3) that immediate measures of relief must be taken to insure a chance for recovery; (4) that medicinal measures afforded no such chance; (5) that an exploratory incision of the abdomen was warranted.

The patient having willingly given his consent, the operation was performed in as thoroughly an antiseptic manner as the contingencies of the case would admit. As soon as the peritoneum was incised a very small amount of thin, non-offensive, reddish-colored fluid escaped. The small intestines were extremely distended, and their serous surfaces were deeply cou-

gested. The sigmoid flexure (which extended across to the right iliac fossa) presented similar appearances. In some situations evidences of recent lymph were seen. No characteristic local indications of an obstruction could be found anywhere. The intestines at and about the right iliac fossa presented the evidences of a more profoundly inflamed condition, and for this reason the caput coli was closely examined. It, too, presented appearances similar to the contiguous intestines.

The vermiform appendix was then sought for and found, but with considerable difficulty. It arose from the inner and peritoneal surface of the cæcum, was about two and one-half inches in length, was covered entirely by peritoneum, and was unattached, except at its origin from the cæcum. It was standing nearly erect between the intestinal folds. It was swollen and darkly congested, and presented somewhat the outline of a distended leech. At its base three perforations were found; two of which were each about the size of a small pea, while the other was of somewhat smaller size. In one of the openings was a small mass of faecal matter. At and around the base of the appendix a considerable amount of the reddish non-offensive fluid mentioned was found, and it was mixed with flakes of recent lymph.

The appendix was tied at its base, below the points of perforation, with a strong silk ligature, and removed with scissors. The abdominal toilet was performed with antiseptic sponges, and a warm solution of bichloride of mercury ($\frac{1}{1000}$). A drainage-tube was introduced, and the abdominal wound closed and dressed antiseptically. The patient rallied from the immediate effects of the operation, but died twelve hours afterwards from exhaustion.

In concluding his report Dr. Bryant called attention to the following special points of interest in connection with the case: (1) The preceding diarrhœa; (2) the absence of distinctive pain at the seat of the lesion; (3) the location of this pain in the epigastric region; (4) the comparative quiet following the first attack; (5) the existence of normal hepatic dulness; (6) the extension of the sigmoid flexure to the right iliac fossa; (7) the unusual arrangement of the vermiform appendix; (8) the absence of the evidences of any restricting inflammatory process; (9) the uncertainty attending the diagnosis of the existing cause of the patient's condition; (10) the unusual means adopted for the relief of the patient.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.¹

DISCUSSION OF DR. JAGGARD'S PAPER ON REDUCTION OF INVERTED UTERUS BY COLPEURYSIS.

DR. PHILIP ADOLPHUS. The author of this excellent paper has adopted in the reposition of the uterus of his patient, as efficient a mode of procedure as any hitherto in use. It is also the safest mode of replacing the organ. In the treatment of chronic inversions, success has followed all methods of replacement, whether effected gradually or rapidly. But forcible taxis ought to be the last resource, when gentler and as efficient means are exhausted. It may lead to laceration of the vagina, peritonitis and death.

Gradual pressure, sustained or interrupted, solid or elastic, to which taxis has been added, has been equally successful, and has been practiced since 1858. It is absolutely safe. In some cases air pessaries or other elastic contrivances have been left in the vagina constantly, or have been replaced at intervals, for a period of three to eighteen days, and *uteri* have been returned by this method, which were inverted from one to fifteen years. The essential to success in the return of an inverted uterus is patient, gently continued manipulation of *some portion of the uterus*, by the fingers in the vagina with the application of the other hand externally to overcome the constriction of the cervix, and to prevent the forcible elongation of the vagina. A small hand, which observes the course of the pelvic axis, and avoids the promontory of the sacrum, and goes on one side of it, is also an element of success. Old adhesions opposing reduction of the inverted uterus are rarely present. An inflammation of the serous tissue in some portion of the pelvis may however be present as a complication, for this is an extremely common affection in all kinds of pelvic disease. Doubtless, in cases in which peritonitis followed manipulations, a chronic or subacute inflammation of the serous tissues was the predisposing cause. However, the most interesting portion of this subject to me is that of diagnosis, *in all tumors lying in the vagina*, which do not pathologically implicate that organ and the vulva. A correct diagnosis in inversion of the uterus is absolutely essential to treatment and the safety of the patient. The question of differential diagnosis between inversion of the uterus and polypi and fibroids is almost daily presented to the gynecologist for solution. Not much reliance can be placed on the history in *chronic* inversion, for the diseases present similar symptoms. The size of inverted uterus of some standing is scarcely larger, and is often smaller than in the natural state. It is desirable to look on the case under examination as one of inversion as long as any doubt exists. The bowels and the bladder should be emptied and the patient examined under ether. It is certainly *not* a case of inversion, when by bimanual *palpation*, with fingers in the vagina, fingers or hand into the rectum, or sound in the bladder, the *unimpaird roundness* of the uterus presents itself for palpation, either in the normal or retroverted position. In the just mentioned condition, if the sound enters the uterus two and a half inches or more, the uterus merely contains a fibroid or polypus which emerges from the cervix. The diagnosis may be rendered more difficult if no opening in the *cervix uteri* can be found, the cavity having been agglutinated by previous inflammation, to the polypus. Here downward traction of the vaginal tumor to the vulva, by a vulsellum as recommended by Susdorff, and I copy his words, will at once confirm the presence of a polypus. "For the relations of the parts to each other as they existed in the vagina will be greatly changed when exposed to view. The lips of the cervix which surrounded the pedicle will have disappeared, having also become inverted, and along with it, probably, the vagina at its junction with the neck." The insinuation of the sound into the uterus will at once confirm the information procured by bimanual palpation. If the same manner of examination discloses the body of the uterus indented or cupped, we have a partial inversion, either with or without a fibroid, a condition which is not as unfrequent as is generally supposed. The

¹ Concluded from page 17.

presence of a tumor in the vagina, the absence of the *fundus uteri* in the abdomen, and the presence in its place of a well-defined ring or cup-shaped cavity, unmistakably announces an inversion of the uterus; traction confirms the diagnosis. An incision, not a puncture, along the sides of the tumor, after the patient emerges from the ether, will at once show whether we have to deal with the fundus of the organ or a polypus. In the one case it will induce pain, in the other it will prove painless. In the former it will relieve the congestion and possibly lead at once to its reposition, or prepare for its successful replacement in the future.

DR. H. P. MERRIMAN. I would like to ask whether, after the uterus had been partially restored so that the fundus was on a level with the lips, and the colpeurynter seemed to do no good for eight days following, taxis would not probably have promptly, almost immediately, accomplished the remaining portion of the work.

DR. H. T. BYFORD. Every method has danger, and there was one danger in this method which should be mentioned, that is the danger of sepsis or resorption of decomposing secretions. That there was danger even in this admirably managed case was evidenced by the rise in temperature, followed by the disappearance or decline in temperature on cleansing the bag and vagina. I have seen the immediate decline of fever by washing out the uterus when enlarged and filled with decomposing matter. I object to the introduction of the hand into the rectum to diagnosticate a case of inversion, as suggested by Dr. Adolphus. I consider it a dangerous practice because it does a violence to the part which sometimes has done an irreparable injury, and is unnecessary.

DR. W. H. BYFORD. With reference to the subject of inversion and more particularly the diagnosis, there are two points which I think are very important in addition to those mentioned by Dr. Jaggard. In cases of polypus attached to the neck of the uterus and filling up a good part of the vagina, I think the uterus is always enlarged and may be palpated above the pubes. Another point in the diagnosis is the difference in the sensation imparted to the examining finger. A polypus feels as if covered by a shining, smooth membrane, unless it is decomposed, while the surface of the uterus gives the sensation of pushing the finger into plush or velvet. I give these two points of diagnosis as the results of my own observation and as being usually present. With reference to the mode of reducing inversion, I will give some of my own experiences during the last thirty years. In the year of 1859-60, I had a patient sent to me from Lafayette, Ind., with a chronic inversion of the uterus, which I attempted to reduce. I had just read a long treatise on the subject by Dr. White, of Buffalo, and Drs. Thomas and Emmet were then beginning to talk and write about these things, and I went at it with considerable enthusiasm. I got up the cup that Dr. Jaggard mentioned, and I also got a large rectal bougie, an instrument which Dr. White had praised very highly in his first operations, and I made the first attempt, lasting about an hour and three-quarters, and when I got through I was worse off than the patient, although she was pretty badly used up. I waited two or three weeks and made another attempt, but after a protracted effort I found my finger passing through the *fundus uteri*. I had been as cautious about the force as I

could be, making the effort as gradually as possible, but I perforated the fundus. I fully expected that the damage done would be fatal to the patient, but it did not produce any bad effect whatever, and she entirely recovered in two weeks and went home. Two years later she came to see me again but did not wish to have another effort made to have the uterus reduced. Two years later the uterus was found in its normal position. I saw the patient and her physician and I am certain that nothing had been done to reduce it. I tried two other cases, and made the same efforts but without success. I then concluded that it was hardly worth while to make trials of that nature again, and in the next case I tried the colpeurynter treatment. For some days I was nonplussed, from want of experience, as to the mode of placing the instrument in the vagina. I used the quadrilateral colpeurynter, and after I placed it in the vagina, I found the next day that I had gotten it under the uterus lengthwise, that the fundus was directed toward the vulva, and the neck directly backwards. I was merely compressing the body of the uterus against the symphysis pubis. I reflected considerably before I could get the right idea as to the manner of placing the instrument in the vagina. Finally I pushed back the fundus until the axis of the uterus corresponded to the axis of the superior strait and then introduced the colpeurynter as has been described by Dr. Jaggard, and applied the force.

The next day when I came back I found there had been some impression produced, and I went on with the use of it taking it out every day and replacing it in this manner until in seven and a half days the inversion was reduced. The patient was a poor woman and it was necessary for her to take care of her child. She did so, attended to it in every way, and also cooked three meals a day for her husband. She was on her feet nearly the whole daytime, and yet the instrument acted as well as if she had been lying in bed. Three out of the five cases I have operated on have been as painless as this. I should judge that a young primipara would probably suffer more from the use of the colpeurynter than one who had had children. I have now reduced five cases of inversion by the colpeurynter and have not failed in any case since I commenced using the instrument. The first case of inversion I had I amputated the uterus. And in considering the matter since I doubt if any other treatment could have been adopted, which would have been effectual. The uterus and vagina were both inverted, the whole vaginal canal was entirely outside of the body and the uterus hung down from it, both making a tumor nine inches long. The uterus was very much enlarged in consequence of its being dependent for so long a time. I was in consultation with two German physicians of this city and they suggested as the patient was living a miserable life, and would die before long, we should cut it off. After half an hour's use of the *écraseur*, it was removed. We amputated a little below the centre of the cervix. There was no bleeding, nothing to give rise to uneasiness. We pushed the vagina back again, put the parts in place and the patient recovered in the course of a month. Having spoken of one spontaneous cure, I will tell you of a patient that I attended in Mercy Hospital, in 1864-65, whose uterus was much in the same way as the one that I first operated on, coming out entirely beyond the vulva and dragging down the vagina very low so that there was

simply a circular sulcus between the labia and the vaginal wall. I tried to restore it by manipulation and failed; I proposed to amputate it but the patient would not consent. Meantime one of the internes had fallen in love with her and they went off to Missouri and got married. About six years afterwards, the doctor came back and told me that he had a son and his name was Byford. Upon inquiry I found that the child had been borne by this woman. One case of inversion occurred in my own practice. I attended the patient during confinement, and so far as I know she had no difficulties whatever for seven or eight days. By that time I was on my road to California, and I think Dr. Roler looked after her for some little time after I was gone. In two months I returned home and was informed that she had inversion of the uterus, which I did not believe. I went to see her and found that she was suffering from complete inversion. That was one of the cases I cured by colpeurysis. When the inversion occurred I do not know. I am certain that I made two or three examinations, as I always did at that time, always one the second day after confinement. I did not notice anything of the kind, and yet it might have been commenced and finished afterwards. I saw a case with Dr. Henry Byford which had been attended by a midwife in which the inversion occurred so that the fundus could be touched through the mouth of the uterus, and it remained in that way two or three weeks. The patient was bleeding, but I believed the contraction of the mouth of the uterus was sufficient to prevent it coming through; I advised ergot, and in a few days the uterus was in its proper position.

DR. EDWARD WARREN SAWYER. One point in the persistence that one can observe in applying the colpeurysis, without a fatal result following. The interesting case that Dr. Byford has spoken of last also shows the possibility of the obstetrician seeing nothing in the first few days of the puerperal state to suggest that anything has gone wrong. Cases are recorded in which the inversion has taken place without the obstetrician knowing it. In the fatal case that occurred in my practice the symptoms were so profound that it was impossible to overlook it, and I think the diagnosis of recent puerperal inversion of the uterus is much easier than of chronic inversion. In the case which occurred in my practice, the rim of the crater marking the upper border of the uterus, which I palpated through the abdomen, was fully as large as a common bowl, and its edges were very sharply defined. In addition to that the fundus could be distinctly felt through the os uteri. One feature of the paper which is by no means the least to be commended is the very admirable and graphic way in which the case was presented.

DR. H. F. NEWMAN. My experience has been limited, but I remember a single case, in which I assisted a surgeon of this city in attempting the reduction of a chronic inversion of the uterus. It was in a hospital, where they had every facility for the operation and it could be proceeded with leisurely. Some two hours were taken up with the various devices for reducing the inverted fundus, all of which were of no avail. There was a complete inversion of the uterus but not of the vagina, and I think previous to the attempt at reduction a fibroid was removed from the fundus of the uterus. No further myomatous condition was discovered at the time, but the difficulty was exceedingly

great in this case and nothing whatever was accomplished. I have no knowledge of the subsequent condition of the patient, whether she suffered materially from this, or whether she was afterwards successfully operated on, or the uterus amputated.

The PRESIDENT asked Dr. Jaggard what means he used to disinfect the colpeurynter.

DR. JAGGARD replied that he washed it thoroughly with soap and warm water, afterwards disinfecting it with a five per cent. solution of carbolic acid. The vagina was irrigated with a two per cent. solution of carbolic acid, and a bacillus of iodoform introduced.

DR. ADOLPHUS in reply to Dr. Henry T. Byford. In complicated cases of tumor in the abdomen or pelvis I would not do without the introduction of the hand into the rectum. I am not alluding to Simon's method, putting the hand in as far as the elbow, but I am talking of the hand. And when the patient is under ether, it can be done easily. It depends upon the size of the hand, perhaps, but with a hand well greased and introduced slowly it does a great deal of good and gives an immense deal of information which we cannot get in any other way. I examine every case, without exception, *per rectum*, with the finger.

The PRESIDENT asked Dr. W. H. Byford if he regarded it good practice after all ordinary means had been exhausted and the uterus was still inverted, to amputate?

DR. W. H. BYFORD. When all other measures have failed to effect the object and the patient is suffering so much as to make relief imperative, yes.

The PRESIDENT. I saw Professor Chiara, in Florence, operate upon a case of that sort. He placed a silver wire around the uterus and left it in position, and the parts gradually sloughed away.

DR. W. H. BYFORD thought that mode of operating upon the uterus bad, that it would have been better to have used the wire *écraseur* to stop circulation, and cut it off. But a sloughing mass in contact with the parts would be likely to produce pyæmia.

CELEBRATION OF THE CENTENNIAL ANNIVERSARY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE minutes of the College of Physicians of Philadelphia begin with the record of a meeting held January 2d, 1787, for the formation of a permanent organization. Of preliminary meetings unfortunately no record remains. Dr. John Redman, the first President of the College, occupied the chair at this meeting and delivered a formal address, which was copied in full with its quaint phraseology and archaic orthography in the minute-book. The names of those instituting the new Society are subscribed to the early records in their own handwriting, and among them are found the familiar names of Philadelphia's leading physicians a hundred years ago. The founders were John Jones, William Shippen, Jr., Adam Kuhn, Benjamin Rush, Thomas Parke, Gerardus Clarkson, Samuel Duffield, James Hutchinson, William W. Smith, Andrew Ross, William Clarkson, James Hall, William Currie, John Redman, John Morgan, George Glentworth, Abraham Chovet, Benjamin Say, Samuel Powel Griffiths, Benjamin Duffield, John Morris, John Carson, John Foulke, and Robert Harris.

Before the charter was obtained in 1789, there had

been added Nathan Dorsey, John R. B. Rodgers, Caspar Wistar, Jr., James Cunningham, Charles Moore, Michael Leib, and John H. Gibbons.

The object of the new organization was stated to be "to advance the Science of Medicine, and thereby to lessen human misery, by investigating the diseases and remedies which are peculiar to our country; by observing the effects of different seasons, climates and situations upon the human body; by recording the changes that are produced in disease by the progress of agriculture, arts, population, and manners; by searching for medicines in our woods, waters, and the bowels of the earth; by enlarging our avenues to knowledge from the discoveries and publications of foreign countries; by appointing stated times for literary intercourse and communications; and by cultivating order and uniformity in the practice of physick."

The history of the College during the past century was distinguished by its consistent and loyal adherence to the best interests of the profession. In the addresses delivered at the celebration a retrospect was given of the course of the College and of the relations which it has borne to the profession and to the community.

The programme of the Centennial celebration was arranged by a Committee, consisting of Drs. Alfred Stillé, S. Weir Mitchell, I. Minis Hays, J. Ewing Mears, and Samuel W. Gross. The principal features were:

"An address by the President of the College given at Association Hall on Monday evening, January 3d, 1887, followed,

"At nine o'clock on the same evening, by a Reception in the College building. To the Address and the Reception invitations to ladies were issued.

"On Tuesday, at twelve noon, a meeting of the College was held at which Honorary Fellowships were conferred upon distinguished members of the profession. Addresses were made by Professors Stillé and DaCosta.

"At half-past six, on Tuesday, the anniversary dinner was given at the Union League.

"A valuable loan exhibition of the portraits of Fellows of the College, with those of distinguished members of the profession, and also a loan exhibition of rare medical books and rare objects of medical interest, was held January 5th and 6th."

The Commemorative Address by S. Weir Mitchell, M.D., President of the College, was delivered before a brilliant audience of ladies and gentlemen, and was received with marked evidence of approval. It was chiefly historical and biographical, but not tedious as such addresses are apt to be. On the contrary, it was elevated in diction and entertaining in its delivery. The orator, in order to place before his audience the condition of the profession at the time of the founding of the College, commenced by reviewing the social life of the century immediately preceding. In those early years, owing to the absence of adverse social limitations and restrictions, the physician, in this new country, found the way open to wealth, social place and even political preferment. In Philadelphia, even more than in the surrounding communities, the physician has, from the first settlement until to-day, held an almost unquestioned preëminence. "He is, and always has been, relatively a more broadly important personage here than elsewhere." Instances were

given of physicians becoming lawgivers, directors of banks and serving on collegiate boards.

Edward Jones and his father-in-law, Thomas Wynne, physicians of culture and gentle breeding, came over in 1682; the latter was an active practitioner of physic, and yet found time to become President of the first Assembly, in which sat his son-in-law, Jones. Thomas Lloyd found time to act as Deputy Governor, President of Council, and Keeper of the Great Seal of the Commonwealth. Griffith Owen, the physician of William Penn, was Member of Assembly, Deputy Master of the Rolls, and Commissioner of Property. Lloyd Zachary, the first physician elected to the Pennsylvania Hospital, was what we now would call Port-Physician, in 1725; sharing this duty with Thomas Graeme, a Scotch physician, who arrived in 1715, and who subsequently received other distinctions, the last of which was that of Chief Justice of the Supreme Court. The fact that so many of the early physicians were of the Society of Friends may serve to explain why, neither in the seventeenth nor the eighteenth century, are found in Pennsylvania what was very common in early New England and New Jersey, men doubly occupied as physicians and clergymen.

Turning to the subject of the institution of the College, it was observed that many of the founders had been educated at Edinburgh, which is the parent of the University of Pennsylvania. "Genealogically we might speak of our College and of the University as children of Edinburgh and grand-children of Leyden." Short biographical sketches were given of John Redman, "a man whom all men respected and all men loved"; John Jones, the author of the first American book on surgery; Plunket Glentworth, the friend of Washington, who wrote of him, "no nobler man or more skilful physician ever lived"; John Morgan, the founder of the University of Pennsylvania; William Shippen, the associate of Morgan, and able anatomist; Adam Kuhn, the botanist and friend of Linnaeus; Benjamin Rush received an appreciative notice which is best given in the eloquent language of the speaker:

"With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of briefly recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive, and mutinous nature of a man, proud, rather than conceited, got the better of the principles by which he honestly strove to guide his conduct. That he won at last in this contest, was shown by the grief with which a nation mourned his death, when the poor in crowds besought a sight of his face, or, at least, to touch his coffin. Look at his portrait, by Sully, in our hall. It has the scholar's hands, the largely modelled head, the contemplative blue eyes of the observer, the nose and chin strong, firmness in the mouth, and a trace of too critical tendencies in the droop of the lines of the lips, withal, a general expression of tranquil benevolence, a face like the man's life and character, full of dissimilars, with a grand total of good.

"How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry, which made note-books the

companions of his student youth, and which failed not until the pen fell from a hand enfeebled by the close approach of death.

"He was a statesman, a scholar, an army surgeon, a punctual and careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled, unaided by secretaries or modern means of condensing and relegating labor: one such suffices most men. He was a member of every important political assembly which met in this State while he lived. When timid men fell out of the Continental Congress, he was elected to that body, that he might sign the Declaration of Independence, and was the only physician whose name is on that energetic arraignment of the Crown. I have neither time nor desire to speak of his relations to Washington. He criticised him with his usual courage and with a severity in which at that time he was not alone, and, although later in life he somewhat relented, he never quite forgot the bitterness which arose out of his too famous letter, and to the end of his days looked upon the great leader as one not above the judgment of his fellows. As regards the patriotism of Rush there can be no doubt. It approached the earnestness of religion, and its very intensity made him unhappy and critical when others seemed to him to be showing that want of energy which in the first years of the war he thought was seen in the Fabian policy of Washington.

"Rush was Surgeon-General to the Middle Department, and later Surgeon-General, and served faithfully in the New Jersey campaign and in the dreary camp at Valley Forge. He resigned in 1778, after his difficulty with his chief, and declined pay for his services.

"As a broad-minded philanthropist, I view him with wonder. The higher education of women he urged as a special need of a Republic, and as boldly wrote of public punishments and against the penalty of death. With like courage he denounced slavery, or turned to demand legislation against the abuse of alcohol, or to implore care in the use of this agent in disease, and, although a scholarly man, eloquently represented the waste of time in the too general study by the young of the classical tongues.

"On his medical career I cannot linger. His views as to bleeding were extreme. They were greatly modified in his later years, but have been misrepresented by the enmity his positive nature excited, and can be fitly judged, not by his occasional vigor of statement but also by the many tempering remarks to be found in his works. His ideas on the contagion of yellow fever and its domestic origin excited the hostility of commerce, and embittered his existence; but, although as to the former he changed his beliefs later in life, as to the latter he seems never to have faltered.

"I presume that he held his opinions tenaciously, and was so conscious of his own general superiority to those about him, that he found it hard to weigh their reasons justly. He says, 'I early discovered that it was impossible for me, by any reasonings, to change the practice of some of my brethren.' Then he adds, 'humanity was therefore on the side of leaving them to themselves, because what is done in these consultations is the ineffectual result of neutralized opinions; for the extremity of *wrong* in medicine, as in morals and government, is often a less mischief than that mix-

ture of *right* and wrong which serves, by palliating, to perpetuate evil.' How interesting is this irritable confession, which tells so much more of the man than he meant to put into it. Let me add, as a thoughtful physician, that no one can read what he wrote—and I have read most of it—without a strong sense of his sagacious and intelligent originality, and admiration of his clear and often fervid style. His work on insanity is a masterpiece. A recent English writer calls his book on 'The Bilious Remitting Yellow Fever' a wonder, and says of that remarkable description of his sensations during the height of the epidemic, 'it is as if he were talking to you, a ghostly whispering through a veil of nine-tenths of a century.' He has been called the American Sydenham. He was not as I see it, so great a physician, but taking his whole career—and both were earnest republicans—Rush was the larger personage, and surely, next to Franklin, the greatest citizen of Pennsylvania.¹

"His bitterest foes are best remembered because of the man they reviled. Even before death came to heal all wounds, he stood where few have stood in the estimate of men. He could not but feel this tribute. It gentled the positive and ardent nature, once ready to cross swords with all who dared to differ. He says 'I was once an aristocrat, then a democrat, now I am a Christocrat.' Certain of his words should have been placed on his tombstone. With them we may leave him to his repose, near the yet greater Franklin. 'Posterity,' he says, 'is to the physician what the day of judgment is to the Christian.'"

Among the departed worthies who were Fellows of the College, and served their generation well, was Samuel Powel Griffiths, the editor of the *Electric Repository*, and the able coadjutor of Rush in sanitary and philanthropic work. "Wherever he went and in whatever he did peace and gentleness were round about him, so that in every relation of life, men and women eagerly trusted this simple, straightforward, intelligent, unambitious man. Caspar Wistar, Jr., the successor of Shippen, in the chair of anatomy, in the University, had the distinction in 1811, of publishing the first native treatise on anatomy in this country. The Wistar parties, which have filled such a conspicuous place in the social life of the profession in this city, were founded by him. The last of those elected previous to the incorporation of the College in 1789, was Michael Leib, who after honorable services in the yellow-fever epidemic, left the profession to become a leader in the Democratic party, and served in both houses of our National Congress."

The orator next took up the public services of the College, its early adoption of a Code of Ethics, its care for vital statistics, and meteorological records, its studies of epidemics, and letters of advice with regard to the great outbreak of yellow fever in 1793, which he then graphically described. Many of the physicians died and none were left untouched by the plague. Says Rush, "At one time but three physicians were able to do duty outside of their own houses. From this cruel summer until 1806, no year left us free from the fever, but the worst of it fell upon us in 1798." Hutchinson, Morris Griffiths, and later Hugh Hodge

¹ Rush left letters, diaries, and also biographic memoirs of his contemporaries, without which, no man can fitly judge him or them. Friends, relatives, and executors have been chary of publishing these records. Some of them I have read, and I think it only just to a great man that we should know all that there is of him to know. He was too great, too productive, too various to lose esteem on account of anything he may have said or written of Washington.

and Annan perished. "The horrors of 1825 with its small-pox, and the cholera of 1832 found the successors of these men as able, as simply ready, as courageous."

After a short period of apparent paresis the College, from 1824, had fortunate accessions of new and notable names, Hartshorne, Bond, Hodge, Meigs, La Roche, John K. Mitchell, Darrach and notably Wood and Bache, and Pennock Gerhard, Hays, Pancoast, Mütter, Carson, Dunglison, Norris, McClellan. The present College home is due chiefly to the liberality of George B. Wood, of George Fox, and to the unceasing efforts of Isaac Hays, as chairman of the Building Committee. The Mütter bequest, of a valuable collection of pathological preparations and specimens, with \$30,000 endowment to keep it in order, stipulated that a fire-proof shelter should be provided. This stimulated the building fund, to which Dr. Wood gave not less than \$10,000. The library, which owed its first gift and legacy of books to John Morgan, now numbers nearly 38,000 volumes and some 20,000 pamphlets, with an annual growth of some 25,000 volumes, with thousands of pamphlets, and 325 current medical periodicals. The debt of the library to Dr. Samuel Lewis, who is still living, was gracefully and heartily acknowledged.

In that last great war "whose authors we do well to forgive, but whose trials and lessons we do as well never to forget, this College was true to its traditions. There are on our list to-day, at least 104 men who served their country in the field, in hospitals, or at sea, in those years of sacrificial trial.

"Whatever we may have thought or felt of that section of our race which faced us in fight, of this at least I find it a pleasure to feel sure, that wherever men were sick or wounded, our ancient guild did well its Christ-like duty. As to that record, North and South, there can be neither doubt nor difference.

"I close with satisfied pride these annals of the past, and its dead. I see about me men whose books are in every tongue of Europe, whose works are known and honored among the learned of every land, men who wear by just decree of their fellows the unseen crowns of honorable estimate. I see, too, the young in work, the men who are to follow us. To them we shall soon consign this precious heritage, the record of a century of duty; a hundred years without one break in our meetings save when pestilence thrust upon us a more imperative service. There is that in these years to make them proud of a fellowship which in war and in peace has left us examples of single-minded workers unknown to fame, of the charity without taint of selfishness, of heroic lives lost in battle with disease, of gentle scholars, of daring surgeons, whose very fingers seemed to think, of physicians rich with every professional grace. The pride of lineage is valueless which does not secure to the future vitality of usefulness, and I must have told my story ill if to every physician who hears me its illustrations have not the invigorating force of moral tonics.

"I turn now from the present and face the silence of futurity. As earnestly as our first president, I pray with him that all those who sit around me, and all who are to come, do publicly and privately serve their generation.

"Feeling, like him, the weight and dignity of my office, and to-day more than ever, I look onward

thoughtfully to that next centennial time. Every heart that beats in this hall to-day will have ceased to pulsate. Another will stand in my place. Reviewing our works and lives, he will be able, I trust, to say as confidently of us as I have said of your fathers—these, too, belonged by right of dutiful lives and sincere work, to our great, undying brotherhood."

After the Address a Reception was held at the Hall of the College, at which were present many distinguished members of the profession from other cities.

At noon, January 4th, a special meeting of the College was held, and Prof. Alfred Stillé read some interesting "Reminiscences of the College of Physicians of Philadelphia." A retrospect of the gradual growth of the institution, its vicissitudes and later achievements, with personal recollections of departed Fellows, but chiefly an historical account of the wonderful development of the library, were the subjects treated by the essayist. The public spirit of the College during the century was shown by its memorials to the Legislature and municipal government upon the subject of vital statistics, the importation and sale of drugs, the management of the City Hospital, the sewerage of Philadelphia, its park and its water-supply. It adopted a Code of Ethics in 1843, which was subsequently substantially adopted by the American Medical Association, it aided in forming the State Medical Society, and the City Board of Health, and has established a Nurse Registry Bureau which has been found to be a great public convenience. It also memorialized the Legislature to legalize dissection, and the present law took its origin in this action of the College. It took a prominent part in the celebration of the National Centennial in 1876. It memorialized Congress in 1850, for a law for the inspection of drugs; and later, with regard to the formation of a National Board of Health; the publication of an Index Catalogue of the Library of the Surgeon-General's Office; the furnishing of a fire-proof building for the Army Medical Museum. The spirit of the College is well expressed in its motto "*Non sibi sed toti.*"

At the conclusion of the Address, the President introduced and conferred the diploma of membership upon the newly-elected Associate Fellows: Henry P. Bowditch, M.D., of Boston; David W. Cheever, M.D., of Boston; William H. Draper, M.D., of New York; R. Palmer Howard, M.D., of Montreal; Hunter McGuire, M.D., of Richmond; John C. Reeve, M.D., of Dayton; Nicholas Senn, M.D., of Milwaukee; George C. Shattuck, M.D., of Boston; T. Gailard Thomas, M.D., of New York; James T. Whitaker, M.D., of Cincinnati; David W. Yandell, M.D., of Louisville.

The Address of Welcome to the new Associate Fellows was delivered by J. M. DaCosta, M.D., LL.D., who, after briefly referring to the changes wrought in social and civil life during the past century, said:

"Our age is an age of zealous investigation and active change. Newly-elected Associate Fellows, we find represented in your ranks what, in these days, we chiefly honor in our many-sided profession. We find learning and order, but we also find love of research, originality, boldness; we note you quick of eye, fertile of resource, independent of thought. and, if we have singled you out on this occasion, it is because you are the type we delight in, the true children of our time and tendencies.

"How will it be when another hundred years have

passed away? Will the best traits that have made our investigators eminent go to form the cast of a medical mind reaching out into now unseen worlds of science, and looking, with eyes keen with suggestive research, at every line on every page that age has seasoned? Or will all knowledge be so plain and elementary that its application alone will be cared for, and investigation be regarded as nearly complete? It is not likely. The stone thrown into the water gives rise to ever-increasing rings; and so must it be in pursuits in Nature. There is still a greater world beyond the microscope and the telescope than we know with it.

"Associates, in joining you to us to-day, we bestow on you all this College has to bestow. It gives you full share in all that a century of learning, of culture, of pure aims, of renown, of high tone, most zealously guarded, has done to make it famed and respected. On its part, it takes a mortgage on your past acquisitions, as well as lays claim to a portion of the results of your future work. And when some fresh, thoughtful deduction in practical medicine becomes the theme of every pen; some new, life-saving operation is everywhere discussed; some clear monograph of exhaustive research and wide grasp is by every one lauded; some ingenious application of physiological experimentation laid before the world; when we hear of a celebrated treatise of a great practical master being translated into yet more tongues — we shall feel the pride of possession in our Associate Fellow, and, rejoicing in his success, claim him, for the College, as among our own. These are the feelings we have toward you, and we now greet and welcome you as sons of this old institution with all the love of brotherly affection."

The essayist concluded his very interesting address in the following words:

"In this partial retrospect of the history of the College during the last forty years, one can hardly fail to note that in it, as in political and social, and, indeed, every history, progress has depended upon individuals. The hour must come, and the man must arise, who, by his voice or his example, stimulates other men to vigorous and fruitful action. As in its infancy the great name of Rush dominated the College, through his inventive genius and foresight, so in its later history George Bacon Wood ruled it by his wisdom and liberality; another has made illustrious his living name by opening a rich mine of intellectual wealth for all seekers after knowledge; and still another is distinguished for his liberality in promoting the social, artistic and literary tastes of his fellow-members. All, by their example, have so warmed the enthusiasm and quickened the sympathies of the Fellows, that this commodious building, this precious scientific museum, and this noble library, have sprung into existence in the brief space of a single generation.

"Let us hope that so fair a flower of science shall not languish through indifference, neglect, or indirection, and that at the end of another century our posterity shall be able to speak of us with unstinted praise, and with as sincere gratitude as we now feel toward those who prepared the way for this goodly habitation and temple dedicated to the service of humanity."

At the close of the exercises, luncheon was served.

Limits of space forbid extended reference to the Loan Collection, or even the enumeration of the many valuable portraits of the founders of the College, and

of distinguished members of the profession, both in and out of its Fellowship; or of the many objects which it contained of medical interest, a printed catalogue of which was provided by the Committee.

The dinner was given on Tuesday evening, in the spacious Assembly Room of the Union League. There were one hundred and thirty covers, and fourteen courses were attractively served, but the chief features of the occasion were the responses to the toasts, and an original Commemorative Ode by the President. All who were present were physicians, and, with few exceptions, either Fellows or Associate Fellows of the College. Among those in attendance from a distance, were Drs. George C. Shattuck, Boston; T. Gaillard Thomas, New York; Hunter McGuire, Richmond; R. Palmer Howard, Montreal; William H. Draper, New York; Fordyce Barker, New York; A. M. Pollock, Pittsburgh; R. S. Ives, New Haven; E. Darwin Hudson, New York; Nicholas Senn, Milwaukee; James F. Chadwick, Boston; David W. Cheever, Boston; George B. Shattuck, Boston; J. T. Whitaker, Cincinnati; Wm. W. Phillips, Trenton, Iraill Green, Easton; J. S. Billings, U. S. A., Washington; Henry P. Bowditch, Boston; J. C. Cameron, Montreal; A. H. Halberstadt, Pottsville.

The Loving Cup was sent around at the end of the last course, and toasts were in order. The sentiments proposed by the President were:

The "Founders," which was drunk standing and in silence; Dr. Hartshorne made a brief address.

The "Fellows," responded to by D. Hayes Agnew.

The "Associate Fellows," replied to by T. Gaillard Thomas.

The "Physician," William Pepper, Provost of the University of Pennsylvania.

The "Surgeon," John Ashhurst, Jr.

The "Obstetrician," Theophilus Parvin.

The "Medical Societies of America," by John S. Billings, U. S. A.

The exercises concluded by the reading of commemorative stanzas written by the President for this occasion.

Recent Literature.

A Treatise on Electrolysis and its Applications to Therapeutical and Surgical Treatment in Disease. By ROBERT AMORY, A.M., M.D. 8vo, pp. vii, 307. New York; William Wood & Co. 1886.

This is the volume of Wood's Library for August, a thing to be regretted as the book is therefore less accessible. The subject of electrolysis is one that has heretofore received little consideration in works on electro-therapeutics; Erb, if we mistake not, barely refers to it, and De Watteville gives it but five pages. The present work, we believe, is the only one devoted entirely to the subject. The author therefore dwells at length and perhaps somewhat too diffusely, upon the physical and chemical principles involved in electrolysis, and gives full details of the pathology of the diseases mentioned. This fulness of detail, however, if it be a fault, merely renders the work more exhaustive. Several chapters, too, are devoted to the principles of electrical science, and afford much valuable information as to the different forms of cells and the various appliances for the proper use of electricity. We regret to see that the author continues to use the mis-

leading and obsolete terms "quantity" and "tension" because they "will be better understood." The result is often confusing to those who have discarded those terms as meaningless. The practical application of electrolysis is illustrated by many cases quoted from different writers, and by cases from the author's own experience. In his own hands it has given brilliant results in the treatment of exophthalmic goitre and in the removal of superfluous hair. It has proved of advantage, too, in the treatment of aneurism and of every form of hypertrophic normal growth. We are sorry that the author has not given a more full account of its use in stricture of the urethra, now so much discussed, especially as he differs from several recent writers in preferring the kathode for local application. Since the use of electrolysis demands special skill and considerable outlay for batteries and appliances, its application must naturally remain in the hands of specialists; but the value of electrolysis is unquestionable, and we trust that this book may bring to the notice of those who have the necessary knowledge of electricity an appreciation of its value as a therapeutic agent. The mechanical execution of the book is much above the average of Wood's series.

Hémorrhagies Utérines. Etiologie — Diagnostic — Traitement. Par LE DOCTEUR SNEGUIREFF, de Moscou. Edition Française. Paris, 1886.

The title of this work hardly does justice to its scope and comprehensiveness. The writer has aimed to give a study of the hæmorrhages to which woman is liable during her whole life, and inasmuch as uterine hæmorrhage is a very frequent symptom of several important affections, and an occasional accompaniment of a large majority of diseases of the pelvic organs, the result is an extensive treatise on gynæcology. The first part of the book is devoted to a description of the method in general followed by the author in making his examination. He then considers the etiology of uterine hæmorrhages, dividing them into organic and reflex. The organic he classes as follows: (1) malignant growths; (2) benign growths; (3) chronic inflammations (metritis and endometritis); (4) abortion, pregnancy, puerperal diseases; (5) displacements of the uterus; (6) ovarian apoplexy and hæmorrhages of the pelvic peritoneum; (7) the menopause; (8) general disturbances of nutrition. The treatment is divided into two sections: (1) Treatment of uterine hæmorrhages in general; (2) treatment of the different affections which cause the hæmorrhage.

As will be seen from this brief résumé of the contents of the book, it takes a wide range; at first glance, perhaps too wide. But on the whole, in these days of the multiplication of extended treatises on gynæcology, a work which taking a single prominent symptom looks at the diseases of women solely with reference to that symptom alone, is both instructive and refreshing.

The author has done his work well. He is well-grounded in German methods and ideas, but is also original. There is very little to take exception to in any portion of the book. The part which deals with general treatment of uterine hæmorrhage is perhaps most fertile in suggestions. The author places a great deal of dependence, and justly in the light of his experience, upon the use of hot and cold baths, general and local, and upon prolonged courses of hydropathic treatment at the various famous baths of Europe. The book is well worth reading.

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COLLECTIVE INVESTIGATION ON CENTENARIANS.

THE late Dr. Farr has shown, in his "March of an English Generation through Life," that one million children born in England live forty million, eight hundred and fifty-eight thousand, one hundred and eighty-four years, that two hundred and twenty-three live to the age of one hundred, and that finally at the age of one hundred and eight, one solitary life dies.

In the supplement to the *British Medical Journal*, of December 11th, Prof. Humphry has analyzed the returns from reliable medical men regarding fifty-two centenarians tabulated from the results of a form of inquiry issued by the Collective Investigation Committee of the British Medical Association. In only eleven was the age confirmed by any official record, but the others were naturally assumed to have at least reached nearly the age of one hundred, the informant, in each case being competent to estimate the value of the evidence, and in most of the cases being intimately acquainted with the individual.

In eleven the intellect is stated to have been high, and low in only five; twenty were reported strong, sixteen of average strength and twelve feeble. Thirty-six were women, sixteen men, — a fact explained by Mr. Humphry partly by the fewer exposures of women, notwithstanding the dangers incidental to childbearing and the diseases associated with the varying demands made at different periods, upon the organs connected with that process; and partly also by the greater inherent vitality in the female.

Of the thirty-six women, twenty-six had been married, eleven had large families, and eight married before they were twenty, one at sixteen and two at seventeen. Many of the centenarians were members of large families, there being but two designated as only children. Forty-one of the fifty-two had been married. Twelve were first children. The parents of one centenarian were first cousins.

The average centenarian qualities were a good family history, a well-made frame of average stature, spare rather than stout, robust, with good health, appetite,

and digestion, capable of exertion, good sleepers, of placid temperament, and good intelligence, with little need of, and little consumption, of alcohol and animal food, although one man always did and "always will" drink to his utmost capability.

Three were affluent, nineteen poor, and twenty-eight in comfortable circumstances.

Twenty-four of the centenarians had no teeth, and the average number retained was only four or five. Twenty-eight used glasses, but thirty-five, including many who used glasses, were reported to have been in the enjoyment of good sight. Hearing was good in twenty-two, indifferent in seventeen, bad in nine, one was deaf.

The majority were moderate or small eaters, but maintained an average pulse of 70°, and respiration of 22,—a fact explained by the diminished elasticity of the circulatory and respiratory apparatus. The arteries had become less capable of accelerating the blood-stream, and the vital capacity of the chest was much reduced, as shown in the slight difference in the chest-girth between the state of inspiration and that of expiration. The hours of sleep averaged nearly nine, the extremes being twelve and four.

The brain held out as well as the other organs, perhaps better; two only were demented. The weakness or failing, generally, seemed to have been about equal in the several great organs.

The majority had suffered little from illness at former periods, yet some had recovered from severe diseases. The habits of life were generally such as conduce to health, necessitated in a measure, at least, by some from their occupations. Thirty-two did not use tobacco; twelve were total abstainers from alcohol, twenty took little, eight drank moderately, one drank to excess on festive occasions, one was a free beer-drinker, and one "drank like a fish all his life" when he could, but said also that he could not get much.

REMOVAL OF THE UTERINE APPENDAGES AND THE LIVERPOOL HOSPITAL FOR WOMEN.

THE question of the removal of the uterine appendages has a distinctly ethical as well as surgical aspect. The former is growing in importance if we may judge by the increasing frequency with which this phase of the subject is discussed in medical literature, and by some distinctly practical results of a decidedly unpleasant character, which have occurred both in this country and Great Britain.

One of the secondary outcomes of this question has been engaging the attention of medical men in England the past year, in connection with the Liverpool Hospital for women, and though the final stage may not have been reached, yet it may be of interest to briefly review the course of events thus far.

Dr. Francis Imlach, one of the surgeons to the Liverpool Hospital for Women, performed an operation for the removal of the uterine appendages in a

case of intra-peritoneal hæmatocele. The patient recovered, but subsequently sued Dr. Imlach on the ground that the operation was unnecessary and performed without knowledge on her part of its nature. The case came to trial in August, 1886, and after the evidence on both sides was in, the jury without leaving their seats returned a verdict for the defendant.

In February of the same year, whether, which is probable, because the fact of this suit having been brought was known, or for the reason alleged that the number of operations included under the term abdominal section, had risen from eighty-six in 1884, to one hundred and sixty-six in 1885, and such increase was considered "remarkable," a committee was appointed by the Liverpool Medical Institution to inquire into the matter.

The resolution under which the committee was appointed stated that "In view of the large and increasing number of cases of abdominal section in the Hospital for Women in this city, as shown by the Annual Medical Report for the years 1884-5, this meeting is of opinion that a special committee be appointed for the purpose of investigating the grave question of practice and ethics involved in the performance of these operations, and to report at a future meeting." The committee was composed of eight surgeons and physicians connected with the large hospitals of Liverpool.

Just what relation the Institution holds to the medical profession in Liverpool, and with what authority such an investigation into the methods of a hospital could be prosecuted, we have no means of knowing. It is said that the "medical staff of the Hospital for Women present, took an active part in the discussion, and voted for the proposed committee," and that "at a subsequent period it was deemed right that the medical officers of the Hospital should each if they wished send a representative to the committee to watch their interests." Suffice it to say the committee did make a thorough investigation, the results of which are embodied in a report published in the *Lancet* of December 11th, 1886.

The plan of investigation included the reports of the medical officers of the Hospital, supplemented by notes of the condition of the patients as ascertained by subsequent visits; information received from medical practitioners in and around Liverpool, who had patients under their care either before or after operation at the Hospital; personal visitation of some forty or fifty patients by members of the committee; certain specimens of ovaries and Fallopian tubes removed by Dr. Imlach; the appointment of a sub-committee to personally examine the Hospital records, and question the lady-superintendent and nurses.

As a result of their investigations they found that there had been one hundred and six abdominal sections performed for the removal of the uterine appendages. Ovariectomy, exploratory incision, and oöphoraphy, which comprised the rest of the one hundred and sixty-six, did not call for any special comment.

With regard to the first series the committee arrived at the following results: (1) Danger to life. The mortality was eight or nine per cent., and the committee sagely concludes that if the operations were done for grave disease, and the patients were generally cured, such a mortality was not high, but if done for trivial affections, and the patients were generally not benefited, it was. (2) Sterility. As this is a necessary result of the operation, it should be clearly explained to the patient, and her relatives. (3) Loss of sexual feeling, and of physical energy. The committee found a comparatively small number who complained of these effects. (4) Hernia. Out of one hundred and sixty-six cases, fifteen were found in which hernia resulted. (5) Actual results to the patients. The committee found distinct and permanent benefit in about half the cases, slight or temporary benefit in nearly as many, and positive injury claimed in a few.

In view of the above facts, the committee were of the opinion "that at the Hospital for Women sufficient care and discrimination had not been exercised in the selection of cases for operation, and that in many instances the gravity of the symptoms was not such as to have justified an abdominal section of any kind." They recommended consultations before any abdominal operation, full information to patients of the nature and consequences of the operation, and longer retention in the Hospital after operation.

Dr. Imlach, whose unfortunate lawsuit was apparently the "*fons et origo*" of this investigation, and against whose methods the criticisms of the committee were mainly directed, inasmuch as he performed eighty-five out of the one hundred and six operations, has sent a letter of protest to the *Lancet*, which is published with the report of the committee, and it is only fair to briefly outline the points he makes. He claims that the committee was not composed of men who could fairly be supposed to be unprejudiced; that he wished to be represented on the committee by a pathologist, but the one he selected declined, as he did not approve of the method of appointment of the committee; that the disease for which he performed the operation in the case of the patient who subsequently sued him, though held by the committee not to be one for which abdominal section should be performed, is regarded by most leading gynecologists as liable to develop grave or fatal symptoms, and to be one for which laparotomy is frequently indicated; that the question of the justifiability of the operation depends upon the severity and persistence of symptoms, and the pathological changes found in the organs; and that the committee failed to mention that he had "treated sixty-seven cases of inflammatory disease sent in with a view to operation, solely by rest and medical means." There are many minor points which Dr. Imlach alludes to, which seem to indicate pretty clearly that the investigation, though apparently thorough, was not conducted in a spirit of perfect fairness towards the surgeons of the Hospital.

What is the general impression conveyed by this whole transaction? What good has it accomplished or can it accomplish? It may serve, perhaps, to emphasize more strongly certain secondary considerations in connection with operations of this character, such as the importance of not operating until other means had been tried and failed, the advisability of the patient and her friends thoroughly understanding the nature and results of the proposed operation, and the help in estimating the value of the operation by keeping the patient under observation for some time after it. But when we consider the class of patients who present themselves at large public hospitals with this class of affections, women for the most part ignorant, many of them degraded, often with a distinctly nervous element predominating, it seems absurd to suppose that any investigation which depends largely upon the statements of such women for its facts, should be considered a suitable way of arriving at just conclusions.

Had the committee been able to question and examine these women before operation, and to see the specimens when removed, then their decisions would have been entitled to respect. The first they were of course unable to do, and the second they seem to have neglected in the cases which they might have examined, as no mention is made in their report of the pathological specimens laid before the committee by Dr. Imlach. In fact, this wise body of men seem to have expressly acknowledged the weakness of their position in this clause of their report: "The Committee regret that from a scientific point of view they are unable to give any very definite assistance to the medical profession in judging of the class of cases appropriate for the operation under consideration, in advance of what is already known and admitted," and yet they condemn these surgeons for having in many cases operated unjustifiably. Candid men must judge how fair such condemnation is. Our verdict would unhesitatingly be, "Not Proven."

While it is true, as has been intimated above, that the attending surgeon at a woman's hospital cannot be too circumspect in advising any radical uterine operation, without making sure that the patient is fully informed as to the actual nature and potential consequences of the operation advised, it is also true that committees of investigation, and other persons who may be placed in the position of critics, cannot exercise too much care against making any report which may increase the grave perils to which the practicing gynecologist is already exposed from designing women.

THE CENTENNIAL OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE celebration last week in Philadelphia of the one hundredth anniversary of the founding of the College of Physicians of that city was an occasion of more than local professional interest. Our report of the proceedings gives an abstract of the President's vivid review, addressed to a general audience, of a

medical century in Philadelphia as embodied in the active, useful, and responsible lives of the founders, and distinguished members of the College, especially in the first half of the century since 1787—a retrospect continued and amplified for the second half of the century by Dr. Alfred Stillé, a former President, in an address delivered the next day before the Fellows of the College. A reception at the College followed Dr. Mitchell's address, and after Dr. Stillé's address diplomas of associate membership were conferred upon distinguished representatives of the profession selected for the honor from various parts of the country. The celebration terminated with a banquet, to which one hundred and twenty members and invited guests sat down. During the two days an extremely interesting and instructive loan collection of portraits, all of medical men, if we except one of Benjamin Franklin, was open to the public.

The programme, as arranged, was worthy of the occasion, and was very successfully carried out; but such festivities represent something more than mere self-congratulation at the completion of a century, or than the gratification of an instinct for generous hospitality. They represent for Philadelphia an acknowledgment of the many advantages which have accrued to the medical profession and to the public from the existence and the prosperity of the College; to the stranger, who was within her gates, they should represent the wisdom and importance of founding and fostering similar institutions elsewhere.

A suitable building where physicians of rival medical schools, of different views and different modes of practice may meet and discuss the questions of the day face to face on neutral ground; where medical societies may convene in proper halls surrounded by books, by a museum, by portraits of distinguished worthies of previous generations—such a building is needed in all our large cities. It should be under the control of a corporation representing the energy and the liberal intelligence of the medical profession in the community, of a body of men actuated by the spirit as well as the letter of the motto, "*Non sibi sed toti.*"

Such a corporation would exercise needed authority and would be often appealed to by a perplexed public in questions of State, of preventive medicine, and might even succeed to some extent in realizing the last clause of the comprehensive list of objects given for the foundation of Philadelphia's College, namely: "The cultivation of order and uniformity in the practice of medicine." New York has such an institution in process of development in the Academy of Medicine; in Boston the Medical Library Association offers the possibility of a similar evolution; but the College of Physicians of Philadelphia in its past history, its present organization and equipment is *facile princeps*, if not alone, among such institutions as we have pictured and would like to see flourishing in our large cities, especially in such as are centres of medical thought and education.

A NEW TREATMENT OF GONORRHOEA.

CASTALLAN, of St. Mandrier Hospital, starting with the view, now popularly entertained, that gonorrhœal urethritis is a parasitic disease, and being led by observation to believe that the microbe can only live in an acid medium; finding, moreover, that in this disease the discharge is, as a rule, acid, proposes to treat gonorrhœa in the acute stages by urethral injections of sodic bicarbonate; three or four injections being made daily of a one per cent solution.¹ For this treatment, which is but a logical inference from the premises, he claims remarkable success, although the cases on which it has been tried in St. Mandrier, as yet, number only a dozen. The injections of bicarbonate of soda are commenced as soon as the discharge appears, or the patient comes under observation; the urethral secretion is tested every day with litmus paper, and the injection is kept up till the discharge becomes alkaline or neutral. For internal treatment the patient is given flax-seed tea, with occasional doses of bromide, if there seems to be any indication for the sedative effects of this salt. His conclusions are as follows:

(1) The urethral pus in the first stages of the disease is generally, if not invariably, acid; this acidity is quite pronounced.

(2) The treatment by bicarbonate of soda rapidly lessens the discharge; it also rapidly diminishes or removes the pain in micturition.

(3) In old urethritides, and in those which have been treated by the usual injections, it speedily brings about a cure.

DEATH FROM COCAINE: A RESULTING SUICIDE.

It has not heretofore been accurately determined what dose of cocaine is dangerous, or how far its application to various mucous surfaces, as the rectum, may be carried with safety. In one case reported by Delafosse, forty-eight grains were introduced into the rectum for the purpose of producing local anæsthesia during the curetting of a tuberculous ulceration; the operation was successful. A similar case lately came before Professor Kolomnin, of St. Petersburg, a young and brilliant Russian surgeon. In order thoroughly to scrape and cauterize the rectum, which was the seat of a tuberculous ulcer, cocaine was employed in just half the quantity previously used by Delafosse. Twenty or thirty minutes afterward, symptoms of poisoning declared themselves, syncope and complete collapse set in, and in spite of stimulants, injections of ether, faradization, artificial respiration, etc., the patient died.

So chagrined and overwhelmed with horror was the unfortunate surgeon at this accident, that he committed suicide. The details are given in a long letter from Professor Artzrouni to the *Semaine Médicale*, and the whole melancholy history has been laid before the St. Petersburg Medical Society by Professor Botkin.

¹ Bull. Gen. de Thér., December 15, 1886.

MEDICAL NOTES.

— It is said that some 200 different cures for rheumatism have been sent to President Cleveland since his late illness.

— Dr. A. Favre, of Fribourg, says the same writer, describes an interesting case of rupture of the gravid uterus during labor at full term. It occurred in a pauper woman, aged thirty-three, who was suffering from osteo-malacia, with extreme contraction of the pelvis. The true state of things became evident only when laparotomy had been performed. A dead foetus and placenta with membranes were found floating in the peritoneal cavity, whilst the womb was firmly contracted to the size of a child's head. The site of the rupture could not be ascertained. The abdominal wound was closed by suture, no provision for drainage being made. Recovery took place without an unfavorable symptom, the highest recorded temperature being 38.5° C. on the third day. Fifteen days after delivery, the patient was up and about.

— The *New York Medical Journal*, after referring to the brilliant war of words that once took place between a Billingsgate fishwoman and a scholar, in which the latter made use of mathematical terms that his adversary could not match, cites, as not precisely in the same line, but evidently quite effective, an expression of disgust lately applied by a woman to a Paris policeman, "*Tu me fais l'effet d'une pilule!*" This pharmaceutical abuse was more than the policeman could endure, and the woman was brought before one of the police courts, where, according to a Paris dispatch to the *London Daily Telegraph*, she was acquitted on the ground that there were a thousand kinds of pills, the effects of which were of the most varied character, but she had not mentioned any particular kind. "So we may infer," the account continues, "that, had Ernestine Roussel compared her enemy to a blue pill, for instance, she would have been treated with more rigor."

BOSTON.

— The statement in the recent address of the President of the College of Physicians of Philadelphia, that Rush "was the only physician whose name is on that energetic arraignment of the Crown" (the Declaration of Independence) should not pass unchallenged. Josiah Bartlett, of New Hampshire, and Lyman Hall, of Georgia, were successful practising physicians; Oliver Wolcott, of Connecticut, studied for the profession.

— The "Living Skeleton," pleasantly and familiarly known to some of the attendants at Dr. Holmes's anatomical lectures, has at last become a dead skeleton. Mr. Sprague, the individual in question, has just died, at the age of forty-six, and the weight of 40 lbs. He has bequeathed his remains to the Harvard Medical School, and it is to be hoped we shall soon know what was the missing link in his assimilative

system. The deceased was personally inclined, as we remember, after considerable association with admiring medical men throughout the country, to attribute his difficulty to atrophy of the thoracic duct.

— At the twenty-sixth annual meeting of the Obstetrical Society of Boston, held January 8th, 1887, the following officers were elected for the ensuing year: *President*, Dr. William L. Richardson; *Vice-Presidents*, Dr. O. W. Doe, Dr. John Homans; *Treasurer*, Dr. E. J. Forster; *Recording Secretary*, Dr. C. M. Green; *Corresponding Secretary*, Dr. J. Stedman; *Prudential Committee*, Dr. William Ingalls, Dr. J. G. Blake, Dr. F. W. Draper, Dr. J. W. Elliot, Dr. C. M. Green, *ex-officio*; *Publishing Committee*, Dr. Alfred Hosmer, Dr. J. R. Chadwick, Dr. C. E. Stedman. Dr. W. W. Wellington, of Cambridge, was elected an honorary member.

NEW YORK.

— Mr. Cornelius Vanderbilt has given a donation of \$500 to the St. John's Riverside Hospital at Yonkers.

— Up to January 7th the returns from the Annual Hospital Saturday and Sunday collection show the handsome sum of \$36,464.

— The Commissioners of Charities and Correction have appointed Dr. E. C. Dent, Medical Superintendent of the City Insane Asylum on Blackwell's Island, and Dr. A. Trautman, Medical Superintendent of the Asylum on Ward's Island.

— Governor Hill, in his annual message to the Legislature, has again recommended the abolition of the State Board of Health and the State Board of Charities, and the concentration of the honors of these boards under single heads.

— The Committee on Hygiene of the Medical Society of the County of New York have waited upon the Board of Health in a body for the purpose of urging upon them the passage of an ordinance requiring the baling of all stable-manure in the city; the Board has as yet arrived at no decision in the matter.

— During the past week Joseph Mauri, a Brooklyn druggist, and his seven children were attacked with malignant hæmorrhagic small-pox, and three of the children died within twenty-four hours. The true character of the disease was not recognized until after the death of the three children, when the father and remaining children were removed to the small-pox hospital at Flatbush, where the former died in a few hours. Considerable blame is attached to the Brooklyn sanitary authorities, as the three deaths occurring in such rapid succession were supposed at first to be attributable to poisoning of some kind, and the reporters of all the papers were permitted to visit the house and freely communicate with the family. It is needless to say that there has been a lively demand for vaccination by these gentlemen since, and in one newspaper office forty editors, reporters and composers were vaccinated. It is said that a pet cat owned

by the Mauri children, and which slept on the bed with two of them during their illness, has disappeared, and all efforts to trace it have proved fruitless. There has been a considerable amount of small-pox in Brooklyn for some months past.

Miscellany.

HOW SOME SPECIAL HOSPITALS ARE FOUNDED.

THE *Hospital*, a weekly publication, the organ of the Hospitals Association of London, casts a not ill-aimed shaft at a tolerably common device of the young specialist who is looking for a job and who joins to himself a professional "organizer" to present the subject to a charitable public. The latter person evolves and circulates the following manifesto:

FREE DISPENSARY FOR DISEASES OF THE LITTLE TOE.

— Street. — Square.

In the year 1883, 30,807 persons died of diseases of the little toe. This number (which includes cases of gangrene, pyæmia, phlebitis, and bunion) is exclusive of the very numerous deaths from wasting diseases and cancer of the digit. (See *Registrar-General's Report*.)

According to the above extract, diseases of the little toe have occasioned more deaths in England than diseases of any other organ, and a comparison of the returns for 1883 with those of the previous years show that these diseases are increasing in a ratio greatly out of proportion to the increasing population.

Deaths from Diseases of the Little Toe.

1874.....13,846	1877.....17,908	1880.....21,915
1875.....15,401	1878.....19,634	1881.....30,940
1876.....15,009	1879.....20,879	1882.....24,802
1883.....		30,807

Besides the above number of fatal cases, there is a still greater number of diseases of the little toe not terminating in death, but which give rise to extreme suffering and misery, especially among the poorer classes. *This is the only institution specially devoted to the treatment of diseases of the little toe, and the fact that in less than two years upward of 10,560 patients (from all parts of England) have been relieved, proves that it is a necessity.* The employment of the newly invented instrument (the little-toe scalpel) is a special feature in the institution, and by the aid of this instrument morbid conditions of the digit can be fully exposed and adequately treated. Further aid is required to meet the urgent demands caused by the daily increasing number of out-patients. It is likewise essential that a ward should be speedily opened for the reception of the more acute cases. *At least £1,000 is required to establish a ward containing six beds.* For this purpose the committee have determined to open a new subscription list. Those who desire to assist in this particular way will please notify that their subscriptions or donations are to go to the "ward fund." The benevolent are respectfully informed that the very existence of the institution will be jeopardized unless the funds are considerably augmented. JEREMIAH DIDDLE, *Secretary*.

CASE OF COMPOUND COMMINUTED FRACTURE OF SKULL; HERNIA CEREBRI; ABSCESS; RECOVERY.

DR. W. ODILLO MAHER, of Sidney, reports in the *Australasian Medical Gazette* for December, 1885, a most remarkable and interesting case of head injury, which is summarized in the *Edinburgh Medical Journal* (November, 1886). F. M., aged four and one-half years, fell off a balcony twelve feet on to asphalt. Unconscious when taken up; vomited blood; bleeding from nose; small lacerated wound on right frontal eminence; fracture of frontal bone; brain substance between edges of bone; wound dressed with iodoform and wool; mercurial purge ordered, head shaved, and

ice applied; during night convulsions affecting left side mainly; patient semi-unconscious for three days, and occasionally showing symptoms of irritation; wound discharged offensive matter for a few days, then healed; at the end of a week seemed nearly well; but fourteen days after the injury, vomiting occurred, followed by convulsions and high temperature. Condition on admission to hospital—Thin, pale, weak, peevish, irritable, restless; lies doubled up in bed; scar on right frontal region, with sinus, from which a small quantity of pus exudes; bare bone distinctly felt. Under an anæsthetic a free crucial incision was made over the seat of injury. A triangular piece of loose depressed bone was removed, permitting the escape of about a drachm of fetid pus. Dura mater thickened, but apparently uninjured. Parts thoroughly washed with carbolic lotion (one to twenty), and dressed with carbolized gauze. Hernia cerebri appeared on third day after operation. Next day child was anæsthetized and the wound enlarged, when another piece of dead bone was discovered and removed. The flaps of skin were stitched over the hernia to repress it. Child somewhat better. After this the child did well, and was discharged two months after the injury apparently quite well, but with a sinus still remaining, which discharged some pus. On 1st August, five months after the injury, the child had an attack of convulsions affecting the left side. The face most marked, and the upper more than the lower extremity. She was at once removed to the hospital. Under an anæsthetic a fine silver probe was easily passed straight into the brain substance for about an inch. It was withdrawn quite black. A grooved director was then passed in the same manner, when a gush of very fetid pus took place. The opening was carefully enlarged, the abscess cavity washed out with one to forty carbolic lotion, a drainage-tube inserted and left in. The direction of the sinus was downwards, backwards, and inwards. The drainage-tube was filled with carbolic lotion, which was seen to rise and fall with each pulsation of the brain. After the operation there was left-sided hemiplegia. Six hours after this the child had regained consciousness, and next day the hemiplegia had disappeared. The abscess was washed out daily through the drainage-tube which was shortened on the ninth and taken out on the fourteenth day. Patient was discharged perfectly well five weeks after the opening of the abscess. One month after discharge she was in usual health.

PROPAGATION OF MEASLES BY HEALTHY PERSONS.

FROM an editorial of *Le Concours Médical*, June 12, 1886, the *Therapeutic Gazette* (November 15) abstracts the following observations:

The possibility of carrying the contagious principle of measles from place to place by the medium of the bodies of healthy persons was recently discussed by the Medical Society of Berlin, and one gentleman, Joel, of Lausanne, presented certain facts which lead to the belief that such a possibility does exist, and that the medium is often furnished by the physicians themselves. One case which was cited was that of a boy who was brought from Geneva to Lausanne while he was passing through the incubation stage of measles. The butcher and the postman who served the institu-

tion to which the boy was brought conveyed the disease to their children, who were attacked with it in a short space of time, and, what is quite remarkable, the children in almost every house to which the postman delivered letters were attacked. A little girl was brought to a hospital, and in a few days had undoubted symptoms of measles. Her father had paid her several visits before the measles appeared, and it was ascertained that two of his children were suffering at his home from the disease. Eight other children in the hospital were quickly seized with it.

It is thought that physicians cannot always avoid carrying the contagion with them, even when extraordinary care is taken. Prophylactic means on the part of the physician should be as thorough as possible, however, by disinfection, change of garments, and all other available procedures.

SPONTANEOUS RUPTURE OF THE UTERUS DURING PREGNANCY.

At a recent meeting of the London Medical Society (*Lancet*, November 13), Dr. A. H. N. Lewers read a paper on "Rupture of the Uterus during Gestation." It is an accident of rare occurrence, and its causation is but little understood. A study of nineteen recorded cases led Dr. Lewers to express the opinion that "spontaneous" rupture during pregnancy was in-

variably due to "interstitial" gestation. He described a case that occurred in his own practice at the London Hospital, in which a multipara, believed by herself to be in the fifth month of gestation, suddenly became ill with severe pain in the abdomen, vomiting, and collapse. Abdominal section was performed, and then the fœtus and placenta were discovered in the peritoneal cavity, and a rent in the fundus of the uterus was detected at the outer part on the left side. The post-mortem examination showed that the rent in the uterus involved that part of the wall through which the left Fallopian tube passed. The case was not one, therefore, of genuine rupture of the uterus, for the fœtus had never occupied the uterine cavity. Dr. Lewers considered that spontaneous ruptures of the uterus attributed to pathological softening of the wall were of doubtful occurrence. He thought, also, that cases of genuine spontaneous rupture should be kept apart, and not placed in the same category as those where rupture of the uterus occurred during premature labor, or in criminal attempts at the production of abortion, or from direct violence. There was nothing in the records of cases of spontaneous rupture to militate against the suggestion he desired to make—that spontaneous uterine ruptures are invariably cases of "interstitial" gestation. He submitted that where the symptoms pointed clearly to the occurrence of the accident, exploration of the abdomen was the correct surgical treatment.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 1, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,439,039	764	329	21.84	22.75	.91	8.45	8.45
Philadelphia	971,363	359	108	8.12	15.40	2.52	4.20	.28
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	201	70	6.34	27.93	.49	1.96	1.77
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	133	49	10.50	8.25	3.00	4.50	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	121	23	14.94	24.07	—	4.15	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	79	25	7.62	19.05	3.81	1.27	—
Pittsburgh	190,000	74	33	28.35	39.15	1.35	8.10	12.05
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	31	8	—	9.69	—	—	—
Worcester	68,383	26	10	11.55	42.35	3.85	3.85	—
Lowell	64,051	31	15	19.38	16.15	—	6.46	12.92
Cambridge	59,660	24	6	16.60	4.15	8.30	4.15	—
Fall River	56,863	17	5	16.66	17.64	—	—	—
Lynn	45,861	15	4	—	13.33	—	—	—
Lawrence	38,825	13	5	—	15.38	—	—	—
Springfield	37,577	7	3	14.28	—	—	14.28	—
New Bedford	33,393	14	6	7.14	7.14	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	1	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	15	6	6.66	13.33	—	6.66	—
Taunton	23,674	5	1	—	40.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	—	—	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	6	0	33.33	16.66	16.66	—	—
Waltham	14,609	2	0	—	—	—	—	—
Newburyport	13,716	1	0	—	—	—	—	—
Northampton	12,896	2	0	—	50.00	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,958: under five years of age 709; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 292, lung diseases 291, consumption 273, diphtheria and croup 109, measles 82, typhoid fever 29, diarrhoeal diseases 28, malarial fever 13, scarlet fever eight, cerebro-spinal meningitis seven, whooping-cough seven, erysipelas seven, puerperal fever two. From diarrhoeal diseases, New York 11, New Orleans eight, Boston four, Pittsburgh, Lowell, Worcester, New Bedford and Fitchburg one each. From malarial fever, New York six, New Orleans five, Baltimore and District of Columbia one each. From scarlet fever, New York and Philadelphia three each. Boston and Gloucester one each. From cerebro-spinal meningitis, New York, five, Fall River two. From whooping-cough, New York and Baltimore two each. Philadelphia, District of Columbia and Pittsburgh one each. From erysipelas, New York four, Pittsburgh three. From puerperal fever, Baltimore and Cambridge one each.

In the 20 cities and greater towns of Massachusetts, with a population of — (population of the State 1,941,465) the total death-rate for the week was 21.77 against 20.50 and 21.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending December 18th the death-rate was 20.7. Deaths reported 3,605: infants under one year of age 813; acute diseases of the respiratory organs (London), 416; measles 141, scarlet fever 77, whooping-cough 54, diphtheria 37, diarrhoea 34, small-pox (London) one.

The death-rates ranged from 11.9 in Derby to 37.1 in Preston; Birmingham 17.1; Blackburn 25.9; Hull 18.8; Leeds 24.5; Leicester 25.8; Liverpool 27.6; London 18.8; Manchester 25.9; Newcastle-on-Tyne 24.6; Nottingham 18.5; Sheffield 17.1.

In Edinburgh 18.2; Glasgow 27.0; Dublin 29.6.

For the week ending December 18th, in the Swiss towns there were 38 deaths from consumption, lung diseases 31, diarrhoeal diseases 10, diphtheria and croup five, measles four, whooping-cough, typhoid fever and puerperal fever each one.

The death-rates were: at Zurich 13.4; Geneva 19.2; Basle 17.8; Berne 36.4.

The meteorological record for the week ending January 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Jan. 1, 1887.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday,...26	30.196	20.0	23.0	13.0	60.0	74.0	81.0	72.0	N.	N.	N.	17	8	8	O.	O.	O.	—	—
Monday,...27	30.059	26.0	36.0	20.0	75.0	54.0	67.0	65.0	S.W.	W.	N.W.	3	18	12	O.	C.	C.	—	—
Tuesday,...28	30.227	21.0	25.0	16.0	79.0	47.0	54.0	60.0	W.	W.	W.	10	17	12	C.	C.	C.	—	—
Wednes...29	30.300	19.0	23.0	11.0	58.0	43.0	57.0	53.0	W.	N.W.	N.E.	12	14	12	C.	F.	C.	—	—
Thursday,30	30.445	11.0	14.0	6.0	62.0	82.0	86.0	77.0	N.	N.	N.E.	16	19	12	N.	N.	N.	—	—
Friday,...31	30.093	23.0	34.0	10.0	75.0	100.0	90.0	88.0	N.E.	N.	N.	18	12	10	N.	N.	R.	—	—
Saturday,.1	29.536	34.0	37.0	27.0	100.0	95.0	82.0	92.0	N.E.	W.	W.	Fsh.	6	13	R.	O.	O.	40	1.01
Mean, the Week.	30.124	22.0	27.4	14.7				72.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 1, 1887, TO JANUARY 7, 1887.

RAYMOND, H. I., first lieutenant and assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 127, Department of California, December 29, 1886.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, January 19th, at 7.45 o'clock. Dr. J. S. Greene, of Dorchester, will report "Three Cases of Labor, two being Breech, and the other Arm Presentation, where the Legs were extended, and the Feet were near the Face." Dr. Edward Reynolds will report "A Case of Difficult Labor." Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman*.

ROBERT B. DIXON, M.D., *Secretary*.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — A regular meeting for medical improvement will be held at the Woodland Park Hotel, Auburndale, at 4 o'clock, P.M., on Wednesday, January 19th, 1887. Dr. T. H. Gage, President of the Massachusetts Medical Society, will read a paper on "Middlesex and Worcester Physicians of Ninety Years ago." Papers will be read on "Radical Gynecology," by Dr. E. D. Hooker; "Conservative Gynecology," by Dr. W. Preble. The discussion will be opened by Drs. A. Worcester and J. T. G. Nichols. Dr. F. E. Porter will report a case of clinical interest. Trains leave Boston and Albany Station in Boston at 3.05 and 3.45 o'clock, P.M., for Auburndale. Dinner at 6 o'clock, P.M. Telephone number of Hotel, 8161.

WALTER ELA, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Is Tubercular Consumption Inherited? By H. D. Didama, M.D. Syracuse, N. Y. 1885.

A Contribution to the Study of Tumors of the Spinal Cord. By B. Sachs, M.D. 1886. (Reprint).

A Skull of a Navajo Child. By R. W. Shufeldt, M.D., Captain Med. Corps, U. S. Army. 1886. (Reprint).

The Infectious Diseases in their Relations to the Public Schools. By L. W. Baker, M.D., Baldwinville, Mass. (Reprint).

Osteological Note upon the Young of *Geococcyx Californianus*. By R. W. Shufeldt, C.M.Z.S., Captain Med. Corps, U. S. Army. 1886. (Reprint).

Thirty-first Annual Report of the Trustees of the Northampton Lunatic Hospital. For the Year ending September 30, 1886. Boston. 1887.

A Contribution to our Knowledge of Fever and of the Agents which produce or arrest it. By Drs. H. C. Wood, E. T. Reichert, and Hobart A. Hare. Detroit, Mich. 1886.

Pleurotomy for Empyema: Recovery. By F. C. Fernald, M.D. (Harvard), of Washington, D.C. Read before the Medical Society of the District of Columbia, on October 20, 1886. Chicago, 1886. (Reprint.)

Arsberättelse (den Sjunde) Fran Sabbatsbergs Sjukhus I Stockholm. För 1885. Afgifven af Dr. F. W. Warfyng, Sjukhusets Direktör och Överläkare vid dess medicinska afdelning. Stockholm. 1886.

The Social Waste of a Great City. A Paper read before the American Association for the Advancement of Science, at its Annual Meeting in Buffalo, August 20, 1886. By Louis L. Seaman, M.D., LL.B., Late Chief of Staff Charity, Maternity, Penitentiary, Epileptic, and Paralytic Hospitals, B. I.; Member of the A.A.A.S. New York. 1886. (Reprint.)

Original Articles.

THE AMBLYOPIA OF SQUINT.¹

BY O. F. WADSWORTH, M.D.

THE theory that the amblyopia so prevalent in strabismus is the result of a suppression of the image formed in the squinting eye, in order to avoid the confusion excited by double vision, was for a long time universally accepted and was upheld by the authority of the leaders in ophthalmology. This amblyopia was regarded as a form by itself and given the name of *amblyopia ex anopsia*.

Schweigger, in his handbook, published in 1871, denied that the amblyopia is so produced, and asserted that it is on the contrary a congenital defect; and Alfred Graefe, in 1875,² retracted the opinions he had formerly expressed, and gave in his adhesion to Schweigger's views.

By the early part of 1876, I had, from observations made during the previous few years, convinced myself that *amblyopia ex anopsia*, so called, did not exist, and believed at first that I was alone in this conviction. Examination of the literature of the subject, preparatory to a paper, showed me that Schweigger and Graefe had preceded me, and had presented the matter so much more fully and so much better than I could hope to do with my limited material that I immediately abandoned the idea of writing.

A little later, in 1877, Leber³ strongly upheld *amblyopia ex anopsia* against the assaults of Schweigger and Graefe, without, however, presenting anything new.

Again, in 1881, Schweigger published a masterly monograph on strabismus, based on the observation and statistics of a large number of cases, in the course of which he argued more at length against the suppression-amblyopia theory.

If I now, at this late date, bring the subject to your attention, it is because what I regard as an erroneous doctrine still is widely prevalent, and is taught by most of the recent text-books. At the last meeting of the American Ophthalmological Society Dr. Theobald read a paper in its support.

Before going farther, it should be said that, in many cases, opacities of cornea, lens or vitreous, or changes in the fundus, sufficient to account for the amblyopia present, are found in the squinting eye. With such cases as these the discussion need not concern itself.

The importance of the question is not merely theoretical. If *amblyopia ex anopsia* is a fact the practical treatment of squint should be greatly influenced by it. If a squint persisting for a few months, as some of the advocates of the doctrine assert, is sufficient to bring about a pronounced and permanent defect of vision in the squinting eye, it should be our duty in all cases to operate for its removal as early as possible. In all cases, at least, in which no visible lesions, ample of themselves to prevent a useful amount of vision, are present. If, on the other hand, persistence of the squint does not cause amblyopia, we may postpone operation with advantage till such time as it is possible to determine any errors of refraction that may exist, and, by correcting these

errors by appropriate glasses, assist the effect of the operation. That errors of refraction do exist in a large majority of cases every one admits.

The chief hindrance to a decision of the question which shall be generally accepted is the fact that at the early age at which strabismus usually begins (two to four years) it is in most cases impossible to obtain any satisfactory evidence as to the amount of vision; and, on the supposition that a few months of squint are enough to cause a decided loss of sight, by the time the child is of an age to admit the application of convincing tests it is too late to settle the dispute as to whether a defect then discovered is congenital or acquired. Again, if when the tests can be made no defect be found, as not seldom happens, the advocates of *amblyopia ex anopsia* claim that this is accounted for by the circumstance that the squint has not been monolateral, that sometimes the habitually deviating eye has been used, and there has been therefore no continuous suppression.

On the other hand, it is to be said that no satisfactory evidence of deterioration of vision in a good eye after squint has appeared has been presented. Theobald⁴ says of this, "that there are scores of cases recorded in the note-books of ophthalmic surgeons in which there has been observed a progressive decline in the vision of squinting eyes, I do not for a moment doubt." That he has record of none such himself is evident. But he cites Roosa as reporting one case of this character. Roosa⁵ gives this case, in which the records of vision were made at an interval of four years by two different assistants, as "the only case that I have personally seen, where any color is given to the theory of amblyopia, or deterioration of vision from disuse of the eye." But he also states that the results of the analysis of all his cases give no support to the *amblyopia ex anopsia* theory.

Even one case carefully observed deserves respectful consideration. But in the case here quoted there is not, it seems to me, sufficient guarantee against possible mistake. And the mistake may have occurred in either of two directions; the first observer may have overestimated the vision of the squinting eye, or the second observer underestimated it. Any one who has had much experience in testing vision must have recognized the liability to error in the examination of young children, and this liability is decidedly increased when we have to do with a squinting eye.

Let me illustrate. A child of some nine years of age with convergent strabismus was examined by my assistant. The letters of XX were read at 20' first by the non-squinting, then by the squinting eye, thus apparently showing V. = $\frac{2}{3}$ in each. Then, at my suggestion, all the letters of XX were read backward, without mistake, by the squinting eye. Yet on covering the test card so that only one letter could be seen at a time, letters of XL were the smallest that this eye could recognize. Its vision was, in fact, only $\frac{2}{3}$. The letters had been unconsciously committed to memory when they were read by the good eye. Here, if the examination had been pushed less far we should have overestimated the vision, and a few years later re-examination might have shown progressive deterioration of vision in a squinting eye.

Another example demonstrates how vision may be underestimated at a subsequent examination. A girl

¹ Read before the Boston Society for Medical Improvement, December, 1886.

² Graefe and Saemisch, VI.

³ Graefe and Saemisch, V.

⁴ Trans. of Am. Ophth. Soc. IV, 2, p. 284.

⁵ The Results of the Operation for Convergent Squint. Transactions of the Med. Soc. of the State of New York, 1886.

of six years, with marked convergence of the left eye since the age of two and one-half. Under the influence of duboisia, V. = $\frac{1}{10}$ in each eye. The test was made with every precaution, the non-deviating eye being effectively bandaged, and a card taken for the testing of the squinting eye which the child had never before seen. Tenotomy of left internus under ether, with decrease, but not correction of the convergence. Eight months later the best vision that I could get was R. $\frac{1}{3}$, L. $\frac{1}{10}$. There was apparently decided diminution of vision in *both* eyes, greater in the squinting eye. The child was of a very nervous temperament, and after the tenotomy always became excited whenever a visit to me was suggested. I entertain no doubt that the deficiency of vision found at the later test was due to the mental disturbance and excitement which then existed.

Even in adults it is by no means always easy to determine accurately the amount of vision. A lady of forty-two years had had a strong convergent squint of the right eye since the age of nine. She had been an invalid for a long time. On repeated examination on different days, both without and with atropine, the best vision obtained was R. $\frac{1}{3}$ —, L. $\frac{1}{10}$ —. Seven months later, her general health having meanwhile improved, but the squint remaining the same, there was found R. V. = $\frac{1}{10}$, L. V. = $\frac{1}{10}$.

The two main arguments on which the supporters of acquired amblyopia rely are, (1) the peculiar character of the defect of vision, (2) the asserted fact that a visual defect of like character is rarely if ever found without squint.

Let me state their thesis. The peculiarity of the amblyopia consists in this: with no visible change in the eye, a perfectly normal appearance of the fundus, and without any narrowing of the boundary of the visual field, there is impaired function of the region of the macula and all those parts of the retina which receive images of objects situated in the common visual field.

In order to avoid the bewilderment caused by the double images which are induced by the faulty direction of the squinting eye, the impressions received through it are persistently suppressed, and the attention is concentrated on the impressions received through the other. The process is the same as when we apply one eye to the microscope or ophthalmoscope and, keeping the other open neglect the images formed on its retina. In strabismus, however, the suppression of the images is not merely temporary, but continuous, and causes a blunting of the function of the retina or of the corresponding visual centres in the brain. Only the peripheral portion of the nasal half of the retina, not being concerned with the common visual field, is exempt from this influence and unaffected.

At the early age at which squint generally begins a few months of suppression may be enough to produce a high degree of amblyopia, yet the longer the suppression has persisted the greater is the deterioration of sight. Theobald⁶ assents to this last as a rule, but assumes that structural changes take place in the visual centres,⁷ and that when the suppression "has produced such a degree and such a kind of amblyopia as shall do away with the discomforts of double vision, its purpose is accomplished, and it probably ceases to be operative."

In alternating strabismus the suppression is not constant, and therefore amblyopia does not result.

This is, I believe, a fair statement of the theory. How is it borne out by the facts? If it be true, then the amount of amblyopia found in squinting eyes should be approximately the same, or, if the element of time is to be considered, its degree should show some correspondence with the length of time the deviation has existed. No one has ventured to offer an estimate of the least amount of amblyopia that is capable of satisfying the suppression theory.

Schweigger⁸ has given statistics of the refraction and vision of several hundred cases of strabismus. He found vision less than $\frac{1}{4}$ in about 30 % of the squinting eyes, but makes no subdivision between normal vision and V. = $\frac{1}{4}$.

Hospital cases, treated as out-patients as they generally are, rarely are recorded or examined with sufficient accuracy of detail to furnish available statistics.

I have taken the cases of strabismus occurring in the records of my private practice. All those in which changes in the fundus, or opacities of the media, might account for the defective sight, and all in which the youth of the patient or other cause prevented the determination of the vision and satisfactory examination of the retina have been thrown out as useless for the purpose in hand. With this exception only, four cases in which the vision of each eye was recorded, but there was no note as to the fundus, have been included, but in each of these the vision of the two eyes was nearly alike and fairly good, $\frac{1}{2}$ to $\frac{3}{4}$.

There remained 57 cases of convergent strabismus.

Five of these had divergence when they came to me; 4 following operation for convergence; 1, æt. 23, M. $\frac{1}{16}$ and V. = $\frac{1}{15}$ in one eye, H. $\frac{3}{16}$ and V. = $\frac{1}{10}$ in the other, had changed spontaneously from convergence. Three were nearly or quite straight, after tenotomy. Five were alternate, 4 periodic, 47 monolateral.

In 15 cases (26 %) (4 alternate, 1 periodic) V. was precisely the same in each eye; in 7 of these (2 alternate, 1 periodic) V. = $\frac{1}{10}$ to $\frac{1}{15}$.

In 9 cases (16 %) (1 alternate) the difference between the vision in the two eyes was not greater than that between $\frac{1}{10}$ and $\frac{3}{10}$.

The poorest V. in these 24 cases was in a case of M. with slight nystagmus, R. — $\frac{1}{8}$, V. = $\frac{1}{10}$, L. — $\frac{1}{8}$ — $\frac{1}{8}$ cyl., V. = $\frac{1}{10}$.

Of the remaining 33 cases, V. in the squinting eye was: $\frac{1}{10}$ to $\frac{1}{4}$ 7 (12 %): $\frac{1}{10}$ to $\frac{1}{100}$ 8 (14 %): $\frac{1}{100}$ to $\frac{1}{200}$ 7 (12 %) (3 periodic): < $\frac{1}{200}$ to counting fingers at 15" 11 (20 %).

The poorest V. in the non-squinting eye was $\frac{1}{10}$.

The same selection as before gave 11 cases of divergent strabismus: 1 alternate, 2 periodic, 8 monolateral.

In 5 (45 %) (1 alternate, 2 periodic) V. was alike in the two eyes, $\frac{1}{10}$ to $\frac{1}{3}$.

Of the other 6 cases, V. in the squinting eye was: $\frac{1}{10}$ to $\frac{1}{10}$ 2 (18 %): $\frac{1}{10}$ to $\frac{1}{100}$ 2 (18 %): $\frac{1}{100}$ to $\frac{1}{200}$ 1 (9 %): fingers 5' 1 (9 %): both the last two cases having As. $\frac{1}{8}$ with ophthalmoscope.

Lowest V. in non-squinting eye $\frac{1}{10}$ — $\frac{1}{10}$, with M. $\frac{5}{15}$.

Uniting all the cases they give 30 % with V. < $\frac{1}{4}$

⁸ Klinische Untersuchungen ueber das Schielen. Berlin, 1881.

⁶ Loc. cit., p. 281.

⁷ Loc. cit., p. 283.

($\frac{1}{100}$), practically the same percentage as found in Schweigger's much more extensive statistics.

These cases are not numerous, but I believe they are fairly reliable. The only error probable is that in a few the full amount of vision may not have been obtained; certainly it was not over-estimated.

The statistics here given seem to offer little encouragement to the theory of *amblyopia ex anopsia*. Half the patients had in the squinting eye V. at least $= \frac{1}{20}$ to $\frac{1}{30}$, leaving out of the calculation two with vision somewhat less than this, but alike or nearly alike in both eyes. It is certainly common enough to find vision as low as $\frac{1}{30}$ in eyes without squint and without visible change; more than half the cases then must be considered to have escaped the evils of suppression.

It is said, however, that the instances in which vision is not greatly decreased may be easily explained on the supposition of an occasional alternation, that this is sufficient to preserve the function intact. I can hardly believe it has been expected that this supposition should account for some half of the cases. If the explanation be admitted, how shall we account for the fact that in three of my patients the eyes were sometimes straight, both by the statement of parents and by my own observation, and yet vision was only $\frac{1}{110}$ to $\frac{1}{200}$ in one eye. All the three had like refraction in the two eyes (two hypermetropic, one emmetropic), all measured with the ophthalmoscope as well as with glasses, two under homatropine. The emmetrope, a boy of seven years, had, three years earlier, before he knew his letters, evidently imperfect sight of one eye.

It is asserted also that a difference in the refraction, by causing the images formed on one retina to be indistinct, facilitates suppression. This may be fully granted without at all helping the theory. The question is not whether there is suppression, suppression of some sort there must be else we should have double vision, but whether the suppression causes amblyopia.

On the other hand, Theobald brings forward differences of refraction as a hindrance to amblyopia. He says,⁹ "the non-development of amblyopia in exceptional instances is easily explained without the necessity of abandoning the suppression theory, a marked difference in the refraction of the eyes being competent to produce this result, because the indistinct retinal image which the squinting eye receives under such circumstances causes less confusion and is, therefore, less apt to be suppressed."

Both views can hardly be true. With regard to the latter one, four of my cases with monocular amblyopia (V. $= \frac{1}{200}$ to counting fingers at 2') had, three of them As. $\frac{1}{12}$ to $\frac{1}{8}$, the fourth a high degree of myopia and As. in the squinting eye, measured with the ophthalmoscope. The marked difference in the refraction did not protect here. Nor did it protect in a fifth case with M. $\frac{1}{6}$ and V. $= \frac{1}{25}$ in one eye, H. $\frac{1}{36}$ and V. $= \frac{1}{7}$ in the other.

Another supposition of Theobald, already quoted, that the suppression probably ceases to be operative when it has produced a certain degree and kind of amblyopia, accords poorly with the great variability in the amount of the visual defect which the statistics have shown.

To answer the second argument, that monocular amblyopia without visible change is rarely if ever

found in non-squinting eyes, I refer again to my records. The indexes of my case books do not make the selection of these cases so easy as those of strabismus, yet I have readily found 15 cases, in which the eyes were perfectly normal in appearance, which had never squinted, but had monocular amblyopia ranging from V. $= \frac{1}{40}$ to $< \frac{1}{200}$, five of them with V. $< \frac{1}{4}$. The vision of the better eye was in only one of the fifteen cases so low as $\frac{1}{30}$, in one other so low as $\frac{1}{20}$; while of the five cases with V. $< \frac{1}{4}$, in but one had the better eye so little vision as $\frac{1}{4}$.

Moreover, I have excluded from this series cases with excessive degrees of H. or M., or with more than the lowest degrees of astigmatism, to avoid the possible objection that the amblyopia was due to the same faulty development which caused the refractive error. Had such cases been admitted the list could have been easily extended, and it is to be noted that several such cases are found among the amblyopic squinting eyes.

Further, squint is a personal blemish, patent to all observers, and naturally sends the patient to the physician; congenital monocular amblyopia is not apparent, is often neglected, often discovered only accidentally and late in life.

A man of fifty-one years came to me because he had, two or three weeks before, accidentally found his right eye imperfect. Both eyes were quite normal in appearance, externally and internally. R. V. $= \frac{1}{10}$; L. V. $= \frac{1}{25}$; H. $\frac{1}{48}$ in both. On inquiry, I learned that as a boy he had used the left eye in shooting, because, as he said, "I could never close the left eye well and see well with the right." Yet only lately had he realized that the right eye had imperfect sight.

The second argument, then, is evidently based on faulty or limited observation. Nor need it weaken the force of this statement if monocular amblyopia is found in larger proportion among those who squint than among those who do not. Donders,¹⁰ at the same time that he pointed out the influence of hypermetropia in convergent squint, also showed that imperfection of vision in one eye rendered the occurrence of squint more easy.

One other argument needs to be noticed: It has been frequently claimed that a marked improvement in the sight of the squinting eye often occurs immediately, or in a short time after it has been straightened by tenotomy, and this asserted fact has been adduced as evidence that the amblyopia could not have been congenital.

Perhaps the extravagance to which this claim has been pushed never reached a greater height than when, two or three years ago, an oculist reported a case in which, as he asserted, the squinting eye had not even perception of light, but after it had been straightened by operation, acquired by exercise a considerable amount of vision.

Leber¹¹ states: "In the lesser degrees of amblyopia from disuse, where central vision has not yet been wholly lost, great improvement or complete restoration may be effected by practice"; and on the following page: "Very remarkable are the cases where tenotomy brings about an immediate improvement of a very high degree of amblyopia, which, therefore, certainly must have been caused and maintained by the squint—cases which still need an explanation."

¹⁰ "On the Anomalies of Refraction and Accommodation of the Eye," p. 295, 296. London, 1864.

¹¹ Loc. cit., p. 1014.

¹² Monatsbl. für Augenheilk., I, 474-478.

in individual cases of mental disease, and in their variations from what may be called the typical cases.

The first case I shall read I have ventured to call one of recovery. I cannot hope that the patient will go through life with no more mental trouble, as I believe the disease to be essentially one of degeneration, but as recoveries in mental disease go this seems like one.

CASE I. Miss M. E. C., born in Boston of Irish parentage. No insanity known in the family. Her mother is subject to asthma. Was considered a bright scholar until twelve years of age. She then began to have severe headaches, which so interfered with her school work that she was unable to keep up with her class.

Two years later she became subject to periods of depression (especially at the menstrual period) lasting about a week. She continued in this way, living at home, until twenty-two years of age.

At this time, during a period of depression she became excited. Delusions of persecution were active. She refused all food and nearly starved herself. She was so much frightened and so troublesome as to require constant attention from one of the family. In this condition she was committed to the Boston Lunatic Hospital, in June, 1883.

On admission to the hospital she was very weak, frightened and incoherent. Pulse 120. She required feeding with the tube for the next two weeks. She then began, gradually, to eat. Both feet swelled, left more than the right, during the first month in the hospital. She was noisy at times.

In August, having gained physically, she was allowed to dress. She was still very wretched and incoherent. She now gradually improved so that by October, ceasing to wet herself and being more rational, she was removed to a better ward. She would stand about, however, and for six months after admission, very strongly objected to lying in bed or sitting.

In December she stood less and became much brighter and asked for a library book.

For months she had been in the habit of standing near another patient of the same age who was dull, depressed, and stood most of the time; moreover, she still seemed much affected by this patient and would imitate her in many things.

For two weeks she continued bright and read novels, yet she seemed timid.

December 28th. She relapsed into the depressed condition, crying for fear something had happened at home. She again refused to stay in bed, and was in the same condition as before. With the exception of a slight remission of symptoms, lasting three or four days, the depression continued three and one-half months.

In April, she again became rational and cheerful. This had been preceded by a condition of increased activity, the patient being so troublesome and untidy as to be sent to the excited ward.

From this time the conditions of depression and exhilaration alternated for a year with fair regularity. Twelve cycles occurred in two hundred and sixty-four days, an average of twenty-two days. They were never under seventeen, nor over thirty days. The depression lasted twice as long as the exhilaration.

When depressed, she was extremely dull, and would

cry if spoken to, however kindly. She would stand in the middle of the floor for many hours, turning about as though on a pivot, wringing her hands. She seemed very wretched; she declined food and medicine. She was very obstinate. Her hands and face were blue and cold.

The change to exhilaration took place within twelve hours. The first sign of a change was the inclination of the patient to laugh. She would laugh in a silly way without cause. She would soon begin to steal. When excited, she always stole stockings and underwear of other patients, especially during the first part of the excitement. She showed considerable activity, and reached the height of her exhilaration on the second day. When accused of stealing, she would invariably lie about it. The exhilaration subsided considerably, and the patient became less troublesome before the period of depression. The nearest approach to sanity was at this time, yet there was no distinct period of sanity.

The last two periods of depression were somewhat different from the others — so much so, that the attendant remarked upon it. The patient was hysterical, laughing and crying in rapid succession. For hours she would make a low, hissing noise. At this time she saw her brother, but would give him no evidence of recognition.

A week later, when no longer depressed, she talked freely about the way in which she had treated her brother, and how badly he felt. She expressed no sorrow for her conduct, but related it as a fact of scientific interest.

Just before one of the later periods of depression, she remarked that she supposed she must be sick again, but she dreaded it. This showed more reasoning power than usual for her when exhilarated.

February 1, 1885. The depression gave way to the usual exhilarated condition. The exhilaration continued for four weeks, when, much to every one's surprise, the customary depression did not appear. The patient became more quiet, cheerful, and rational. She was more industrious, gained flesh, and showed an appreciation of affairs that had been quite foreign to her. She was ambitious to go home. She wrote thoughtful and sensible letters. In a little less than four months from the recovery from her last attack of depression, she was allowed to go home.

It is worth mentioning that menstruation ceased at the time of her coming to the hospital. It was renewed (and was afterwards regular) in June, 1884, two months after the alternation was established, and eight months before recovery.

She was seen October 15th, 1886, by the writer, and she seemed rational, talked sensibly on many subjects, and reported that she had been free from any depression or undue excitement. Her aunt corroborated her statement. This was twenty-one months after the last attack of depression. She is childish in some respects, laughs easily, and does not appear as other young women of her age who have been in society all their lives. This is very natural when it is considered that for ten years she was shut out from the world, and was unable to learn the thousands of little things a girl learns from fourteen to twenty-four.

CASE II. Mr. K., born in Maine in 1810, of Irish parents; sailor. No insanity known in the family. In 1845, at the age of thirty-five, he was admitted to the McLean Asylum. Through the courtesy of the officers

of that hospital, I am able to give the following concise history of the early symptoms in the case:

July 1st, 1845. He complained of a severe headache, with a rushing of blood to the head, for which he was freely bled and leeches, but without any permanent relief.

On the night of the 4th of July, he went with his wife to see the fireworks on Boston Common, where he appeared odd, and talked a great deal. He flourished his cane, and made singular remarks about the fireworks.

That night he awoke screaming loudly, and was much disturbed and confused. Had an impression that some one was after him. He was all right the next morning, however. For the next two weeks there was scarcely a day that he did not show, at some time, a certain amount of excitement.

On the 15th he became highly excited, and was removed to the jail. The following day he was admitted to the McLean Asylum, walking there quietly with his wife. He was aware something was wrong with his head, and he was willing to stay.

The clinical record is as follows: 17th. Quiet until afternoon. Grew excited and noisy. Moved to the middle story. Did not sleep. 18th. Restless all night and some noisy. After noon became very excited and noisy, pounded the door and screamed and was removed from the ward. Continued very noisy and violent and was removed still further. Thought his wife had been there and he was to be robbed and injured.

August 7th. Had frequent turns of being excited and became so noisy as to be sent to the lower ward. His more rational intervals are less distinctly marked and he does not seem to have so clear an idea of himself as when he first came. 18th. Discharged well.

From this account it does not appear how this attack could be distinguished from an ordinary attack of acute mania.

A detailed account of the succeeding history of the case would fill a good-sized volume and only a general account of the case can be given. A chart has been prepared to show the time and relative length of the different periods of excitement, depression and sanity. The chart cannot be given here. On it was a record of thirty-three attacks of mania and eighteen attacks of depression; sixteen of the attacks of mania began in the three months, November, December and January: eight in December. Four attacks of depression began in December. Previous to 1865 there is little clinical history obtainable, and I have assumed that certain times spent in hospitals were periods of excitement. From 1845 to 1869 he was sent to a hospital eighteen times. Two commitments, however, are for one attack. He may have had slight periods of excitement for which he was not sent to a hospital, but it is now impossible to ascertain if such was the fact.

For many years there have been noticed two distinct degrees of excitement. For a short time there would be great excitement. The patient would destroy his clothing and bedding, daub himself and the room with filth, and be extremely noisy. This condition usually ushered in the excited stage. Occasionally, however, there would be two or three outbursts of excitement during the period of exhilaration.

The excitement usually begins suddenly. For the past fifteen years the most sudden changes in the patient's condition would be those from depression to

great excitement. Sometimes this change would take place within twenty-four hours. Usually not more than three days were needed to reach the highly excited condition.

For a great many years it has been an invariable custom with this patient just before the onset of an excited period to shake hands with the right index finger stiff.

When becoming excited he also has a habit of mixing all his food in one mess. Bread, coffee, soup, meat and sauce are stirred together. Clouston mentions a case who had the same habit.

When excited he is full of bluster and braggadocio, is very noisy and profane. He demands certain privileges as tobacco, his discharge, etc., in a loud tone, and makes severe threats with many oaths if he is not given all he asks. He is usually good-natured, but is at times cross and sullen. Does not treat his wife as well as he does other people. He does not seem to have been as cross in later years. Although he will flourish his fists, square off, and threaten to take possession of the ward he is seldom violent.

This patient when excited is always very busy with his clothing. He sews it and tears it, always dressing fantastically, and making a very amusing spectacle of himself. There is nothing more characteristic of his excitement than this constant tearing and sewing.

In the earlier years of hospital life he would always succeed by fair means or foul in getting hold of a needle and thread and proceed to patch his clothes with a piece of carpet or bed-ticking. He would sew the sleeves of his coat or he would quilt the entire suit. He was also fond of braiding straw, making himself a hat. During the height of his excitement he would tear all his clothing to strips and decorate himself with a few narrow bandages. The record mentions him at one time as being very happy and stark naked except for a string tied about his penis.

In later years has not been so thoroughly destructive, but he tears parts of his clothing to strings and then makes knots in the strings.

He was given a strong suit a few years ago and it seemed to annoy him because he could not tear it. One morning he was found to be quite contented, and on examination it was found he had secured a bit of glass and punched a hole in his coat and tied two strings through the hole.

His conduct at these times is thoroughly lawless, he is forgetful of all the proprieties. He will even swear at others for indulging in profanity. As the excitement subsides he is seen to have a good memory and be very witty. He cannot be made to stick to one subject long enough to test his general knowledge.

He is full of pranks, and occasionally gets into trouble. One of the most narrow escapes was forty years ago, at the beginning of an excited spell, when he flourished two horse pistols about considerably, much to the alarm of his friends. He proceeded with them to the Navy Yard, where he was employed, and fired into a Chinese junk then visiting this port, saying that curiosity had no business here. At this same time he threw cold water over his wife and daughter, to make them smarter.

The depressed periods come on slowly. At first they were not over a month in duration. There is no record of when they first came on, but it is mentioned, in 1870, that they had been formerly an invariable sign of recovery.

The length of the depressed period has steadily in-

creased, until it is now from ten to sixteen weeks. There is considerable inertia, loss of appetite, and general physical depression. The face and hands are blue and cold. At these times the patient always complains of "rheumatism," saying his bones ache. Often the recovery from this period is gradual, but the succeeding condition is invariably one of great excitement.

Since 1869, the average length of the depression has been seven weeks, that of the excitement six and one-half months, making the average for the whole cycle a little over eight months. During the first twenty years of the disease, there was a distinct period of sanity following the depression. For the last twenty years there has been no sane interval, not even a vestige of it after the depression.

CASE III. Mr. B., American, born in 1828, merchant; married; no heredity. In 1871, at the age of forty-three, he suddenly became excited. The attack came on in the night, and was preceded by severe headache frontal and occipital. Was afraid he was going to die; was excited and extravagant, buying a horse and buggy while away from home. His excitement lasted a month, which time he spent in New York. Five years later he had another slight attack. In the meantime he had lost all his property in the Boston fire, and was not disturbed mentally by his losses.

In the spring of 1882, six years later, he was overworked. As in the first attack, he was awakened at midnight by severe pain in the head. This time he went South. He bought three guns for himself and chance acquaintances, intending to make a hunting expedition, but he suddenly changed his plan, and wanted to help all churches, bought fireworks, and "treated" liberally, spending money very freely. He returned home prostrated. This attack lasted about a month. The fourth attack of excitement was preceded by business trouble, and came on in August, 1883. The patient went to New York, where he consulted a specialist in nervous diseases. The following night he was disturbed, and called a doctor in the night. As usual, he began to make extravagant negotiations. This time he planned a trip to Fayal. Was treated for four weeks in the Boston Lunatic Hospital; was extremely excited, destructive, and violent.

Since the fourth attack he has had a period of mild depression each winter. It is not stated whether he was subject to depressed periods before this. In one of these depressed periods he joined the church. In the summer of 1884 he was exhilarated again, but did not require hospital treatment. The following winter he was somewhat depressed, with no known cause.

In July, 1885, he had the sixth attack of mania. For a few days only was he violent or destructive, and even then he manifested a strong desire to control himself. This attack lasted a month. Running over with good nature, and extremely restless, talking constantly, and writing numerous letters, he made it very lively for all about him. He made many witty remarks, and told a great many stories. His extreme restlessness and activity, with a tendency to extravagance, were the characteristic symptoms of this attack of mania. There was little, if any, of the moral laxness characteristic of the exhilaration of *folie circulaire*. The extreme excitement did not appear until he had been in the hospital a week. For two days he tore his clothing, struck other patients, and tried to escape.

CASE IV. Mrs. R. F. B., American, born in 1837.

No insanity in family. Mother had facial paralysis at time of patient's birth; no intemperance in family. No known cause. At nineteen years of age had an attack of "hysteria," and was treated in a water-cure establishment. Was excited, talkative, violent, and required restraint. Three years later she had the next attack of excitement. In the meantime she had married. For the first six or seven attacks she was kept at home. After that she was sent to hospitals.

In thirty years she had twelve attacks of excitement, lasting four to five weeks, followed by a period of mild depression, lasting about the same time. This was succeeded by a period of sanity lasting from eighteen months to three years.

The excitement comes on suddenly. She cries out in the night, and complains of a distressed feeling and pain in the head. When excited, she mixes up her food, ties knots in her clothing, dresses fantastically, and is very busy cleaning and arranging her things.

When depressed, is dull and inactive, regrets her extravagance when excited, and distrusts her ability to get along without hospital restraint. Once a temporary attack of excitement and depression was caused by the annoyance of moving. The whole attack was shorter and milder than usual.

During the excitement, which the writer witnessed, the patient was very talkative, but coherent, and indulged in profanity. She would talk for hours on family affairs, and describe details of unimportant matters with painful accuracy. For many days she did not get dressed until afternoon, saying she was too busy to dress. She would busy herself cleaning the room, washing the furniture, shaking and turning the mattresses. She was continually slopping water about and making great confusion. She would mix her food, and at times would spend three hours eating a small meal.

She amused some and shocked others by making a catafalque of a black shawl and a bed, in honor of General Hancock. She would play the piano for old patients to dance.

During the excitement she was very familiar, and made many personal remarks. She would appropriate anything she liked, and then give it to any one she chose. She filled a bureau-drawer with purloined articles, and then denied ever having them. Although rough, she was seldom violent. One evening she screamed for hours to spite some one who had annoyed her. Her conversation was inclined to be broad unless she were checked.

She menstruated during the excitement, and at this time she said and did some coarse things. The excitement continued for five weeks. After this, for three weeks she was on alternate days sleepy and exhilarated. This condition gradually merged into one of mild depression. This did not clear away for eight weeks more. During the depression she was troubled with wakefulness. At no time was she so dull as to take to her bed. She read her Bible considerably, but her depression was not sufficient to be called such by one not knowing her natural condition.

The hospital records contain the history of a male patient, a case of *folie circulaire*, whose periods of excitement were from two to four months, and the depressed periods fully as long. He, for a period of several weeks, would have alternate exhilaration and depression on the same day.

CASE V. Mrs. J. H., born in Boston in 1827, of

Irish parents. Mother died of paralysis; father was intemperate, and subject to fits of melancholy. She was married at the age of fourteen. The early history of the case is very imperfect, nor is there any record of the number or duration of the cycles.

At the age of twenty-eight she had probably the first attack, and was sent to the McLean Asylum. Subsequently, she went to the Taunton, Boston, and Danvers hospitals. For thirty years, at least, she was subject to attacks of depression and exhilaration in alternation. Her friends were in the habit of calling her "well" when exhilarated, although she was far from well at any time. This was because she was more unfitted for the ordinary duties of life when depressed, and it was during her depression that she went to hospitals for care. But at no time was she able to manage her own house. When exhilarated, she had less judgment, and was more troublesome than when depressed, but fears of suicide led to her commitment to a hospital at such times.

When excited, she would always do very foolish things, or make very foolish purchases "to do good." At the time of the Rebellion she appeared in the streets of Boston one day dressed in red, white, and blue, thinking that by this patriotic demonstration she could accomplish some great good. At another time she bought a whole barrel of mouldy crackers, paying the price of good crackers. In extenuation of her folly, she explained that they might be given to somebody's hens. When further pushed, she said she had a good barrel, at any rate.

At another time, seeing a lot of buckets at a low price, she bought the lot, having no use for them.

Her periods of depression were usually preceded, it is said, by some slight depressing incident, and did not appear to come on at a given time, regardless of circumstances. When depressed, she thought herself very poor, and consented to much poorer fare than she would when exhilarated, saying she ought not to eat what others had earned.

In one period of depression she refused to drink, thinking her daughter was trying to poison her. She would worry much about religious affairs, and read much religious literature, and would complain that the more she read, the more condemned she felt. Complained of impulses to injure herself and others, yet at no time did she even attempt suicide, or show any violence. She was inactive and hypochondriacal. Would be watchful and suspicious, thinking people were trying to steal from her. Sleep was poor at these times. These attacks lasted several months.

There were no distinct sane periods, as nearly as the writer could learn, but the excitement or exhilaration was not uniform during the time when not depressed.

There was one unusual incident in the course of this patient's career: In 1885, during a period of marked exhilaration, there arose real causes for anxiety. At the same time, the patient suffered from a felon. These exciting causes apparently brought about a condition of delirious, maniacal excitement, for which she was sent to the Danvers Hospital. She soon became rational, but had no memory of the commitment, nor of her sickness at that time.

Later the same year, when depressed, she was committed to the Boston Lunatic Hospital. She was inactive and hypochondriacal, constantly complaining of a weak suicidal impulse. She was found to have dia-

betes mellitus. Two months after admission she died from pulmonary thrombosis, due probably to her inactivity.

CASE VI. Mrs. D., born in 1829. American, school-teacher. One paternal uncle insane. One paternal aunt depressed for a time. One maternal aunt had two or three attacks of depression. One maternal cousin was insane.

For fifteen years she has been subject to attacks of depression, lasting several months, once a year. After she had had several of these she was noticed, when not depressed, to be exhilarated and active and wanted to travel constantly. This exhilaration was not so marked as to cause others to suspect insanity. The periods have grown longer the past seven or eight years, so that for the whole year she has been either depressed or exhilarated, passing gradually from one to the other.

At the age of fifty-seven she went to Florida on business in the spring. She became depressed there, and for six months she left the house only twice. When depressed she was always in the habit of keeping in the house.

She returned to New England in October, still depressed. In a week she became acutely maniacal with delusions of persecution. She requested protection from the police, mayor and detectives. She was sent to the hospital and proved to be most violently excited. Refused food for many months, had hallucinations of hearing, assaulted attendants, destroyed clothing and was extremely noisy. This unusual condition can not be called the excitement of *folie circulaire*, and as the case is under observation still, it is hardly time to report the case.

CASE VII. Mrs. E. H., American, born in 1820. Near the age of fifty she had an attack of melancholia lasting four months. At the age of sixty she had a second attack lasting eighteen months. Was very depressed and thought she was going to starve.

Three years later she had a third attack of depression with same delusions as before. Was excited and required restraint for a week. Suffered much from *arthritis deformans* and dyspepsia. This condition lasted for five months when she became cheerful and rational. In February following, four months after becoming cheerful, she was at once very talkative, exhilarated and restless, made a nuisance of herself in the ward, talking constantly. This condition passed away in two months.

She soon went home and continued well for six months. She then returned to the hospital voluntarily, depressed and suffering from dyspepsia. She was soon profoundly depressed, thought she had no esophagus and refused to eat.

She recovered in the spring again, and remaining rational for three months, she went home but was obliged to return within a week she was so confused and exhilarated.

She then passed into a condition entirely new for her. Was destructive, and noisy at times. Ate very well and digestion gave her no trouble. Was full of delusions and acted very queerly under their influence. Would not answer a question but go through a pantomime. Took one of the doctors for her son. Would tear her hair, run out in the hall in night-dress and was extremely troublesome.

October 21st, 1886. This condition continues unchanged. It is now four months.

REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

CHLORAL HYDRATE IN OBSTINATE VOMITING OF PREGNANCY.

LEON reports¹ the case of a sexti-gravida, strong and healthy, but the victim of constant and severe vomiting in all her pregnancies, once or twice associated with pytalism. In the sixth pregnancy Leon tried all the usual remedies without success, including ice and iced drinks, iced compresses to the epigastrium, brandy in large and small doses, and dilatation of the os. (The uterus was in normal position and the os not eroded.) The patient ultimately became almost unconscious and could not recognize her friends. Leon then ordered chloral hydrate, in forty-grain doses, to be administered *per rectum* every six hours. Immediate relief followed, and at the end of the first day the patient could sleep quietly. This treatment was kept up for some days, when the patient began to beg for food. She was then allowed to eat what she chose, and there was no return of the nausea and vomiting.

[Simmons, of Yokohama, reported² four cases of excessive vomiting in pregnancy, which were immediately relieved by chloral, thirty grains *per rectum* morning and evening. Richardson has also reported³ three successful cases. Chloral is therefore well worth trial in this occasionally distressing and even fatal complication of pregnancy.—REP.]

THE UTERINE BRUIT.

ANDREIEW⁴ has examined one hundred and fifty-eight cases of women in labor, and in the lying-in period with reference to the uterine bruit. The results of his observations are as follows:

1. While before the birth of the child the uterine bruit shows a varying condition, after labor it is always of the same character, weak and distinctly intermittent.

2. There is no case in which, with careful and repeated auscultation, one can miss hearing the bruit.

3. The most frequent seat of the bruit is about the same before as after labor, and for the most part is found in the left or right side of the uterus, or on both sides at the same time; but it is more frequently heard on the left side than on the right. [Doubtless on account of the customary right lateral torsion of the uterus, which brings the vessels on the left side of that organ into closer proximity to the anterior abdominal wall.—REP.]

4. The strength of the bruit after labor is influenced by the involution of the uterus: the more rapid and complete the involution, the weaker the bruit; but this relationship is not without its limits.

5. The position of the puerperal uterus is without influence on the strength and seat of the bruit: the same is true of the seat of the placenta.

6. The bruit persists after labor for various lengths of time: in healthy puerperæ on the average fifty-seven hours; in the sick, ninety-nine hours.

7. The uterine bruit is not a sure sign of pregnancy, as it also occurs in other conditions of the uterus.

8. The bruit is more frequently observed in interstitial than in sub-peritoneal myomata: its presence proves a marked vascular development.

THE CERVIX AND THE LOWER UTERINE SEGMENT.

Perhaps the most important contributions to obstetric literature during the past year have been the works of Chiari, Waldeyer and Schröder, concerning the relations of the gravid and parturient uterus represented by frozen sections and described in appropriate text.

WALDEYER's work⁵ consists in a description of the appearances of frozen sections of a gravida at full term, who was killed by a locomotive. As death had taken place before labor pains had begun, there was naturally no visible "contraction-ring"; but the uterine muscle just above the internal os in front and behind was a little thinner than elsewhere. The normal length of the cervix was preserved and the internal os closed,—another proof that there is no real shortening of the cervix during pregnancy. The internal os lay below the plane of the pelvic brim: the uterus was soft and did not preserve a regular, symmetrical ovoid shape, but adapted itself to its surroundings.

SCHRÖDER,⁶ with the coöperation of Stratz, describes a frozen mesial section of a woman dead in the first stage of labor. The anterior wall of the cervix measured 3.7 cm.; the posterior wall was elongated to 5.5 cm.: the os internum was dilated to a diameter of 4.8 cm., and was sharply marked off from the uterus. Above the os internum, both in front and behind, the uterine wall was especially thin, and the contraction-ring was 5.5 cm., above the os internum in front and 3.5 cm. behind. The first effect of labor in this patient, therefore, was to canalize the lower uterine segment and cervical canal. These observations are in accord with Chiari's. According to Schröder and Stratz the uterus at the end of pregnancy is made up of three different parts,—the part capable of retraction, the lower uterine segment, and the cervix. The lower segment undergoes no active contraction during labor. The boundary between the contracting and retracting part above and the progressively thinning and non-contracting segment below is the "contraction-ring"; while the os internum separates the lower segment from the cervix. With the beginning of uterine action, contraction and retraction go on together in what might be called the working portion of the uterus, the contraction-ring rises, the lower segment becomes distended and thinned, and the fœtus is driven down into the expanded lower segment and cervix.

The second part of Schröder's work⁷ was prepared by HOFMEIER, and is devoted to the consideration of the cervix and lower uterine segment in their anatomical and physiological selections. After a critical examination of the views of other writers on this point, the author describes a number of instructive frozen sections.

In the first place it is clearly established that the cervix to the last moment of pregnancy is preserved as a canal, and is usually filled with cervical mucus. It is possible, however, that during pregnancy the

¹ Anal. de Obstet. y. Pediatría, April, 1886; London Medical Record, December 15, 1886.

² London Medical Record, June 1, 1874.

³ Trans. American Gynecological Society, Vol. I, p. 247.

⁴ Archives de Tocologie, April 15, 1886; Centralblatt für Gynäkologie, 1886, No. 46.

⁵ Medianschnitt einer Hochschwangeren bei Steisslage des Fötus, Bonn, 1886. Centralblatt für Gynäkologie, 1886, No. 28.

⁶ Der Schwangere und kreisende Uterus, Bonn, 1886. Am. Jour. of Med. Sciences, January, 1887.

⁷ Centralblatt für Gynäkologie, 1886, No. 30.

cervix may undergo more or less funnel-shaped dilatation. the result of preliminary and oftentimes painless contractions. Regarding the lower uterine segment, Hofmeier is convinced by anatomical facts, macroscopical as well as microscopical, that this portion is not derived from the cervix, as many authors claim, but from the body of the uterus. And he agrees with Schatz that during labor the uterus is divided into a markedly distended portion (thinned even to the point of rupture in certain cases) and an actively contracting part, that is, uterine body. The union of these two portions is strongly marked under the influence of good pains by the contraction-ring, which can be demonstrated by palpation in favorable subjects.

PUERPERAL INFECTION BY CONTACT.

As long ago as 1865 Lefort emphasized the significance of contact-infection in contrast with air-infection in a number of infectious diseases, but especially in diseased conditions of wounds and in puerperal fever. In a brief paper⁸ he now cites as evidence on this subject an account of an epidemic of puerperal fever which numbered among its victims the daughter of a colleague. For the sake of the greatest possible protection against infection, the patient was delivered at her country-seat; but she died nevertheless of puerperal peritonitis. After careful search for the source of infection, it appeared that the nurse in attendance had recently lost four women in a similar way, while in the practice of both the physicians living in that vicinity and of all the other midwives in the place no case of puerperal fever had occurred. The original infection of the nurse had proceeded from a case of fistulous abscess of the thigh, whence in the opinion of Lefort the pathogenic organisms had been carried.

As there was no law in France whereby the midwife could be prevented against her will from exercising her calling, she infected two more women with fatal result, in spite of warnings by the Prefect. Finally, for a material indemnification for the loss of her time, she consented to spend two months in travel. In England, adds Lefort, she would have spent two years in prison.

[Authenticated cases like the above are valuable in convincing obstetricians of the importance of a rigid system of antisepticism in all cases, and of special disinfection both of doctor and nurse after attendance on septic patients. It should be the duty of the physician to see to it that the nurse he puts in charge of a case has properly disinfected her clothing and her person, and that she never touches the patient's genitals before, during or after labor without having previously made proper use of an antiseptic solution. The statistics of lying-in hospitals show that where antisepticism prevails, puerperal fever is unknown. — REP.]

HOW TO DISINFECT THE HANDS.

Since the almost universal acceptance by obstetricians of the views of Semmelweis and Koch concerning the etiology of puerperal fever, — that this affection always originates from the entrance of septic material through lesions in the genital canal, and since it has at last come to be admitted that the fingers of the nurse and physician are the chief means of introducing micro-organisms to the numerous loci of absorption, it has become a matter of great importance that

it shall be accurately known how the infectious germs inevitably lurking in the innumerable creases and fissures of the hands, in the ungual folds, and under the finger-nails can be effectively sterilized.

At a meeting of the Hamburg Medical Association, Kümmel⁹ has given the results of his experiments in this matter, first testing with his hands in what might be called their normal condition, and then with the hands infected by contact with known septic material. His method was to dip his hands, still wet with the disinfectant experimented with, into nutritive gelatine, the subsequent examination of which would disclose the germ-killing efficiency of the various disinfectants used.

To cleanse hands in their normal condition Kümmel found it was sufficient to wash them with hot water, soap, and nail-brush for three minutes, and then for one minute with 0.6 per cent. thymol solution, or 0.1 per cent. sublimate solution, or 3 per cent. solution of carbolic acid. But to thoroughly cleanse infected hands there must be a good scrubbing with hot water, (preferably) potash soap, and brush for five minutes, followed by brushing for two minutes with 5 per cent. carbolic solution or chlorine water. Of course the exposed part of the arm should be included in the process.

[The importance of Kümmel's paper lies largely in his explicit direction about soap and water cleansing before the use of the selected disinfectant. Probably no antiseptic, however potent, is efficient when the hands are simply dabbled in it. A nail-brush should therefore be included in the obstetric bag; and the common soft soap to be found in most kitchens, or the yellow laundry soap, should be faithfully used with brush and hot water, as a necessary preliminary to efficient disinfection. — REP.]

THE VALUE OF ANTIPYRINE IN PUERPERAL FEVER.

In a discussion on the treatment of puerperal fever at the first meeting of the German Gynecological Society in Munich last June, it appeared that by many prominent obstetricians the use of antipyrine in that disease had been abandoned. Mundé, who was present at the meeting, was led on his return to New York to give¹⁰ his experience with the drug, which has seemed to him of great value in suitable cases. While admitting that the effect of antipyrine is but temporary, Mundé believes that, in the intervals of comfort and comparative apyrexia which follow the use of the remedy, the patient is enabled to recuperate by sleep and to accumulate vital force which has been consumed by the fever: time is thus gained in which the patient may throw off the poison, and in which the other remedies so important in this disease, — the cold coil, stimulants, and nutrients, and above all appropriate local treatment, can be used. Mundé has advised using the drug during the past two years in nineteen cases of puerperal septicæmia and in nine cases of puerperal peritonitis seen in consultation, and of these twenty-eight cases only three proved fatal.

Mundé disbelieves in the use of large doses; twenty to thirty grains repeated every hour or two until sixty or ninety grains have been given, he considers exceedingly hazardous, on account of the likelihood of serious collapse. He begins with a dose of twenty grains, if the patient is strong, and follows with five or ten grain

⁸ Gazette des Hôpitaux, 1886, No. 1; Centralblatt für Gynäkologie, 1886, No. 46.

⁹ Deutsche Med. Wochenschrift, 1886, No. 32; London Medical Record, November 15, 1886.

¹⁰ New York Medical Journal, October 9, 1886.

doses every half-hour or hour, until twenty grains more shall have been taken. If the patient is weak, he begins with but ten grains, and then gives five grains every half-hour, until twenty grains more shall have been taken, making thirty grains in all. At the same time the pulse is carefully watched and any sign of flagging is a signal to discontinue the drug and give stimulants. When the temperature rises above 102°, the drug is repeated in the same manner, in the above-mentioned, or even smaller, doses; but Mundé has seldom found it necessary to order the thirty or forty grains in divided doses to be given more than twice in twenty-four hours, generally only once and that usually towards evening. As soon as the temperature falls below 101°, the drug is discontinued. The author believes the remedy is best given in solution with syrup and water, five grains to the tablespoonful, or in gelatine capsules, or again in suppositories or by enemata: it may also be used hypodermically, as the drug is readily soluble, one grain to a minim of water. From his somewhat extended use of the drug, Mundé can report most satisfactory results.

[Perhaps one of the most forcible arguments against the use of antipyrine is the fact that with the fall of temperature many practitioners would be led by a false sense of security to omit the local and systemic measures so essential to the successful treatment of puerperal septicæmia. This is, of course, no argument against the intelligent use of the remedy recommended by Mundé, who employs the drug only as an adjuvant to appropriate local and general measures. It should not be forgotten, however, that antipyrine is a drug powerful for good and evil; and that except to the practised observer it may temporarily so mask the symptoms of septicæmia that the medical attendant may relax his attention to local conditions, in the belief that a fall of temperature, thus artificially produced, indicates abatement of the disease itself.—REP.]

Clinical Memorandum.

A CASE OF CEREBRAL DISEASE, COMPLICATED WITH PREGNANCY.

BY R. L. HODGDON, M.D., OF ARLINGTON.

Mrs. D., aged thirty-three, mother of four children, one of them idiotic of very low type. During her pregnancies she had no excessive vomiting. She had had good health uniformly, except an uncomfortable feeling in back of head at times, for which she had consulted a physician when in New York in May, 1885. He did not attach much importance to the feeling, and so told her. Her father died in the McLean Asylum of some affection of the brain.

I was called to prescribe for her on October 29th, 1885, for troublesome vomiting. She had menstruated last about the middle of September. The vomiting began about a week before my first visit, more than a month after the last menstruation. She supposed herself pregnant, and I, thinking her case one of the common vomiting of pregnancy, made a simple prescription, and did not see her again for some days. On my second visit, I learned that the day before the vomiting began, while she was in a carriage, the driver whipped the horse so that he started with a jerk, and she felt something give way in her back. On vaginal

examination, the uterus was found prolapsed and retroverted. It was readily restored to its normal position and easily kept there by a pessary. She was in bed, and not disposed to get up. There was no relief to the vomiting after the replacing of the uterus. Vomiting persisted and increased, so that within a week nothing was retained by the stomach, and recourse was had to nutritive enemata.

At this time, and during the whole course of the disease, there was marked hyperæsthesia of the skin, the slightest touch causing her to shrink, and sometimes to cry out. She was very averse to making any exertion. When asked to place herself in position for examination, she would say, "Wait a little"; when asked again, she said, "Don't be impatient with me." Only after repeated urging would she place herself in the required position. Though these symptoms, with the vomiting, raised the question of disease of the brain, yet as there seemed no hysterical element in them—for instance, deep pressure being borne better than light—all the symptoms were interpreted as the results of the pregnant condition. The next three weeks showed little change.

Enemata of soups, broths, emulsion of sweetbreads and milk were the sole nourishment, except Murdoch's Food, which the nurse added to each enema. All the enemata did well except milk, but whenever milk was given she complained of a fulness and pressure in the head, which was not relieved till after a dejection. The last week in November she began to retain some food. The enemata were given at longer intervals, and she was nourished largely by food by the mouth. The uterus was at this time increasing in size, and kept in place without artificial support. She gained strength and began to take some beefsteak and to sit up a short time. December 7th, she sat up, received a caller, and wrote a card to her mother, saying she was getting well. That night the sick child, as the idiotic one was called, made a great noise in another room, and excited the mother. The next day the vomiting was greater, and there was excitement and an inclination to talk whenever any one was with her. There was from the first a desire to talk more than was her custom, and about private affairs. The next four weeks the vomiting varied in degree, but was so much that she was nourished largely *per rectum*.

She had during that time periods of excitement in which she talked a great deal, but always rationally and coherently, though there was loss of memory and confusion about time. The periods of excitement were usually followed by sleep, which she said refreshed her, and she would say, on awaking, "I feel I am getting better." Up to January 6th, 1886, there had been no delirium, no convulsion, no paralysis, though there had been morbid sensibility, disturbance of volition, and of memory. The pulse had been normal, temperature not observed, though nothing indicated a change from normal. Defæcation and micturition had been regular and natural. On January 13th, after a long period of excitement, in which she talked with difficulty, having apparent aphasia, there was a long sleep. On the morning of 14th, there was a convulsive movement of the left arm, lasting some minutes. Then came on active delirium, with very frequent pulse and hot, dry skin. This state of things lasted through the 14th and 15th, and up to three o'clock on the morning of the 16th, at which time she sunk and died, the delirium being very active to the last.

Treatment. The early symptoms in this case would have aroused grave suspicion of disease of the brain had not pregnancy come in as a probable explanation of them. I was sustained by two gentlemen who saw the patient in consultation, in my opinion that, though the brain was suspected, the symptoms were probably reflex. Later developments made it clear that there was some lesion of the brain, and the autopsy, that great aid in diagnosis, made by Dr. Fitz, settled all doubts. The body was found fairly well nourished. The uterus was found *in situ* well developed and containing a well-developed foetus of about four months. No organ showed anything abnormal till the brain was exposed. There the arachnoid was darkened, injected and thickened. In each hemisphere of the brain, close to the longitudinal fissure, were two or three hemispherical depressions large enough to admit the end of a common-sized finger. One of the depressions was filled by a cyst containing a limpid serous fluid. Dr. Fitz gave as the cause of death chronic arachnitis, with atrophy of the brain.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

DECEMBER 11, 1886, the President, DR. A. D. SINCLAIR, in the chair.

DR. R. L. HODGDON reported a

CASE OF CEREBRAL DISEASE COMPLICATED WITH PREGNANCY.¹

DR. C. E. STEDMAN alluded to the case of a young woman, who in labor at term was seized with convulsions of peculiar character and died soon after delivery: there was paralysis of the right arm. The cause of death was found to be cerebral hæmorrhage.

DR. SINCLAIR had seen in consultation a case in the ninth month of pregnancy complicated with some disease of the brain. The patient was comatose and moribund: the child was alive, however, and he advised immediate artificial delivery; but neither the attending physician nor the husband would assent to this, and both lives were lost. The nature of the disease was not apparent and autopsy was refused.

DR. ELLIOT reported

A CASE OF CHRONIC SALPINGITIS WITH SUPPURATING TUBO-OVARIAN CYST: OPERATION, RECOVERY.

DR. BLAKE said that before the days of laparotomy the treatment of cases like this was by incision and drainage *per vaginam*, followed by months of suffering before recovery, if indeed recovery occur.

DR. BAKER believed that not infrequently cases of supposed pelvic abscess would prove to be like the one reported, if laparotomy were done to make a clear diagnosis: early laparotomy for diagnostic purposes he believed to be a justifiable and valuable procedure in all doubtful cases. He thought the fact that some medical men see so many cases of salpingitis, while others see comparatively few, was susceptible of an easy explanation: in large public hospitals, like Bellevue, for instance, are to be found many gonorrhœal

patients, and the staff of such a hospital would naturally see a larger proportional number of cases of diseased tubes, which are chiefly of gonorrhœal origin, than the staff of a hospital like the New York Woman's Hospital, which has a different clientèle and not so much gonorrhœa.

DR. DRAPER had observed in the *post-mortem* examination of acute cases of criminal abortion, in which inflammatory changes had proceeded from the endometrium to the tubes and thence to the peritoneum, that the dilatation of the tubes increased uniformly from the uterine opening outward, so that the tubes presented a funnel-shaped appearance. He asked Dr. Elliot if such was the character of the dilatation in his case.

DR. ELLIOT replied that in the case reported the end of the tube connected with, and opening into, the cyst was about one-eighth of an inch in diameter: the tube itself was sacculated, the pouches being big enough to admit the thumb; between the sac-like dilatations the tube was constricted. The tube-walls were much thinned in the dilated parts.

DR. STRONG said that cases like Dr. Elliot's, in which the diagnosis was made before operation, and in which the result was so excellent, would go far towards stemming the current of abuse against the operation; and they should also win favorable opinions of diagnostic laparotomy in doubtful cases. He had observed one case of salpingitis known to be the result of gonorrhœa contracted from the husband. At first the inflammatory process was limited to the vagina and the patient was treated with vaginal injections; but later there ensued pain in the right side, and flowing, and he found the right tube distended to the size of a sausage and excessively painful. The patient recovered and is now well. He had also seen a case which much resembled Dr. Elliot's, the patient having a profuse, mal-odorous discharge, the disease being of four years standing: she has disappeared from his observation and he did not know the final issue of the case.

DR. ABBOT inquired if salpingitis was often the immediate result of acute gonorrhœa, and directly traceable to that affection.

DR. ELLIOT said that salpingitis was a late manifestation of gonorrhœal infection. Among all cases of gonorrhœa, salpingitis occurs infrequently; but, as the number of gonorrhœal patients is large, the absolute number of cases of salpingitis is also large. In small communities the disease would be rare: he believed, however, that it was more common than generally supposed, and thought that cases of so-called uterine colic are probably oftentimes affections of the tubes.

LIGATURE OF THE FUNIS.

DR. HODGDON spoke of an accident, quite unique in his experience, that had recently occurred to him. In tying the funis with a piece of twine he had completely cut it through, and the blood spurted freely. In answer to a question he said he had frequently cut the funis, without tying it, after pulsation had ceased, and had never known the funis to bleed: but he never dared to leave the house without having applied a ligature.

DR. RICHARDSON reminded the society that several years ago he had reported to them the results obtained by him in fifty consecutive cases in the Boston Lying-

¹ See page 59 of this number of the Journal.

in Hospital, in which the cord was cut without tying. After the cord had ceased pulsating it was cut with dull scissors and the child watched: in no instance was there any hæmorrhage; in fact, hæmorrhage could not be induced by stripping the cord or other manipulations. He asked if any member had been troubled with secondary hæmorrhage from the much-twisted, œdematous funis: this accident had occurred several times in his experience.

DR. DAVENPORT had seen one case in which an almost fatal umbilical hæmorrhage occurred four hours after birth.

DR. FORSTER had lost one infant from this cause. He believed the best ligature for the funis was that used in Dublin,—three strings knotted together at the ends, making a cord with three strands; such a cord is strong and will not cut.

DR. COTTING said there was nothing better than a number of strands of thread knotted together at the ends: thread could be found in the poorest house.

DRS. INGALLS and DOE had found narrow linen braid strong and serviceable.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

DECEMBER 27, 1886, the President, DR. F. W. DRAPER, in the chair.

DR. O. F. WADSWORTH read a paper on the

AMBLYOPIA OF SQUINT.¹

DR. HAY said that after the very able presentation by Dr. Wadsworth of one of the difficult subjects of ophthalmology, he could hardly hope to interest the Society. He would, however, say that for some years he had been accustomed to act in accordance with the views advocated in the interesting paper to which he had just listened. There are two aspects of the subject which especially present themselves to our attention. The theoretical question: Is the inferiority in vision of the squinting eye, which frequently occurs, a consequence of the squint? would it have been prevented if we could have corrected the squint sufficiently early? Then the practical question: Should the operation be done early, as a rule?

The first question can hardly be determined with certainty, for we cannot measure the vision of an infant. The opinion that the defect is a consequence of the strabismus is based on theories, which, however, are not accepted by all authors. The view is that, in consequence of so-called corresponding retinal points, which are anatomically pre-determined, the deviation of one eye would cause double vision, and that to remedy this, there is an instinctive suppression or ignoring of one of the images—that of the deviating eye; and further, that this suppression reacts injuriously on the function of the corresponding visual apparatus.

But, on the other hand, some authors doubt the existence of such anatomically-determined points; and so, in the infant, at the commencement of life the diplopia would not be a necessary consequence of the deviation, as at first, without corresponding retinal points, there would not be binocular single vision; and without this, no proper diplopia. Later, after corre-

sponding points had been acquired; if strabismus should occur, at first there would be diplopia, but binocular fixation might be unlearned, and new arrangements made adapted for the squint, each eye seeing for itself.

As to the practical question, that of early operation: Even supposing the frequent ignoring, on the part of the mind, of the impressions transmitted to the brain from one retina were followed by some reaction injurious to the function of the corresponding retina, conducting fibres, and visual centre, or of parts of them; yet it would only follow that in cases in other respects suitable, we should operate as soon as convenient, for some cases of strabismus are not best treated by cutting. There may be spasmodic cases of reflex origin, or paralytic cases with disease of the brain; also cases with disease of the squinting eye, such that we should not expect any improvement of vision of the eye to result from the tenotomy. As to the numerous cases with a high degree of ametropia, it seems preferable, on some accounts, to postpone the operation till after the age when the child could wear glasses to advantage, in order that the effect of these might first be tried.

As matter of fact, early operation is not always successful in correcting the deformity or in preventing subsequent inferiority of vision in the squinting eye; and indeed, in general, the effect of ocular tenotomy disappoints the operator. If the strabismus were of high degree, and seemed of a kind likely to be relieved by cutting, he should prefer to operate early; but if slight, and especially if there were doubts about its pathology, the operation might be postponed, although, regarding the vision of the infant as something imperfect and in process of development, it seems desirable to remove as soon as practicable any abnormal conditions which might interfere with this process. In a high degree of strabismus, the movements of the eyes are restricted, and adults sometimes experience a sense of relief after the operation.

DR. CHARLES H. WILLIAMS called attention to the poor vision which was often found in convergent strabismus, even in the better eye, the records at the Infirmary for the past year showing the vision to be normal in only sixteen out of some forty cases.

CASES OF CONVERGENT STRABISMUS, WITH HYPERMETROPIA.

Vision Equals,	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	<0.1
Squinting Eyes,	5	—	—	2	1	1	1	4	7	12	9
Other Eye,	16	3	1	8	1	2	5	3	2	1	—

The number of cases in which hypermetropia was present with convergent strabismus, suggested that a certain amount of the amblyopia might be an acquired form, for as the squint is generally developed in early childhood, when the eyes are first used to any extent for near objects, the child may unconsciously find that, by squinting, he can continue the accommodative effort more easily; and in order to avoid diplopia, he suppresses the recognition of the visual impression from the squinting eye at the visual centre, as when one uses the microscope.

If the strabismus is constant in one eye, we may find, by the time the child is old enough to be tested with any accuracy, that a considerable amblyopia already exists from suppression of the images, which would not afterward be changed, and which, so far as our means of testing go, would appear to be congenital.

¹ See page 49.

DR. WADSWORTH said, in closing the discussion, that the question of retinal identity seems to be introduced by writers rather to explain loss of double vision than that was noted. It does not seem especially pertinent to explain the existence of amblyopia, congenital or acquired. He supposes that double vision may occasionally exist in the young child without being complained of, and occasionally we do hear complaints in such children. Dr. Williams may, without doubt, find in the public charities a large proportion of cases with disordered vision. Such abound in all public clinics; their consideration was thrown out from his paper as only complicating discussion. No doubt, hypermetropia is the more common error of refraction in convergent, as myopia is in divergent strabismus, but this does not seem to have any bearing on the immediate question.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

MARCH 18, 1886. DR. DENNY presiding.

DR. WALTER CHANNING read a paper,

REPORT OF A CASE OF EPILEPSY OF FORTY-FIVE YEARS' DURATION, WITH AUTOPSY.¹

DR. FISHER said that the case seemed very unusual, and was of interest as being a traumatic case where an operation did no good. A case was recently reported where trephining cured the convulsions in an old case of epilepsy with dementia, although, of course, the dementia itself was not cured. The case, however, was reported too soon after the operation to say with certainty whether there was a complete cure of the convulsions, for many epileptics improve temporarily on new treatment. He spoke of several cases of insanity with a probable epileptic basis. The first case was a boy of seventeen who had had epilepsy since the age of five. After a series of convulsions he was brought to the Boston Lunatic Hospital in a condition of the most extreme suicidal melancholia. He had few convulsions in the hospital but he had to be watched constantly. He finally became exhausted and died of pulmonary embolism. The gross appearances in the brain were healthy. The second case was a young man who had had two or three attacks of doubtful *petit mal*. After a period of some mental anxiety he was found in his room, in a position of opisthotonos, groaning and biting his finger. After he had had one or two attacks he was taken to the hospital, where he made a perfect recovery. In the attacks he became rigid, and then extremely maniacal. The third case was a lady, with a history of apoplexy in the family. For twenty years she had had attacks of unconsciousness without convulsions. For some years she had been a nervous invalid and now she had very vivid hallucinations of sight and hearing which were unilateral.

DR. J. B. AYER spoke of a case of recovery under treatment. The patient had had attacks for seven years which were increasing in severity. They began with a cold aura in the epigastrium, and the patient believed that he had stopped some by pressure on the hypochondrium. He took the bromides for three years, and has now been free from any trouble for three years.

DR. COWLES said that the confirmed epileptics seen in asylums were more curious than interesting. As a rule, the cases hardly repaid study and the autopsies often showed nothing significant. In the case reported the epilepsy was certainly secondary to the trauma, coming on some years after and showing a progressive character. The patient must have had great psychical stability to have withstood all this for so long. It was often hard to decide, in an asylum, whether convulsions were due to hysteria or epilepsy. He quoted a case where anomalous attacks of *petit mal*, with slight unconsciousness, developed after a fright; hystero-epilepsy appeared later. Another case, a girl of twenty, used to have attacks during which her face would flush and she would sit back and close her eyes, although she retained consciousness. After one of these attacks she went into an epileptic state, a condition of mania and hysterical excitement. One of these attacks lasted a fortnight and she had no consciousness of it. In the interval there were no signs of hysteria, but bromide made her worse.

DR. BOLAND asked if it were proper to call convulsive attacks due to some gross lesion epilepsy. The case reported did not seem to show the mental deterioration of ordinary epilepsy.

DR. KNAPP said that the question was whether epilepsy should be the name of a distinct disease or merely of a symptom-complex. There is a distinct disease due, as Hughlings-Jackson thinks, to the occasional discharge from certain cells in the cortex whose molecules are in a state of unstable equilibrium. In these cases, after death, we can discover no lesion. This disease must certainly be distinct from similar motor or psychical discharges due to some gross lesion, such as tumor or meningitis, or some poison, such as is present in uræmia. Clinically, however, these cases are often indistinguishable from true epilepsy. Personally he preferred to limit the term "epilepsy" to the first-named condition, and speak of "epileptiform attacks" in cases where a gross lesion could be demonstrated.

DR. CHANNING said that there were many varieties of epilepsy. Jackson's theory of discharges was a theory of a pathological process based on something, but what was the something? Epilepsy was often traumatic, an effect following a cause, the discharge being simply what took place. Epilepsy, like hemiplegia, was a symptom-complex. Such external manifestations might well be called epilepsy, except where special symptoms warranted us in calling them epileptiform, epileptoid, or hysterical. There seemed no reason for modifying the name. Larvated epilepsy, as seen in criminals, was of great interest. Under other surroundings the case reported might have ended in homicidal or suicidal frenzy. He had seen several such cases with attacks of violence.

DR. DENNY said that the portions of the cranium and brain exhibited illustrate how epilepsy and insanity sometimes supervene upon a blow without external evidence of a traumatic injury to the skull. The question is suggested, therefore, what is the evidence which, in the absence of any other sufficient cause, shows that these attacks were of traumatic origin. In the first place it is significant of a relation of cause and effect that the most marked pathological changes occupy the line drawn from the point of impact on the frontal bone, and continuing posteriorly along the whole central line of the falx cerebri. Thus the ethmoid is involved in a chronic inflammatory pro-

¹ See this Journal, Vol. cxv, p. 4.

cess, which accounts for the degeneration of the olfactory nerve and its loss of function. Again the falc cerebri attached to the crista galli of the ethmoid is markedly thickened by a chronic pachymeningitis. Furthermore the anterior communicating artery is reduced to an impervious cord by endarteritis, and from this point onwards the cerebral arteries are much diminished in calibre by inflammatory deposits, thus interfering seriously with the circulation and nutrition of the brain, which results in morbid irritability of that organ from anæmic conditions, such as are characteristic of epilepsy in general. Again, one of the results of traumatic injury of the brain is an exaggerated chronic mental excitability, which is sometimes the foundation of subsequent epileptic insanity. While progressive dementia with paralysis follows injury to the skull in some cases, yet in another class of cases an injury is followed by a frequently recurring state of excitability with cerebral congestions and epileptic insanity, which is not characterized by the local spasms, such as result from circumscribed injury of the cortex cerebri. The alternating form of symptoms seen in the case described, as shown by the regular recurrence of days of excitement and depression, may be referred to the tendency to periodicity of changes in the cerebral circulation observed in epilepsy, as well as in the related forms of periodicity observed in *folie circulaire*. The combination of the two in this case gives it peculiar interest as illustrating this relation.

October 21, 1886. DR. GORTON in the chair.

DR. E. B. LANE read a paper

SOME CASES OF ALTERNATING INSANITY, WITH ONE CASE OF RECOVERY.²

DR. FISHER spoke of three other cases that had been in the Lunatic Hospital. One was a lawyer who at the age of fifty-five became subject to periods of depression and excitement, alternating for ten years. When depressed he was easily managed, when excited he was active and would not attend to business, although he was manageable. In one period of depression he went to the McLean Asylum, but escaped later. After this he became excited, drank, lived loosely, was talkative and quarrelsome, and was sent to the hospital. He was then exhilarated, witty, extravagant, boastful, and grandiose. Suddenly he became moderately depressed, kept his room, had indigestion, aged rapidly, and finally died of exhaustion. The second case was a business man, who had alternating periods for thirty years. When excited he was mischievous, violent, and obscene. On two separate occasions he broke his humerus. The third case was an old lady, now ninety-one, who had been insane for thirty years, with long periods. There is a sudden change from excitement to depression, the depression being stuporous. She was generally lively, and slightly exhilarated; she was complimentary, everything pleased her, and she was supremely contented. As a rule cases of *folie circulaire* do not become demented, but the case first mentioned did. The origin of these cases is curious; there may be a recurrent mania, and the mania may cause depression, and then why may we not have periods of recovery. He spoke of a man who had had attacks of depression for three successive years. It was a question whether there was a slight excess of his natural exuberance after these attacks, but there was no mania, and now he had

had no depression for five or six years. In answer to a question by Dr. Channing, the speaker said that the third case he mentioned had never been known to have any period of actual sanity, but when she was not depressed she was sensible and rational, except that she was unusually happy. In answer to Dr. Page he said that it was hard to judge of the temperament of his cases, as they occurred in old people. One of his cases and one of Dr. Lane's were sanguine and volatile, but it was doubtful whether the sanguine temperament was more prone to the trouble.

DR. PAGE said that we often see sane people who at times are moody and unsocial, and at other times are slightly exhilarated. They have ups and downs, as in mental disease, without any known regularity. In answer to Dr. Channing he said that the patients at the Nervine Asylum varied somewhat in their mental condition, but, as a rule, they were rather a hopeless class.

DR. COWLES said that Clouston states that heredity is the rule in typical cases of *folie circulaire*. The majority of the chronic insane at the McLean Asylum have periods of alternation in their insanity, and go on to dementia, but it is a curious fact that typical cases of *folie circulaire* do not become demented. With one exception Dr. Lane's cases presented no regular cycles. A patient at Somerville, who was insane for three years, for some time had a period of exhilaration and a period of depression, with a slight interval of sanity, each period lasting three weeks. The limitation was very precise, a thing which Clouston says is rare.

DR. H. R. STEDMAN said that the absence of dementia in *folie circulaire* impresses every one. The two states, melancholia and mania seem to counterbalance each other, in their effect on the nervous shock, so, as Falret thinks, there is no resultant dementia. In regard to Dr. Lane's first case he considered that, in his experience, alternating states are quite common in the insanity of adolescence. The rationale is bad heredity, causing instability. In the young there is an additional element, that the mind is not stable or fixed, and is prone to change. In the case in question it would be hard to say whether it was *folie circulaire*, as it had not been long enough under observation. It could hardly be *folie circulaire* if the patient stayed well, for patients with that disease do not get well. If the next attack is like this it will establish the diagnosis. It is more likely to go on to dementia with occasional outbursts, than to develop into a true *folie circulaire*. A knowledge of this tendency to alternation in adolescent patients is valuable in prognosis and treatment. Unfortunately we know too little of the early symptoms of *folie circulaire*; hysteria is a common beginning. In answer to Dr. Lane he said that the cases in youth that he had seen, go on for a time, but the attacks are not regular.

DR. KNAPP said that Douty had recently reported a case of *folie circulaire* where there were four stages, excitement, depression, dementia, and sanity. The dementia was of brief duration, but it was nevertheless distinct.

DR. TURNBULL spoke of a case where just before the maniacal period there were alternating days of exhilaration and depression, and later the mania reached its height. Here malaria was thought to be the cause. In some cases of melancholia we see a period of exhilaration and reaction after the depression

² See this Journal, p. 52.

but they are not *folie circulaire*. In sane people he had noticed periods of depression and exhilaration; the former were merely fits of the blues, the latter were less marked.

DR. CHANNING asked which was the primary form in Dr. Lane's cases, depression or exhilaration?

DR. LANE said that they were about evenly divided. One case began with excitement, but a small majority were depressed.

DR. CHANNING said that the pathological explanation of *folie circulaire* had to be changed in accordance with the primary form of the insanity. If the depression be secondary, it may be considered the exhaustion following the excitement, but not if it be primary. In his own experience the depression had been the primary state. In cases of mania a stage of primary depression is common, but it is usually not noticed. He then mentioned the case of a young man of twenty-five, with alternating insanity. At the age of sixteen he became depressed and had to give up study and go to bed for a few days, after which he was slightly exhilarated. He went to school and college for two years, then broke down and had alternating depression and excitement. In the excited stage he went off on sprees, leaving college for that purpose, and acted very strangely. This alternation lasted six months; he was depressed for two weeks, excited one week, and sane two weeks. For a year after that he was better, and then his attacks returned. For ten days he was depressed, stayed in bed, leading an absolutely automatic life, not answering questions, and taking no care of himself. Then he went on an outrageous spree; he had no delusions, but was exhilarated, uncontrollable, and had much sexual excitement. In the excited stage he had no moral sense or sense of honor, but in the sane stage he was fairly trustworthy. It was, however, a case of primary insanity, with congenital mental impairment, manifesting itself at all times.

DR. GOLDSMITH said that the question of alternation was very interesting and obscure. The cause of *folie circulaire* lay as a rule in bad heredity. It was a constitutional neurosis like *primäre Verrücktheit*. In his own experience it was much commoner in people of fair social position and intelligence. There were six cases of it among one hundred and seventy-five patients at the Butler Hospital, more than among eight hundred at Danvers; at Morningside, too, there were more among the hundred private patients than among the seven hundred paupers. Its onset was almost always by melancholia. Depression after mania is common and has no bad significance, but exhilaration after prolonged melancholia means, as a rule, either *folie circulaire* or general paralysis. Dr. Stedman's cases of alternating insanity in the young are of interest: these are also due to bad heredity, but they never turn out to be genuine *folie circulaire*. The successive attacks in *folie circulaire* do not cause dementia, but in the young dementia soon becomes apparent, and finally the alternations grow less and disappear. The alternation is important in diagnosis and prognosis, especially in distinguishing from moral obliquity. In the healthy mind a normal state, and not an exhilarated state, follows a period of depression. He had known of no case of *folie circulaire* that did well, but one, that used to have cycles annually, had had none for three years.

DR. JELLY spoke of a man, with a bad heredity on

both sides and a syphilitic history, who was, when in college, queer, erratic, a practical joker, and no student. Ten years ago he came to Boston, "ten times himself." He went to one or two asylums, and was very excited and troublesome. After eighteen months he became mildly depressed. This depression lasted eighteen months, and then he was well (?) for two years, held a responsible position, and did fairly well. Then he came back to Boston worse than ever, went to the Superintendents' meeting at Newport and made himself conspicuous. For two years he was greatly excited and very troublesome. Then he became intensely depressed, which condition continues. He realizes his condition, takes no care of himself, and is utterly wretched. Every period so far has been worse than the preceding. The excitement now lasts eighteen months, the depression two years, and the interval a year.

DR. COWLES said that Clouston also states that *folie circulaire* is more common among the educated. It is one way that nature limits overbreeding. There are more cases at Somerville than at any State hospital. Alternations of feeling are common in people with a bad heredity who are not insane. If this be so, as neurotic people are unstable, the alternations come more easily from less profound causes, and the patient gets better and then has other attacks. Simple habit has a great influence. Thus, if there is a facile tendency to alternation, and an impressionability to the causes thereof, we may, with the law of reaction, have a basis for a theory of *folie circulaire* in the readiness of the mind to establish a habit of variability.

DR. LANE said that all but two of his cases were of the better class.

DR. TURNBULL said that Spitzka states that in one case the intervals followed the seasons of the year. He knew of a person, not insane, who had periodical attacks of depression in the spring.

Recent Literature.

Handbook of Diseases of the Ear. By URBAN PRITCHARD, M.D., with illustrations. P. Blakiston, Son & Co.: Phila. pp. 207.

This is a concise, well-written handbook, really adapted to its object, as stated in the preface, of furnishing a practical manual for students and practitioners. It is particularly useful for comparison with other works, as it is confined largely to the author's own experience, and in the matter of treatment especially, there is much of interest, as in some degree different from what is advised in the more common text-books.

The criticism to be applied to the book is the one to which all manuals which deal with an extensive subject are open, a sacrifice of very important details in pathology and treatment to conciseness.

Handbook of the Diseases of the Nervous System. By JAMES ROSS, M.D., LL.D. 8vo, pp. xx, 723. Philadelphia: Lea Brothers & Co. 1885.

This handbook, the author tells us, is intended for the student and the "busy practitioner," for whom his former treatise was too bulky. Like the former work, the first part of this is devoted to the anatomy, physiology, and general pathology of the nervous system, and to the general symptomatology and treatment of

its diseases. Dr. Ross showed in his former work his wide reading and his skill in compilation, and the present work is a further indication of his powers. This part contains little that is new or original, but it is in the main accurate, and is as useful a summary as can be found in any one book. Numerous illustrations and diagrams render the subject-matter clearer, although we miss the figures of the motor points, which ought to have been inserted for the "man of one book." In his second part the author has employed a different plan from that followed in his Treatise. He has "adopted, as far as possible, a clinical classification, so that the diseases which are most apt to be mistaken for each other will be found in close proximity. . . . His rule has been to leave out the details of morbid anatomy and physiology." The result is not a success. A work in English on the diagnosis of nervous diseases is desirable, but Dr. Ross has not given it to us, neither has he given us a useful text-book.

In the first place, he abandons his classification at the start for a pathological classification, and, when he returns to it, he arranges his diseases in so comprehensive a way as to include catalepsy, Thomsen's disease, epilepsy, and convulsive tic under the same head. Then he reverts to the ordinary pathological classification again, which continues, with occasional breaks, to the end of the book, when he gives a chapter on general diagnosis, into which is thrust a description of cerebral syphilis. In the individual chapters, we find, first the symptoms of all the diseases together, then their pathology, and lastly their treatment, so that the account of the individual disease must be looked for in at least three places. Neurasthenia, however, has a section to itself, but hysteria is scattered all over the book, and tabes dorsalis does not fare much better. Moreover, although a clinical classification has been his aim, the subject of differential diagnosis has been greatly neglected; thus, chronic anterior poliomyelitis stands out as a distinct affection, and scarcely a mention is made of its similarity to multiple neuritis, while the question whether it has a separate existence is untouched. Myelitis, on the other hand, is divided into nine or ten different forms, whose clinical individuality is, to say the least, doubtful, although an anatomical distinction may exist.

We regret to add that, in addition to the radical defect in plan, many minor errors in the statement of fact have crept into the book, which cannot be noticed here. We must state, however, that the writer has gone back twenty years in considering fracture and hæmorrhage as concomitants of concussion of the spine. Some day we shall hear that a broken bone is occasionally found in cases of ecchymosis! Like too many neurologists, Dr. Ross seems to think that there is a great gulf between nervous and mental diseases, so that he scarcely makes mention of general paralysis, and falls into numerous errors in his statements in regard to mental symptoms in general.

On the whole, although the book has much of good in it, it is not useful as a clinical guide to diagnosis, and its faults of arrangement are so great as to render it extremely inconvenient for the class for whom it was intended. The author's style, moreover, is obscure, his grammar is sadly defective, and the book contains too many unusual expressions, such as "le haut mal" in epilepsy, "spasmodic paralysis," and "sclerosis in patches."

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THE PHYSIOLOGY OF THE HAREM.

ORIENTAL woman has for many generations occupied a position in which the one element of sexuality has absorbed into itself all other qualities and functions of her existence. Sex, *et præterea nihil* has represented her value and significance in the national economy, and that not for the primary end of reproduction but of sensuous gratification. The effects of this condition upon her physical and moral nature have been sufficiently illustrated to the western reader by the concurrent testimony of travellers and by the coloring imparted to the poems of Moore and Byron. The physiological results of this mode of life have not, however, beyond the general and obvious statement that the women matured very young, been given us in satisfactory detail.

Much has been said of late of the prejudicial effect upon the maternal function produced by extraordinary intellectual activity in women, and it has seemed that the higher education, with late marriages and much study, was not a favorable preparation for fruitful motherhood. But it is not without interest to know that the women of Turkey, educated almost from birth with a sole view to the stimulation of the generative functions, are quite as infertile as the blue-stockings of New England. Dr. Zambaco, of Constantinople, presented a communication to the Gynecological Section of the last International Medical Congress at Copenhagen, on the general subject of the physiology of oriental women, which has appeared in the report of the Congress and will well repay perusal, not only from its intrinsic interest but because of the light which it throws on the effects liable to follow sexual precocity in any country.

Circumcision is practised, according to Dr. Zambaco, almost universally upon Mussulman girls in all classes of society in Egypt and Arabia. In Egypt, the operation is performed at about the age of seven as with boys. Great ceremonies attend the event. The girls walk in files or ride in carriages to the scene of the operation, decked in all the finery their parents

can give or borrow. The operation is performed by a woman, who makes it her trade. It consists in cutting off the clitoris with scissors, and dressing the wound with hæmostatic powders. The children are taught to look forward to the operation with anticipation and with their precocious little minds clamor for it as the necessary condition antecedent to their marriage. It is in fact indispensable for marriages in these countries, as no man of the lower classes will consent to marry a girl who has not been circumcised. In Constantinople, under the influence of European ideas it has been largely done away with, at least as a preliminary to marriage, in the families of the government officials and others, though it is said to be common for the husband to instruct the midwife to perform the operation immediately after the birth of the first child.

The Ottoman Empire includes a wide range of nationalities with different habits and religions and climates, the temperature varying from 46° C. to — 30°. Yet the differences in the physiological condition of the women seem not to be racial, or even climatic, so much as the product of social habits affecting the precocity of sexual development. Among the Mussulmans these influences are at a maximum. From earliest childhood the conversation to which girls listen, the whole atmosphere in which they live, is permeated with the one thought of sexuality. Hence menstruation begins at nine or ten years in Egypt, Bagdad, and Arabia. In the Soudan it is even earlier. In Constantinople and its environs, the function is established among the Turkish girls at from ten and a half to twelve years, while in villages a little more remote, where the customs are more rigid, and also among Christians, Armenians and Greeks, the average date is two or three years later. Circassian slaves who remain in their native land till they are grown up, menstruate at fifteen to seventeen, while if brought when young to Constantinople and exposed to the life of the harem, they menstruate at twelve or thirteen.

In Albania, a mountainous country, where female virtue is well preserved, maturity comes late, at seventeen years. This is the case both with Christians and Mussulmans. The latter are not veiled or sequestered like other Mahometans, and their intercourse with men is on much the same terms as in our own country. The menopause comes late and they often bear children at forty-eight or forty-nine years of age.

Of course it may be true that the climatic conditions are the primary cause of the tardiness of the menstrual function, but, if so, they act through the medium of quiescent sexual emotions, and the inference from Dr. Zambaco's paper is that such a mental state is not merely the product of a low temperature, but may also result from an unstimulating character of the social atmosphere.

Mussulman women have such a horror of pregnancy as being likely to destroy their shape and beauty, as well as to cause alienation of their husbands in favor of a non-pregnant rival, that abortions are universal.

They are spoken of freely in the social and domestic circle, and performed openly and as a matter of course. For these reasons, as well as on account of the incapacity for conception of these overstimulated sexual organs, despite the opportunities afforded by polygamy, the population fails to increase to any extent. It is true that one pasha had eighty-five children by forty-four women, but with increasing poverty of the people, fewer men can afford multiple marriages and so the births among the Mussulmans are on the whole diminishing. Armenians and Greeks, on the other hand, rarely perform abortions, and Jews never.

Marriage among the Mussulman girls takes place usually before menstruation is established, namely at nine to ten years, and sexual relations are at once established. The result is various local derangements, and *very small fecundity*. One or at most two children represents the average productiveness of Mussulman women. The effect of this overstimulation of the generative function is further seen in a premature menopause, and early fading. The few women who marry late are also likely to complete their sexual existence early. In the one class of cases the sexual career is shortened through exhaustion; in the other through lack of function.

The atrophy of the sexual sense is rare enough in Turkey; we occasionally see it in one of the extremes of our own civilization, where muliebrity has perished from inanition. The Harem and the "Higher Education" may lead by widely divergent paths, to a common goal, sterility.

THE DOCTOR BEFORE THE LAW.

SUITS for malpractice are comparatively not very common in Boston, but they seem even less common than they really are. Each physician, and particularly each surgeon, knows very well that he is liable at any moment to become the defendant in a suit for damages, and when the suit comes he accepts it as an unfortunate but unavoidable incident in his life; he meets it as his temperament and pecuniary ability enable him to do, and the matter may not be known beyond his most intimate circle. The third trial of a suit against a well-known practitioner of Boston, has just been concluded. The plaintiff has three times failed to convince a jury of her countrymen that she was deserving of remuneration for any real or fancied injury, each trial resulting in a disagreement.

The profession can but feel a deep interest in the defendant in these suits, if for no other reason than because he illustrates the relation in which the defendant in a malpraxis suit stands towards the law of the State and its exponents, the lawyers. Now our laws are framed on the principle of allowing to the humblest citizen of the Commonwealth the freest possible access to the courts, to the end apparently that neither wealth, education or social position shall afford any advantage. In accord with that principle, suits for damages are allowed to be entered without the

slightest surety on the part of the plaintiff of an ability to meet the requisite expenses, or assurance that the suit has even a pretense of honest ground to stand on. It needs only a person who has undergone surgical treatment, and a lawyer willing to enter upon such a suit on speculation or with the understanding that his fees shall be proportional to the amount of damages. In its care for the plaintiff and its anxiety to prevent oppression, the State affords every facility for such a suit and enforces no penalty for suits improperly brought. So easy is the introduction of suits that the State might almost be said to favor, if not to be a party to, blackmail. The principle that a man must be regarded as innocent until proven guilty would almost seem to be reversed in the case of a physician, so that the physician is to be regarded as guilty of malpraxis unless proved innocent. The original object of the laws would seem to be lost, and in the present constitution of society they offer facilities, which lawyers — not always regarded even as unscrupulous — are not slow to embrace, to manufacture business and oppress the supposed oppressor.

It is doubtful if any one would desire to make the doctor any less responsible for the exercise of due care in the treatment of his patients, but it would seem only proper that the introduction of suits for damages should be a little less easy.

Other countries and some States require sureties from the plaintiff before suits can be entered. We do not believe such a regulation in Massachusetts would injure the humblest citizen. The protection of the doctor certainly requires that, when a plaintiff has failed to gain a verdict after a certain number of trials, something more shall be required to renew such a suit than the mere willingness of a new lawyer to take up the case.

It is not an uncommon thing — and we know of at least one hospital surgeon so situated at this writing — that a suit should be brought against a physician which the plaintiff's lawyer straightway proposes to compromise for a certain sum, supporting such a proposition to the defendant with the effective argument that even if he (the physician) should win the case the expenses incurred would be at least double the amount of the compromise. However conscious of the justice of his cause the doctor may be, it is difficult to resist the force of such a statement; unless the doctor happens to be in the rare but fortunate position where a few hundred or thousand dollars more or less are a matter of little consequence.

It is true that corporations share with our medical brethren these perils and hardships at the hands of the law, but they are, at least, better able to support an injustice, and to recoup themselves by making the public bear the loss thus caused.

THE HEALTH OF BEER-DRINKERS.

MEDICAL examination of a thousand employees of the various breweries of New York and vicinity, which has for some time been in progress, under the

auspices of the United States Brewers' Association, has now been completed, and the results are to be published in pamphlet form.

The report starts out with a quotation from a work on physiology, which maintains that the constant use of beer is found to produce a species of degeneration of a great part of the organism, profound and very deceptive. Fatty deposits, diminished circulation, congestions, general disturbances of various organs, and inflammation of the liver and kidneys, are stated to be its constant results. As a result of the present investigation, this allegation is denied, and the report declares that no medical statistics have ever been produced in support of it. It is claimed that, in all ages, beer-drinking nations have been remarkable for their intrepidity, strength, and vitality, and that it was not until after the general introduction of ardent spirits into England that the enervation of the masses was spoken of in connection with intemperate habits.

With a view to ascertaining in a trustworthy manner the effects of the use of malt liquors, the physicians of the Brewers' Benevolent Bureau (which was established about five years ago for the relief of their sick employees, and for the assistance of the families of deceased workmen) were instructed to examine one thousand of these men as to their general state of health, and the condition of the liver, kidneys, and heart. Also to weigh and measure every man, to test his strength by the dynamometer, and report his age, length of time employed in breweries, and average daily quantity of beer consumed by him. Of the one thousand men, twenty-five were recorded as unsound; and of these, seven suffered from diseases of the liver, one from cardiac disease, five from diseases of the kidneys, one from emphysema, six from rheumatism, two from jaundice, two from bronchitis, and one from pulmonary tuberculosis. It is concluded, from the observations made, that the use of malt liquors, notwithstanding the large quantities habitually consumed, cannot be regarded as injurious; that the death-rate among brewers is lower by forty per cent. than the average death-rate among the urban population of the groups of ages corresponding to those to which the brewery workmen belong; that the health of the brewers is good; that diseases of the liver and kidneys occur but but rarely among them; and that, on the average, brewers live longer and preserve their physical energies better than the average workman of the United States.

The statistical tables collected, however, are said to show that the majority of the men examined were under forty years of age, while a large number were in the twenties. Many of them have not been employed in the breweries over ten years, and some only from three to six years. While the record of the weight does not show much obesity among them, perhaps owing to the hard nature of the work, still the average weight is good, comparatively few weighing less than one hundred and forty-five pounds, with a proportionate circumference of chest.

We fear this is another example of the facility with which statistics in skilful hands may be made to prove any desired position.

UNFORTUNATE RESULT OF ONE OF PASTEUR'S "INTENSIVE INOCULATIONS."

PASTEUR seems by no means to have an easy time in his humanitarian endeavors. Not only is the protective power of his inoculations denied, even by colleagues of his in the learned societies, but it would appear that one of his recent "intensive inoculations"¹ has resulted in the death of the patient.

It is bad enough, say the opponents of Pasteur's methods, if protective vaccination does not *protect*; it is immeasurably worse if it is liable to communicate the very disease from which it is designed to give immunity.

M. Peter, a determined anti-microbist and opponent of anti-rabic inoculations, seems to have taken a grim satisfaction in reporting to the Academy of Medicine (session, January 4th) the details of the case to which we have referred. The facts are as follows:

A young Parisian, Reveillac by name, was bitten on the finger by a mad dog, November 9th, ult. Two days afterwards he applied to Pasteur at the laboratory Rue Vauelin, where inoculations, according to the new "intensive" method, were practised in the hypochondriac region; Pasteur's assistant going from the mild virus to the severe, and *vice-versa*, for twelve successive days, three inoculations a day being given. The health of the young man remained good for about a month, when, after premonitory pains in the cicatrices of the inoculation-punctures there ensued malaise and prostration, spasms of the œsophagus with more or less difficulty of deglutition, finally paralytic symptoms and death on the sixth day with frothing at the mouth. At no time was there any pain in the finger that was bitten, though the pain in the site of inoculation was a marked and constant symptom.

Peter, in commenting on this case, had no doubt that the young Reveillac died from paralytic rabies, a form of the disease almost unknown in man; he called particular attention to the fact that the fatal malady commenced with pains over the hypodermic punctures, which seemed to him strongly suggestive of the true cause being the inoculations, and that while there was no actual hydrophobia, and no constant sputation, yet there was difficulty of deglutition of liquids and frothing at the mouth at the moment of death.

It is regrettable that there was no autopsy on the young man, and that one important link of evidence was not furnished, viz. the induction of the disease in animals by inoculating them with portions of the medulla of the unfortunate victim.

MEDICAL NOTES.

—The *Medical Record*, looking upon the chances of a physician's obtaining pay for his services as dependent on the earning capacity of the head of the fam-

ily, says that there are about eleven million heads of families in this country. Estimating their incomes on the same basis as that of English tax returns, there are only about one hundred thousand families having an annual income reaching \$2,000, and only about thirty-five thousand having an income equalling or exceeding \$5,000. Out of fifty-five millions of population, forty-five millions earn \$15 a week or less.

—At a meeting of the Geneva Medical Society, writes a Swiss correspondent of the *British Medical Journal*, Dr. Goetz stated that, following the recommendation of Dr. Huchard, he used antipyrine as a hæmostatic in three cases of bleeding. One was a case of severe and prolonged epistaxis in a young man suffering from hæmorrhagic purpura; the second was a case of bleeding from the gums after the extraction of a tooth; and the third was a case of metrorrhagia from uterine fibroid. In the two former cases the drug was employed locally in solution; in the third, one gramme of antipyrine was incorporated in a gelatine pessary.

—The *Northeastern Lancet*, in commenting upon the zeal with which the lay press seizes upon reports of startling surgical operations, cites the following description, which was thought important enough to be cabled across the ocean to a New York daily paper. "On Tuesday of last week a slater fell from the scaffold of a house, a distance of eighteen feet, to the ground. He was carried to the St. Thomas Hospital, suffering extreme agony. No bones were found to be broken, but Wednesday, Sir William McCormac, in diagnosing the case, came to the conclusion that the bladder had been ruptured. The man was put under an anæsthetic, an incision was made into the abdomen and the diagnosis verified. The contents of the stomach and perinæum were withdrawn. The bladder was drawn out, a suture made, the organs all replaced, the stomach thoroughly cleansed with antiseptics and the incision closed. The patient emerged from his insensible condition relieved of pain, and Thursday was in a comfortable condition and is now declared practically out of danger." Whether the "contents of the stomach and perinæum" were put back again after being withdrawn is not stated. In this connection we note a despatch from New York to a Boston daily paper to the effect that a noted actor has had "a very delicate surgical operation" performed upon his nose. "Something like a cataract" had been growing in the right nostril for years, and was successfully removed.

NEW YORK.

—The Hospital Saturday and Sunday Fund, up to January 14th, amounted to \$42,796.

—The annual meeting of the Pathological Society was held January 12th, when the following officers were elected: President, Dr. T. Mitchell Prudden; Vice-President, Dr. W. P. Northrup; Treasurer, Dr. John H. Hinton; Secretary, Dr. Wesley M. Carpenter; Editor, Dr. John C. Peters.

—On the 12th of January six cases of small-pox

¹ See this Journal, Vol. CXV., p. 507.

were reported to the health authorities, the first that have occurred in the city, so far as known, since November 1st. Several of them were among Spanish sailors, who were found in lodging-houses, and in consequence of these cases and the recent small-pox scare in Brooklyn, a very lively demand for vaccine virus has arisen.

—The annual meeting of the New York County Medical Association was held at the Carnegie Laboratory, January 17th, when the following officers were elected: President, Dr. John Shrady; Vice-President, Dr. J. R. McGregor; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. Charles Ellery Denison; Member of the Executive Committee, Dr. Edwin Saunders.

—Measles still continue to be increasingly prevalent. During the week ending January 8th, there were reported 497 cases, with 65 deaths; and during the week ending January 15th, over 700 cases. The sanitary authorities complain that physicians in charge of cases in schools and charitable institutions do not report the disease when it first appears, and it is often not until one or more deaths have occurred from it that they become aware of its existence in these institutions. Dr. James B. Taylor, Chief of the Fourth Sanitary Division, has made a report to the Board of Health, in which he states that proper precautions are not taken as to isolation and disinfection, both in the care of measles and of diphtheria, which is also on the increase. In it he recommends that circulars should be distributed among the tenement-house population, containing suitable recommendations and advice, and calling attention to the Willard Parker Hospital on East Sixteenth Street, where measles and diphtheria are treated free by experienced physicians.

—At a meeting of the Society of Medical Jurisprudence and State Medicine, held January 13th, the subject of discussion was "How shall the death penalty be inflicted?" It was opened by Dr. N. E. Brill, who read a letter which he had received from the Committee on Capital Punishment appointed by the State Legislature, asking his views on the subject. In reply he stated that he had expressed the opinion that hanging was barbarous; quoting Dr. Hardy, who had attended numerous executions by this method, to the effect that he never in a single instance saw death occur by a broken neck. Dr. Brill considered the most humane method that of the guillotine, and said that he was opposed to electricity because dynamos were too expensive; to prussic acid because its action was indefinite and often caused violent convulsions; and to the garotte because it frequently failed. Among those who took part in the discussion were Dr. John C. Peters, who favored the garotte; Dr. McLaurie, who advocated carbonic acid gas; Mr. W. H. Russell who thought the criminal should be delivered over to a commission of selected scientists who should take his life in the interests of science; and Dr. Wood and Mr.

D. S. Riddle who believed that the present method of hanging was not necessarily brutal, and that it had more effect in deterring others from committing murder than would be the case with any of the other proposed plans.

Miscellany.

HOMŒOPATHY, AS REGARDED BY ONE OF ITS LEADERS.

JOUSSET, of Paris, is unquestionably one of the lights of homœopathy on the Continent of Europe. His recently published "*Leçons de Clinique Médicale*" is in some respects a model of its kind. According to this authority, the homœopath of to-day no longer affirms the mysterious potency of the globule, or the all-sufficiency of the doctrine of similars, but claims to be, in the true sense of the word, eclectic.

"Hahnemann and his pupils," he says, "pretended that homœopathy was the *whole* of therapeutics. This is a complete misconception of the case; homœopathy is but a *part* of therapeutics; this is a truth which has cost us many execrations from men in our own ranks, but is now held to be indisputable.

"The fact is, homœopathy cannot take the place of *palliative* medication; nor of *surgical* medication; nor of *antidotal* medication in cases of poisoning; nor of *parasiticide* medication, wherever clearly demanded; nor of medication by *mineral waters*, which often cures where other modes of treatment fail; nor of *hydro therapeutic* medication; nor of medication by electricity; nor even altogether of *empirical* medication. Homœopathy is not everything, and liberal medicine must include all collateral modes of treatment."

Jousset repudiates the allegation that homœopathy is a *sect*, and affirms that it is simply a branch of medicine which has to do with the therapeutics of certain internal disorders, and not even all of these are amenable to treatment by the law of similars (for example, helminthic diseases). This same writer, who seems to have a some following in France, and may be said to represent the advanced thought of his school, gives some pretty hard blows at the advocates of infinitesimal doses, who, he intimates, have brought discredit upon homœopathy, and affirms that "the school of high dilutionists is losing ground every day, and in France, as in Germany and America, the general tendency is to employ the low dilutions."

THREE CASES OF SUPPURATION OF THE FRONTAL SINUS.

THREE cases of suppuration of the frontal sinus, or empyema of the frontal sinus, as they are called by the author, Dr. Borthen, are reported in the *Revue Internationale des Sciences Médicales*, 1886, No 34, *London Medical Record*, December 15, 1886. Case I. Woman, aged fifty-six. The disease began two or three years ago with headaches almost continual, and so violent as to cause vomiting. Intense coryza followed. After some time a tumor slowly developed at the internal angle of the orbit. Examination: right eye looks down and out, slight exophthalmos, right pupil about one centimètre lower than left; peculiar physiognomy. Between the lacrymal sac and the globe of the eye is a swelling about three centimètres

long, which is felt within the orbit as far as the finger can reach; fluctuation; skin normal. Slight pain on pressure below eyebrow, but no sign of cerebral compression. Movements of eye impeded, no diplopia, vertigo on closing sound eye. Thick pus escaped on exploratory puncture. Treatment: incision; evacuation of four or five teaspoonfuls of thick yellow pus; washing out with a solution of salicylic acid, and drainage, a little silver tube being left in the wound. Improvement rapidly followed, but there was still a slight discharge. Case II. Woman, aged fifty. Tumor at internal angle of orbit; no deviation of eye. Severe headaches preceded tumor. Treatment as above; incision, emptying, and drainage. Cure in a fortnight. Case III. Woman, aged thirty-three. Disseminated choroiditis and slight swelling in left orbit, internal half. Elastic tumor felt within orbit. Left eye six millimetres lower than right. Diplopia on looking to right. Headaches and violent pains in back of neck. Sleeplessness, nausea, anorexia. Treatment: skin incised, and tendon of superior oblique muscles reached and divided. Cyst punctured and washed out with a four per cent boric acid solution. Between one and two ounces of yellowish viscous fluid escaped. Drainage. An intense coryza came on some days after operation. The abscess healed, but slight diplopia persisted.

SALOL.

THIS new compound, introduced by Menck, is a derivative of salicylic acid, one atom of hydrogen of which has been replaced by the phenol group (*Pharmaceutical Journal*). Possessing antipyretic and antiseptic properties, it is hoped that it may prove of service in cases in which the salicylate of soda is badly borne. Its physical characters are those of a white powder of faintly aromatic odor, almost insoluble in water, and perfectly tasteless. In the organism, the compound becomes split up into the salicyl and phenol elements; both may be detected in the urine, which becomes very dark, as happens after the ingestion of carbolic acid, of which salol contains thirty-eight per cent. The splitting of the compound is believed to take place in the duodenum, under the influence of the pancreatic digestion. It is remarkable that no toxic symptoms appear to have resulted from the employment of salol. — *Medical and Surgical Reporter*.

A CASE OF HERNIA INTO THE UMBILICAL CORD.

THE following case occurred at Queen Charlotte's Lying-in Hospital, under the care of Dr. Hope, and is described in the *Lancet* (Oct. 23): In the afternoon of August 25th, Mr. Harries, acting House-Physician, was summoned to the Labor Ward to see a child just born, who, the nurse said, had a swelling in the umbilicus. The child was a healthy-looking boy, who, with the exception of the rare congenital malformation described, was in every respect well developed, and weighed seven and one-fourth pounds. A hernial protrusion into the umbilical cord was found, about the size of a hen's egg. Upon examination, Mr. Harries concluded that he had to deal with a partially reducible enterocoele, with a sac, the neck of which was formed by the skin, and the fundus by the coverings

of the cord, and with the umbilical vessels spread out over the right side of it. In the absence of the visiting physician, Dr. Hope, he decided upon the following operation: Mindful of the inevitable results of separation of the cord and the exposure of the enclosed intestines, the child having been anesthetized with chloroform, the sac was opened. The contents of the sac were both large and small intestine, of which five inches of the latter were adherent to the interior of the sac. The bowel beyond, being slightly congested, was quite healthy, and was dissected off without any great difficulty. What he believes to have been the vermiform appendix was so intimately fused with the tissues of the cord as to render dissecting it off impossible; it was, therefore, ligatured with fine carbolized catgut, and divided close to the sac. After slightly enlarging the hernial opening, the whole contents of the sac were returned into the abdominal cavity. The opening was then closed with a double ligature of thick catgut, in exactly the same way as a nœvus is strangulated by Liston's method. The cord, with the sac, was then cut off about half an inch from the umbilicus. The operation was performed with every antiseptic precaution, and the wound dressed with corrosive sublimate gauze.

During the next fourteen days the wound was dressed twice, and each time looked quite healthy; at the end of that time, the small remaining portion of the cord separated, and the ligature was removed, the opening being firmly closed. After the operation the bowels acted naturally, and the child took its nourishment freely, some slight sickness being the only trouble. During a rapid convalescence, no symptoms of importance were manifested.

Correspondence.

AN OFFICIAL MEMENTO MORI.

BOSTON, Jan. 14th, 1887.

MR. EDITOR,—The alacrity with which the law-abiding physician complies with the requirement as to the notification of infectious diseases, is not enhanced by such experiences as the following:

A gentleman, of nervous temperament, was attacked with diphtheria. The diagnosis was made to the family but on account of the nervousness of the patient was not at first imparted to him. Due notice was sent to the office of the Boston Board of Health. On the following day the customary circular was forwarded from the latter office in a sealed envelope to the lady of the house, who read and inwardly digested it. Almost immediately another circular was sent to the patient himself. As he was able to read his letters his mail was sent to his room and with it the document in question. Nothing on the envelope revealing its character, he opened and read of the dreadful nature of the malady, of the precautions to be taken for disinfection, and finally of the treatment which was to be given to his body after death and of the precautions proper to be observed at the funeral. The cheerful and diverting effect of the communication can easily be imagined.

The question that suggests itself is this: admitting the necessity for public protection of notifying the householder of the precautions to be preserved, why should not the notice be sent unsealed, to be read by whoever happens to be for the time in charge of the domestic economy? Or, if the notice must be sent under seal, why is it not sufficient to send it to the one of the presumptive heads of the family who is not sick? Postage costs something. One circular is as good as a dozen and the patient cannot be depended upon to disinfect his own clothing and dis-

charges, while to impose upon him the task of planning out the details of the placing of his body in the coffin with disinfectants and the hermetical sealing of the coffin, is hardly fair to the undertaker. Yours truly, F.

CASE OF DEAFNESS FOLLOWING A BLOW.

2a Beacon St., Boston, Jan. 14th, 1887.

MR. EDITOR,—The communication from Dr. Coggin, of Salem, January 6th, relative to a case of sudden deafness following a blow, recalls a case of mine which recently came under observation.

A girl of sixteen applied at my clinic at the Carney Hospital for the relief of unilateral deafness and presented

this history: Four years before, while returning from school, she was maliciously attacked by boys, who severely snow-balled her. A hard, icy mass, thrown with force, struck upon her right ear (over the surface of the temporal bone, opposite the meatus properly.)

She immediately felt pain in the ear which continued until the next morning.

Coincidentally with the receipt of injury and persistently thereafter total loss of hearing was also complained of. No other symptoms were at any time present.

Examination of the affected ear at the time of my visit revealed nothing abnormal to the eye. Absolute loss of hearing for both air and bone conduction, as shown by ordinary and by Knapp's test, was proven. Simulation not being likely, the stethoscope test was not used.

Very truly yours, E. D. SPEAR, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 8, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,439,039	809	350	23.16	19.08	.84	9.96	7.32
Philadelphia	971,363	452	153	11.66	12.32	2.42	6.16	.88
Brooklyn	690,000	341	145	52.14	22.91	1.58	22.70	10.27
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	207	72	13.44	17.28	—	7.68	.96
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	157	52	16.00	14.08	1.92	8.96	—
Cincinnati	325,000	153	63	22.40	21.60	5.20	7.15	5.85
New Orleans	238,000	108	21	8.28	14.72	—	1.84	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	88	24	3.42	13.68	1.14	1.14	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	30	10	13.33	13.33	—	—	—
Charleston	60,145	34	9	—	14.70	—	—	—
Worcester	68,383	17	10	11.76	22.64	—	5.88	—
Lowell	64,051	41	22	29.28	12.20	—	2.44	12.20
Cambridge	59,660	21	7	9.52	23.80	—	4.76	—
Fall River	56,863	24	13	17.74	12.18	4.16	—	—
Lynn	45,861	22	5	—	4.55	—	—	—
Lawrence	38,825	14	8	21.42	28.56	7.14	7.14	—
Springfield	37,577	8	2	—	25.00	—	—	—
New Bedford	33,393	15	6	6.66	33.33	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	6	8.33	25.00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	3	—	25.00	—	—	—
Taunton	23,674	2	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	3	28.56	—	14.28	14.28	—
Brookton	20,783	6	2	—	16.66	—	—	—
Newton	19,759	5	2	40.00	—	—	—	—
Malden	16,407	5	2	—	40.00	—	—	—
Fitchburg	15,375	8	3	—	—	—	—	—
Waltham	14,609	3	1	—	—	—	—	—
Newburyport	13,716	5	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,506: under five years of age 995; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 448, acute lung diseases 451, consumption 379, diphtheria and croup 191, measles 94, typhoid fever 39, diarrhoeal diseases 32, scarlet fever 30, whooping-cough 16, malarial fever 14, cerebro-spinal meningitis 13, puerperal fever six, small-pox four. From diarrhoeal diseases, New York eight, New Orleans seven, Philadelphia four, Cincinnati and Nashville three each, Boston two, Brooklyn, Baltimore, District of Columbia, Lowell, and Cambridge one each. From scarlet fever, New York 12, Brooklyn seven, Boston four, Philadelphia two, Baltimore three, Cincinnati one. From whooping-cough, New York nine, Brooklyn, Boston, Cincinnati, Lowell and Lawrence one each, Newton two. From malarial fever, New York seven, Brooklyn five, Philadelphia and Baltimore one each. From cerebro-spinal meningitis, New York four, Fall River three, Baltimore two, Philadelphia, Nashville, Worcester, New Bedford one each. From puerperal fever, Boston two, Philadelphia, Brooklyn, Baltimore, and Cincinnati one each. From small-pox, Brooklyn three, Philadelphia one.

In the 20 cities and greater towns of Massachusetts, with a population of 1,000,592 (population of the State 1,941,465) the total death-rate for the week was 22.61 against 21.77 and 20.50 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending December 25th the death-rate was 21.5. Deaths reported 3,745: infants under one year of age 853; acute diseases of the respiratory organs (London), 436; measles 182, whooping-cough 75, scarlet fever 71, diarrhoea 40, fever 34, diphtheria 31.

The death-rates ranged from 11.9 in Brighton to 30.7 in Wolverhampton; Birmingham 18.1; Bradford 20.7; Halifax 26.0; Hull 22.3; Leeds 24.0; Leicester 19.8; Liverpool 26.3; London 19.7; Manchester 29.4; Nottingham 20.1; Sheffield 18.6.

In Edinburgh 23.6; Glasgow 32.3; Dublin 28.5.

For the week ending December 25th, in the Swiss towns there were 33 deaths from consumption, lung diseases 19, diarrhoeal diseases 12, measles seven, diphtheria and croup five, whooping-cough four, erysipelas one, typhoid fever one.

The death-rates were: at Zurich 13.4; Geneva 16.2; Basle 20.0; Berne 22.5.

The meteorological record for the week ending January 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Jan. 8, 1887.																			
Sunday, ... 2	29.735	16.0	36.0	6.0	66.0	56.0	68.0	63.0	N.W.	W.	N.W.	18	22	26	O.	C.	C.	—	—
Monday, ... 3	30.444	7.0	13.0	3.0	55.0	38.0	58.0	50.0	N.W.	N.W.	N.W.	19	12	11	C.	C.	C.	—	—
Tuesday, ... 4	30.638	14.0	20.0	1.0	55.0	79.0	68.0	67.0	N.	N.	N.W.	7	—	4	C.	C.	C.	—	—
Wednesday, ... 5	30.294	32.0	35.0	16.0	75.0	71.0	82.0	76.0	N.E.	S.E.	E.	8	6	12	C.	O.	O.	—	—
Thursday, ... 6	29.975	32.0	37.0	28.0	94.0	85.0	80.0	86.0	N.	N.	N.	18	13	11	N.	N.	N.	—	—
Friday, ... 7	30.262	22.0	34.0	16.0	79.0	50.0	68.0	66.0	W.	N.	N.	12	11	19	C.	O.	O.	—	—
Saturday, ... 8	30.460	8.0	17.0	2.0	80.0	72.0	62.0	71.0	N.	N.	N.	16	15	15	F.	F.	F.	30	0.65
Mean, the Week.	30.258	18.7						68.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 8, 1887, TO JANUARY 14, 1887.

BAILY, JOS. C., lieutenant-colonel and assistant medical purveyor. Ordered from Department East to New York City, to take charge of the medical purveying depot in that city, relieving Captain Henry Johnson, medical storekeeper, from duty as acting assistant medical purveyor. S. O. 9, A. G. O., January 12, 1887.

BROWN, HARVEY E., major and surgeon. Granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

CORSON, J. K., captain and assistant surgeon. Ordered to Fort Coeur d'Alene, I. T.

MUNX, C. E., captain and assistant surgeon. Ordered to Fort Canby, W. T.

BANISTER, J. M., first lieutenant and assistant surgeon. Ordered to Fort Coeur d'Alene, I. T. S. O. 227, Department of Colorado, December 31, 1886.

BARNETT, RICHARDS, captain and assistant surgeon. Leave of absence further extended six months on account of sickness. S. O. 9, A. G. O., January 12, 1887.

WILSON, GEO. F., first lieutenant and assistant surgeon. Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

RAYMOND, H. I., first lieutenant and assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 127, Department of California, December 29, 1886.

IVES, F. J., first lieutenant and assistant surgeon. Granted one month's leave of absence with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, January 25, 1887, at 7.45, o'clock. Communications: I. "The Appearance of Intermittent Fever near the Neponset River," James S. Greene, M.D. The discussion will be opened by Harold C. Ernst, M.D., who will also demonstrate some of the forms of the Plasmodium Malariae. II. "Case of Intestinal Obstruction due to Cancerous Tumor of the Ovary," Clement W. Sparhawk, M.D. III. Exhibition of the New Barrett Chloride of Silver Galvanic Battery, S. Allen Potter, M.D. IV. "Report of Cases of Intubation of the Larynx with Exhibition of the Instruments; also, Presentation of Interesting Pathological Specimens," Wm. P. Bolles, M.D. S. ALLEN POTTER, M.D., Secretary.

THE MIDDLETON GOLDSMITH LECTURES, given under the auspices of the New York Pathological Society, at the College of Physicians and Surgeons, corner 23d Street and 4th Avenue. First Course by M. Allen Starr, M.D., Ph.D., Professor of Nervous Diseases, New York Polyclinic. Subject: "Multiple Neuritis, and its Relations to Peripheral Neuroses." First Lecture, Tuesday, January 25th, 1887, 8 p.m. "History of Multiple Neuritis, the Pathology of the Disease, its Varieties and Etiology. Peripheral Neuroses Traceable to Neuritis." Second Lecture, Friday, January 28th, 1887, 8 p.m. "The Clinical

Picture of Multiple Neuritis, Diagnosis of the Disease, Prognosis and Treatment." Members of the Profession cordially invited.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The Eighty-First Annual Meeting of the Medical Society of the State of New York, will be held in the Court-Room, in the City Hall, Albany, N. Y., Tuesday, Wednesday, and Thursday, February 1st, 2d and 3d, 1887. Invitation is extended to all members in good standing in County Medical Societies to be present.

WILLIAM S. ELY, M.D., President.

WILLIAM MANLIUS SMITH, M.D., Secretary.

ERRATUM.

In the JOURNAL of December 30th, 1886, p. 622, 13th line from the top of the left-hand column, in the article entitled "A Reducing Substance in Urine resembling Glucose," "proto-cateclenic acid" should have read "proto-catechuic acid."

DEATHS.

Died in Everett, Mass., January 14, 1887, Jonas Franklin Wakefield, M.D., M.M.S.S., aged sixty-one years.

William Perry, M.D., died at Exeter, N.H., January 11, 1887, aged ninety-eight years.

Estes Howe, M.D., died at Cambridge, Mass., January, 1887, aged seventy-two years.

BOOKS AND PAMPHLETS RECEIVED.

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F.R.C.S. 1886. (Reprint.)

Sixty-Sixth Annual Report of the New York Eye and Ear Infirmary. For the Year ending September 30th, 1886. New York, 1886.

Elements of Static Electricity, with full Description of the Holtz and Töpler Machines and their Mode of Operating. By Philip Atkinson, A.M., Ph.D. New York: W. J. Johnston. 1887.

Fermentation, Putrefaction and Suppuration with Demonstrations and Experiments. By H. Knapp, M.D., Professor of Ophthalmology in the Medical Department of the University of the City of New York. New York, 1886. (Reprint.)

Venous Blood Tumors of the Cranium in Communication with the Intra-Cranial Venous Circulation, especially the Sinuses of the Dura Mater. By Wm. M. Mastin, M.D., of Mobile, Ala. Read in the Surgical Section, at the Thirty-Seventh Annual Meeting of the American Medical Association. Chicago, 1886. (Reprint.)

Rest for Painful Eyes, is this Advice always good. By Julian J. Chisolm, M.D., Professor of Eye and Ear Diseases in the University of Maryland, Surgeon in charge of the Presbyterian Eye and Ear Charity Hospital of Baltimore City, etc. Read before the Baltimore Academy of Medicine, December 21st, 1886. Baltimore, 1887. (Reprint.)

A Text-Book of Pathological Anatomy and Pathogenesis. By Ernst Zeigler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by Donald Macalister, M.A., M.D., F.R.C.P., etc. Part II. Special Pathological Anatomy Sections ix-xii. London and New York: Macmillan & Co. 1886.

Original Articles.

THE USE OF ANTISEPTICS IN OBSTETRIC PRACTICE.

BY W. L. RICHARDSON, M.D.,
Professor of Obstetrics, Harvard University.

SINCE Lister announced, in 1866, the value of antiseptics in surgical practice, the whole method of operating has been changed, and the accounts of the results daily obtained by surgeons in our large hospitals, as well as in their private practice, seem almost incredible when compared with the results reported by even those same surgeons only a few years since.

What the use of antiseptics has done for surgery it is now doing for obstetrics, and the object of this paper is to present as clearly as possible the value to be derived from their use in obstetric practice, as shown by the results obtained in the Boston Lying-in Hospital.

As early as 1847, Semmelweiss declared that puerperal fever owed its origin to the absorption of decomposing organic matter, and was only a form of pyæmia. In 1860 he modified¹ this statement by the admission that, while still being pyæmic in character, it might also arise from the decomposition of the lochia, blood-clots, necrosed or placental tissue. With a view of preventing its invasion, he recommended the use of disinfectants. His theories and recommendations were received with ridicule, and it is only within a few years that it is admitted that in his teachings were the first foreshadowing of the true nature of this dreaded disease.

It was not until Lister, realizing the significance of Pasteur's investigations, had announced (1866) his views on antiseptic surgery, that Stadfeldt, in Copenhagen, endeavored to introduce the same method of prophylaxis in obstetric practice.

The reform has come about slowly, and the chief hindrance has been in the fact that the profession do not agree as to what is meant by the somewhat vague term, puerperal fever. The famous discussion,² which took place in the Obstetrical Society of London in 1875, on the relation of puerperal fever to the infective diseases and pyæmia, is still fresh in the memory of the members of this Society, and the result of the discussion was successful rather in bringing forward a distinct and fair statement of the various views held by the speakers, than in obtaining any expression of a positive united opinion of the leaders in the obstetric practice of that day. Nor would the history of the gradual change, which has occurred in the profession with reference to this subject, be complete without an allusion to the discussion³ which took place before the New York Academy of Medicine in December, 1883, and February, 1884, the main interest in which centred in the addresses of Drs. Fordyce Barker and T. G. Thomas, the former claiming that puerperal fever was a distinct disease, developed like other zymotic diseases, and the latter pronouncing it to be unquestionably a form of septicæmia.

There can now be no question that the weight of evidence is in favor of those who claim that what was formerly known as puerperal fever is septicæmia, identical in its origin, course, and results with the surgical septicæmia, which was formerly so dreaded in the sur-

gical wards of hospitals, and in the private practice of surgeons. It is, moreover, now clearly recognized that all puerperal inflammatory affections, such as ovaritis, cellulitis, metritis, peritonitis and the like, owe their origin to infection.

Those, however, who were willing to admit the truth of these statements were in doubt, until the appearance of Koch's work on bacteria, as to the probable source of the infection, and were, until Koch's monograph on the subject was made public, inclined to accept the theory long ago advanced by Semmelweiss that the infection might either come from outside the patient, or owe its origin to spontaneous generation within. The announcement of the discovery of bacteria, and the important part which they played in various morbid processes turned the attention of obstetricians to what the bacteriologists were doing in the laboratories of Europe and this country, and to-day it is unquestionably admitted by many leading obstetricians that the infection in these cases must come from without.

That we may at the outset clearly understand just what the bacteriologists claim, the following brief statement, kindly furnished me by Dr. Harold C. Ernst, the Demonstrator in Bacteriology in the Harvard Medical School, must be of value:

"Innumerable investigations have shown, as one of the best established facts of medical knowledge, that the suppurative processes, and many of the acute diseases known as 'infectious,' are due to the activity of the lower forms of life known as 'bacteria.' This is especially the case with that class of affections which may be called 'maladies following wounds.'

"It may be considered proven by the experiments which have been made to determine the fact that, in the healthy human organism, there exist no bacteria. On the skin and mucous membrane they are constantly present, and in great variety, but, so long as these surfaces are intact, the most virulent organism known will do no harm. So soon, however, as there is a solution of continuity, and the bacterium is able to gain an entrance into the tissues of the body, just so soon does damage begin, provided the organism be possessed of pathogenic powers in the first place.

"The first condition necessary for the hurtful activity of bacteria to become manifest is that there should be a solution of continuity—a wound of the skin or mucous membrane. The second condition is that rather indefinite state of affairs called susceptibility of the system or of the part, such susceptibility being a lowering of the vitality, a depression of the blood-supply, or some more minute change in the cells, which it is beyond our power as yet to definitely describe.

"The classical work upon such diseases as are here spoken of is that of Koch in his 'Wund-Infections Krankheiten' ('Traumatic Infective Diseases of the Skin.'—Sydenham Society). It was this work which first made known the comparative ease with which different varieties of bacteria can be separated from each other, and which gave the great impulse to investigation which has built "bacteriology" into a science, and has given us the precise methods by which we have learned what we at present know in regard to the infectious diseases.

"One class of these infective diseases are those of which Koch speaks in the book just mentioned, and includes those morbid processes complicating injuries

¹ "Die Ätiologie, der Begriff und die prophylaxis des Kindbett-Fiebers."

² Transactions of the Obstetrical Society of London, Vol. XVII.

³ American Journal of Obstetrics, March, 1884.

and operation wounds, that is, septicæmia, pyæmia, progressive inflammation and suppuration, and erysipelas, and, for nothing is more distinctly a wound than the lacerated surface of a uterus after parturition, puerperal fever.

"In the light of our present bacteriological knowledge, the terms pyæmia and septicæmia no longer retain their original signification, for, in Koch's words, pyæmia does not arise, as was at one time believed, from the entrance of pus into the bloodvessels, and septicæmia is not putrefaction of the living blood. These terms can now be used only as collective terms for a number of symptoms which, in all probability, belong to different diseases, that is to say, are produced by the activity of different bacteria. It is only by the observation of these bacteria that one can say with scientific exactness what special form of pyæmia, or septicæmia, may be under observation. That this is distinctly true is proven in the one direction by Koch's observation of the bacillus of mouse-septicæmia, which is fatal to house-mice, and has no effect upon field-mice or rabbits; and of pyæmia, septicæmia, and erysipelas in rabbits; and in the other direction by the investigations of Rosenbach, Passet, and others, by which there are shown to be several varieties of bacteria which are active in the production of the suppurative and inflammatory processes in man.

"To what has been said in regard to septicæmia and pyæmia, puerperal fever forms no exception. In spite of Pasteur's work upon the subject, the best investigations show without a doubt that puerperal fever must be considered to be a name given, for convenience, to a group of symptoms which represent the effects of an attack upon the system by one or more varieties of bacteria. The disease is eminently a traumatic wound disease. A woman passing through the puerperal state with no untoward symptoms has never been found to have bacteria in the system, whilst those attacked by 'puerperal fever' are invariably found to have bacteria in the tissues, bloodvessels or lymphatics of the affected parts. The two conditions necessary for the entrance and growth of bacteria are present in the parturient state in a preëminent degree.

"The uterus after parturition is, like any other wounded surface, exposed to the air passing over blood and organic débris, especially exposed to putrefaction and the entrance of bacteria, whilst the profound modification of its tissues, bloodvessels and mucous membranes furnishes the second favorable condition for their growth, after they have obtained an entrance.

"The bacteria make their way in from outside. They are not born from nothing in the uterine tissues. There is no spontaneous generation about it. The vagina contains bacteria in health like the mouth, and, like the bacteria in the mouth, those in the vagina do no harm. Even in a diseased state the ordinary putrefactive bacteria do not change their character, and puerperal fever and peritonitis do not result from their presence. It is only by the entrance of the pathogenic bacteria — and sometimes of more than one variety of these — that a disturbance is produced. These pathogenic varieties are brought to the uterus. They are not there in the first place, and they are brought by the air or some other less usually suspected method of conveyance. The varieties of bacteria, which have thus far been especially connected with puerperal fever are:

"(1) Rather long cylindrical filaments, appearing especially in rapidly fatal septicæmias.

"(2) Streptococci, or micrococci, occurring in chains, common in the milder forms of septicæmia.

"(3) Diplococci, micrococci occurring in pairs, and especially where there is suppuration.

"(4) Micrococci in irregular masses.

"Any or all of these forms may be found in a single case, and there is no doubt that these will be finally resolved into a more distinct and numerous classification.

"The problem is unquestionably how to keep these bacteria out of the body. Without their entrance there will be no puerperal fever or septicæmia."

The above statement gives us concisely the present belief of the bacteriologist as to the ætiology of puerperal septicæmia. The practical results of an application of this theory, and how the problem is being solved is well shown in the clinical history of the Boston Lying-in Hospital.

This hospital, after being closed for lack of public support, was reopened January 1st, 1872. Since that time 3,337 women have been delivered, and the study of puerperal septicæmia, as it has appeared at that hospital, has been one of the greatest interest. During the first year only 160 women were confined, of this number one died, the death being due to puerperal septicæmia. From that time, however, septic infection has been more or less prevalent in the hospital, despite every effort made to prevent its occurrence. On three occasions (November 13th to December 9th, 1879, September 13th to October 30th, 1880, and May 7th to May 28th, 1883), the hospital has been closed; and, before being reopened, every ward has been fumigated and new beds provided. Whenever the hospital was thus closed there followed a period of comparative immunity from septicæmia. For a longer or shorter time the daily temperature would either be normal or much lower than usual. The freedom from anxiety was, however, of short duration, and gradually, despite every precaution we could adopt, the temperatures would begin to run higher and higher; the lochia would become offensive; the tenderness, more or less marked over the abdomen, would reappear, and soon another patient would fall a victim to puerperal fever, and another period of anxiety would begin. During the ten years preceding 1884, the hospital was rarely free from septic disease of one form or another; and, while the visiting physicians were endeavoring in every way possible to protect the patients from septic infection, they were constantly endeavoring to save the lives of those who gave evidence of septic poisoning. In looking back over the records of those years it seems wonderful what success crowned their efforts. An examination of the figures, to which attention will be called later, will show that a very low death-rate was maintained, considering the percentage of septic cases. When we consider the almost constant presence of septicæmia in the hospital a death-rate of 3.04 per cent. from septic causes, in 2,661 confinement cases, which occurred from January 1st, 1873, to December 31st, 1884, must be considered very low.

Dr. W. L. Richardson and Dr. Henry Tuck comprised the visiting staff from the date of its opening until January 1st, 1878, when Dr. A. D. Sinclair succeeded Dr. Tuck, who then moved to New York. Dr. Sinclair resigned at the close of his term of service, March

31st, 1883, and the vacancy was filled, January 17th, 1884, by Dr. Wm. E. Boardman. The office of assistant physician has since 1877 been filled successively by Drs. Samuel Howe, W. E. Boardman, and Charles M. Green. The various changes which have been made, in the attempts to rid the hospital of septicæmia, have been the results of careful study and observations on the part of the visiting physicians, and after many anxious consultations on the subject. As one septic case occurred after another every effort was made to avoid any possibility of contagion from a patient presenting symptoms of septic infection to another. Isolation of suspected cases; the employment of extra and special nurses; the assignment of different house-physicians to the suspected and to those whose convalescence seemed normal; the use of every possible precaution to insure cleanliness; the providing of individual bed-pans, syringes, etc.; constant attention to ventilation and improvement in the drainage, were among the methods adopted. Many of these changes seemed to promise improvement, which however, was always found to be temporary. From the very outset the staff were a unit in the belief, even then not generally accepted, that the views of Semmelweis were correct, and our object was to prevent the introduction of septic material from without, and the prevention of the absorption of septic material originating within the uterus and generative tract. With this latter end in view we soon began the use of vaginal injections, hoping to keep disinfected those parts especially exposed to the lochial discharge, which seemed to us one great source of danger within the patient herself. These were subsequently not unfrequently combined with intra-uterine injections, hoping thereby to also render innocuous the clots, and placental débris within the uterine cavity. All these attempts proved futile, although occasionally it did seem as though some new method of procedure which we adopted was at last to offer the long-sought-for relief. The respite was, however, only temporary, and still the mischief went on. In fact, it not unfrequently happened that, when, out of sheer despair, one of the staff would give up the use of injections, the results he obtained seemed to compare favorably with those reported by his colleague who thought himself, by continuing their use, more conservative.

In the middle of the winter of 1883 and 1884 corrosive sublimate was first tried, not only as a vaginal douche but also for the disinfecting of the hands of the attendants. A very decided improvement followed this method of procedure, and again the outlook was more cheering. Still septicæmia remained with us, but in a more modified form and the death-rate fell decidedly, as will appear from the tables which are presented with this paper.

Then came the announcement of Robert Koch's investigations of bacteria, and it seemed at last as though a better day for obstetric practice and for the hospital was coming. Garrigues, in New York, had adopted the new theory, and had already made public the efforts which he was making in the New York Maternity, and the results he was obtaining. We determined to change our whole system.

Heretofore, following the theory advanced by Semmelweis, we had been trying to prevent the introduction within the system of those elements which, whatever they were, would produce disease, and also to prevent those elements, when generated within the system, from

doing harm. In other words, we had been dreading and fighting attacks from within, as well as from without. We now determined no longer to fight a foe within, which existed only in a false theory, but to accept the theory of the bacteriologists, and prevent the entrance of the foe from the front. If, as we believed, the investigations of the bacteriologists had led to a correct theory, namely, that puerperal septicæmia was the result of the introduction from without of bacteria within the body of the patient, and that it was impossible for a case of septicæmia to be autogenetic in its origin, the problem of prevention became at once a comparatively simple one. How best to solve the details of the problem was, of course, a matter to be determined by experiments.

The vaginal injection during the convalescence, from which, when we adopted its use, we had hoped so much, now seemed to us to be possibly, in one way, a source of as much harm as good and was therefore discontinued. We endeavored to disinfect, as thoroughly as possible, the generative tract at the beginning of labor, lest the dreaded bacteria might already have found a resting place, and was only waiting an opportunity to infect the system, wherever a break of continuity should admit of its entrance; during the progress of the labor, to never allow the patient to be touched by the attending physician or nurse without the use of disinfectants; and the adoption during the convalescence of a disinfected pad, which should still further act as an effective barrier to the entrance of these dreaded germs, until the period of danger was passed.

Stadfeldt,⁴ in Copenhagen, had, as early as 1870, recommended in obstetric practice the use of carbolic acid as a disinfectant; and Tarnier, in a paper read (1881) before the International Medical Congress, advocated the use of the bichloride of mercury. Other practitioners subsequently recommended other disinfectants, such as thymol, chloride of lime, permanganate of potassium, biniodide of mercury, and many others less known and less valuable as disinfectants. In the Boston Lying-in Hospital, we had for many years used carbolic acid, and since 1884 we had been experimenting with the corrosive sublimate. The relative expense of the two, and the admirable results which Garrigues had already reported,⁵ induced us to select the latter as the disinfectant to be used. A pad, somewhat similar to that introduced by Garrigues into the New York Maternity, was adopted, except that we substituted what is known as absorbent waste instead of oakum, experience having taught us that the smell of oakum was itself deceptive, and had often disguised the odor of the lochial discharge.

The method which we adopted in the fall of 1885 was as follows:

On her admission to the hospital, if time allows, the patient is given a bath. In every case the genitals and the surrounding parts are washed with a solution of the bichloride of mercury ($\frac{30}{1000}$). A basin containing the same solution and a nail-brush is placed on a stand side of the bed. The physician and nurse in attendance disinfect their hands every time they have occasion to examine the patient or touch the neighborhood of the vulva. The examining finger is smeared with an ointment made of one part of the oil of eucalyptus and seven parts of vaseline. A vaginal injection

⁴ Stadfeldt. *Des Maternités*, Copenhagen, 1876.

⁵ New York Medical Record, December 29, 1883.

tion of the corrosive sublimate solution is given at the beginning of labor, and this is repeated, when circumstances permit, at the end of the first stage. As the head distends the perineum and is expelled, the parts are kept clean, when occasion requires, by the use of charpie dipped in the mercurial solution. After the birth of the child, no undue haste is made to bring about the expulsion of the placenta. This is effected, if possible, by Crede's method of expression, great care being taken not to introduce the hand within the vulva, if such a procedure can be avoided. The perineum is carefully examined, and if there is sufficient laceration to require sutures, the parts are washed with the corrosive sublimate solution, after which the edges are brought together by means of carbolyzed cat-gut sutures, some powdered iodoform being subsequently applied over the seat of the laceration. The vaginal injection is repeated, and the antiseptic pad is applied, being pinned at the four corners to the abdominal binder by means of safety-pins.

During the convalescence the pad is changed as often as occasion requires, the nurse taking care to thoroughly disinfect her hands before removing the pad. Each time the pad is changed, the parts around the vulva are sprayed with the mercurial solution by means of a hard-rubber sprinkler, made by the Davidson Rubber Company to fit their syringes, which are the ones used in the hospital. It is usually necessary to change the pad during the convalescence about as frequently as it was formerly necessary to change the napkins which the patients wore before the pad was introduced. If it is necessary to use a catheter to empty the bladder, that instrument is, of course, to be disinfected, as well as the hands of the person using it. Care is also taken, before introducing the catheter, to wash the parts in the neighborhood of the meatus with the disinfectant, in order to avoid the introduction of blood, vaginal or uterine discharges within the urethra.

The use of the antiseptic pad is continued until the patient sits up, or until all danger of septic infection has passed. Whenever the mother has given birth to a putrid child or a partially-decomposed placenta, an intra-uterine injection of the corrosive sublimate of the same strength is given at the close of the labor, in addition to the vaginal one already alluded to. Should it be deemed advisable to give an intra-uterine injection, it is safer, after washing out the uterine cavity with the mercurial solution, to then, without removing the nozzle of the syringe, inject a few ounces of a solution of carbolic acid ($\frac{1}{10}$) of the same temperature (112°). By this method, any danger of mercurial poisoning (which sometimes, though rarely, follows the use of corrosive sublimate as an intra-uterine injection) is avoided.

In case it is found necessary to use instruments during the delivery, care is taken to disinfect them by means of a solution of carbolic acid ($\frac{1}{10}$). The same solution is used for the needles, needle-holder, etc., which may be required for sewing up any perineal laceration. Carbolic acid is used in these cases, in preference to the bichloride of mercury, on account of the corrosive action of the latter on the instruments. If, for any reason, it is necessary to introduce the hand within the uterine cavity, great care is taken to thoroughly disinfect the arm, as well as the hand of the operator.

The antiseptic pad is made as follows: A strip of

Canton flannel ($19 \times 4\frac{1}{2}$ inches) is placed upon a table, with the soft side uppermost. On the centre of this is laid a piece of carbolyzed cotton ($11 \times 4\frac{1}{2}$ inches), about half an inch in thickness when not compressed. Over the centre of this is a piece of oiled muslin (9×4 inches). On this is placed the pad itself, which is made of what is known as absorbent scrap or waste done up in cheese-cloth, and of a size sufficient to cover the oiled muslin, and about half an inch in thickness, before it is wet or compressed. This pad, before using, is dipped in a solution of corrosive sublimate ($\frac{3}{1000}$) and dried. Whenever a pad, with its binder, is removed and a fresh one substituted, the old pad, including the Canton flannel, oiled muslin, etc., is burnt up.

Formerly, the patients were delivered indiscriminately in different wards, with a view of scattering the patients through the hospital, in order that each nurse might have an equal experience in the care of the cases. Since, however, the new method has been introduced, the labor is kept in one ward until that is filled up, and then passed to the next, the patients, as a rule, remaining in the ward in which they are confined until their discharge from the hospital. As soon as a ward becomes vacant, it is thoroughly fumigated by the use of sulphur-fumes, and the walls are washed down with soapsuds and carbolic acid. The weather permitting, the windows are opened and the ward thoroughly aired before it is again opened for the reception of patients. In case any patient has been confined in the ward, whose convalescence has been in the least suggestive of septic infection, the walls, after being thoroughly washed with soapsuds and carbolic acid, are wiped over with a solution of carbolic acid ($\frac{1}{10}$).

Since the fall of 1885 the above has been the method in which antiseptics have been used in the hospital. The results have demonstrated, beyond the possibility of a doubt, the great value of such prophylaxis. In critically examining the results it must be remembered that the drainage, ventilation and hygienic condition of the hospital have been unchanged; the nurses, house-physicians and medical staff are virtually the same, and the patients are from the same class in the community as before the introduction of the present method of conducting the cases. The only change is in the manner of using the antiseptics during the delivery, and the more frequent disinfecting of the wards than was formerly the custom.

During the present year there have been three deaths, but in no case could the fatal result be ascribed to septic infection, as is readily seen from the following brief record of the cases:—

CASE I. (Service of Dr. W. E. Boardman.) A. S., single, aged twenty, primipara, entered the hospital January 28th. Nervous, despondent. Rigidity of os. Early escape of liquor amnii. Labor, preceded for ten days by an almost constant aching pain in lower abdomen and sacral region, lasted over thirty hours. Girl, weighing seven and six-tenths pounds, delivered alive with forceps. Patient died three hours later of shock and exhaustion.

CASE II. (Service of Dr. Wm. L. Richardson.) M. G., married, aged forty-two, twelfth pregnancy, entered the hospital November 6th, being about six and a half months pregnant. For two months previous to entrance, headache, partial blindness, vomiting and diarrhœa. On entrance, stupid, speech unintelligible.

Urine scanty, containing albumen, blood, fine granular and hyaline casts. Manual dilatation and version. Male child, delivered, weighing three pounds, which lived a few moments. Pilocarpin. Patient remained unconscious and died eighteen hours after entrance.

CASE III. (Service of Dr. Wm. L. Richardson.) L. M., married, aged twenty-four, primipara, entered the hospital November 20th, about eight and one-half months pregnant. Three convulsions before entrance. Unconscious, breathing stertorous. Urine scanty and containing albumen, blood, coarse and fine granular and hyaline casts. Cervix rigid. No signs of labor. Manual dilatation, attempted by Dr. Richardson, unsuccessful. Barnes' dilators failed. Male elastic catheter introduced with a view of inducing labor. Convulsions continuing, visiting physicians unavoidably absent, Dr. C. M. Green, failing to effect manual dilatation, incised the os uteri and delivered, by version, a still-born male child, weighing six pounds. The mother died during the extraction.

With a view of presenting as clearly as possible the results of the various attempts to protect the patients from septicæmia the two diagrams accompanying this paper have been prepared. These diagrams are the result of an analysis of the temperature charts and clinical records of all the cases (1780 in number) which have occurred in the Boston Lying-in Hospital during the last six years.

The first diagram, based on an examination of the temperature charts, gives the percentages of the maximum temperature of each patient during the convalescence.

The second diagram is the result of an examination of the same charts, combined with a reference in some cases to the clinical records and shows the percentages of the number of normal, doubtful and dangerous cases.

With very few exceptions all cases in which the temperature did not exceed 100° are classified as normal: while those whose temperature rose between 100° and 102° are considered as doubtful; all others being classed as dangerous. The few exceptions made in this classification are in those cases where the temperature may have exceeded these arbitrarily selected limits, but where such rise was only transitory and due, as shown by the clinical record, to some clearly defined cause, such for example as mental emotion, indiscretion in diet, etc. In the diagrams and tables the nearest whole percentage has been used, with a view of avoiding fractions as far as possible. An examination of both these diagrams shows very clearly the poor condition in which the hospital was during the time when only a comparatively few patients escaped septic infection.

According to Schröder and Lusk 100½° may fairly be taken as the physiological limit of the puerperal state. Taking 100° however as the standard, simply because the percentages in these tables have been figured regardless of fractions of degrees, it will be seen how gradually a change for the better was brought about until the adoption of the present method of prophylaxis.

1881	Percentage of cases not over 100°, 8	Over 100°, 88.
1882	" " " 19	" " 81.
1883	" " " 25	" " 73.
1884	" " " 53	" " 48.
1885	" " " 56	" " 44.
1886	" " " 77	" " 22.

been in many respects so strikingly similar to that of the Boston Lying-in Hospital, that a table showing the results in the two institutions cannot fail to be of interest. In the New York Maternity, as appears from this table, puerperal septicæmia was making sad havoc among the patients until October 1st, 1883, when Dr. H. J. Garrigues, one of the Visiting Obstetric Surgeons, determined to adopt the method of prophylaxis⁶ which, without any material change has continued in use to the present time, and which is in the main identical with that used in the Boston Lying-in Hospital, since October, 1885.

NEW YORK MATERNITY HOSPITAL.

	No. of patients.	Deaths from all causes.	Deaths from sepsis.	Per ct. of all cases.	Per ct. of sepsis.
Oct. 1, 1882-Oct. 1, 1883	429	34	26	7.92	6.06
Oct. 1, 1883-Oct. 1, 1884	505	7	3	1.38	.59
Oct. 1, 1884-Oct. 1, 1885	541	4	1	.75	.18
Oct. 1, 1885-Oct. 1, 1886	463	4	1	.86	.21
In Sept., 1883, the last month before the adoption of the new method of prophylaxis.	51	10	8	19.60	15.69

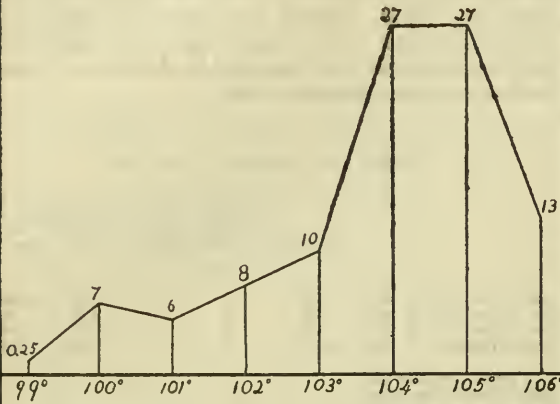
BOSTON LYING-IN HOSPITAL.

Jan. 1, 1881-Dec. 31, 1881	259	8	6	3.09	2.31
Jan. 1, 1882-Dec. 31, 1882	288	17	16	5.90	5.55
Jan. 1, 1883-Dec. 31, 1883	242	14	11	5.78	4.58
Jan. 1, 1884-Dec. 31, 1884	310	6	5	1.93	1.61
Jan. 1, 1885-Dec. 31, 1885	308	4	2	1.29	.64
Jan. 1, 1886-Dec. 31, 1886	373	3	0	.80	.0

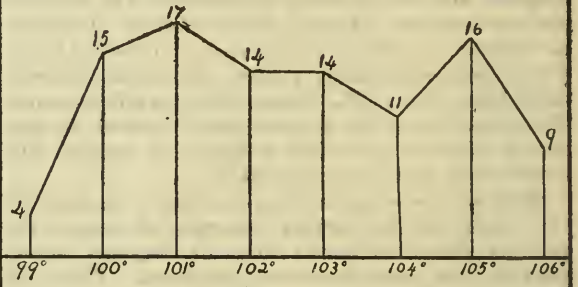
The results which followed this use of antiseptics in the Boston Lying-in Hospital were so satisfactory that on December 3d, 1885, when I attended, in her first confinement, the wife of a physician in this city I determined to use the same general method of procedure. From that time to the present I have always adopted this form of practice. The results have been as striking as in the hospital. With the single exception of a patient who was delivered April 17th, 1879, and died a few days later of puerperal septicæmia I have been fortunate enough to escape in private practice any fatal results from this dreaded disease.

The convalescence, however, since this use of antiseptics has been free from offensive lochia; there has been a marked freedom from any tenderness over the uterus or its appendages; less complaint has been made of after-pains, and the general range of the temperature has been much lower, rarely exceeding 99°. The labor is conducted the same as in the hospital, except that the vaginal douche at the end of the first stage is omitted, nor is a bath of course essential at the outset. All the nurses who have recently graduated from the Lying-in Hospital are familiar with the methods of making the pads and providing the necessary arrangements. Many also of the older graduates have come back for a visit to the hospital and for instruction as to the new method of procedure. In all cases, however, a few words from the physician beforehand will be sufficient to enable the nurse, however inexperienced she may be in the use of antiseptics, to obtain the materials, properly make the pads, and carry out the details of this method. Until recently it was necessary

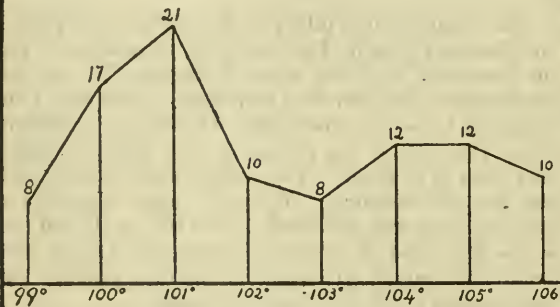
1881.



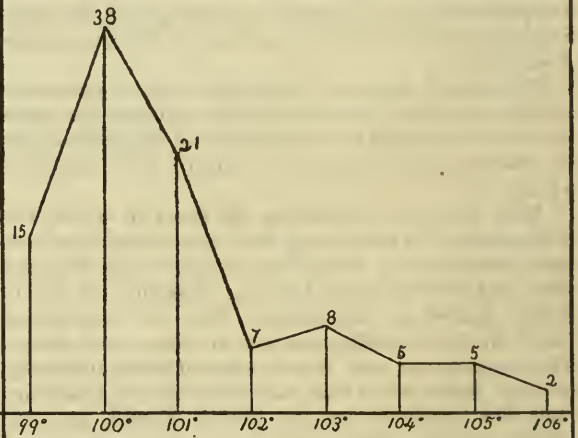
1882.



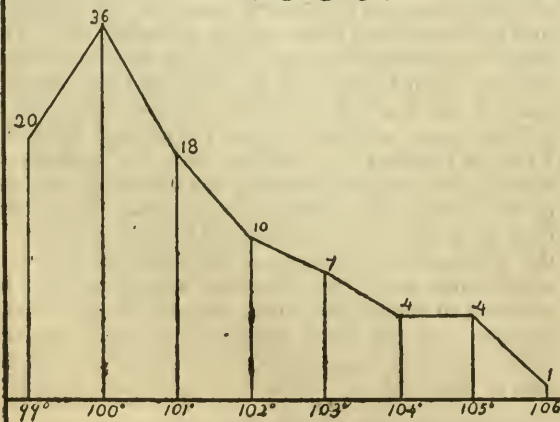
1883.



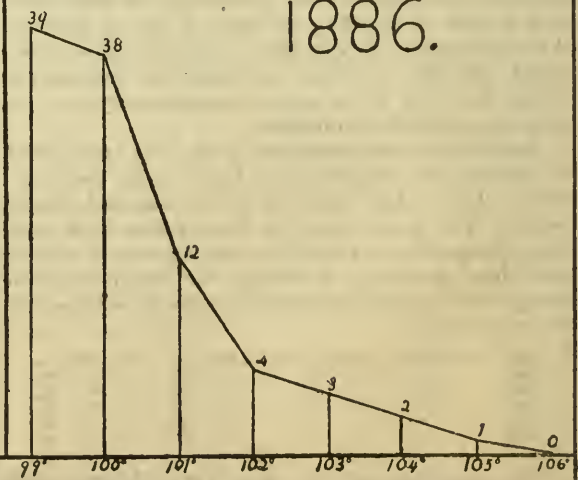
1884.

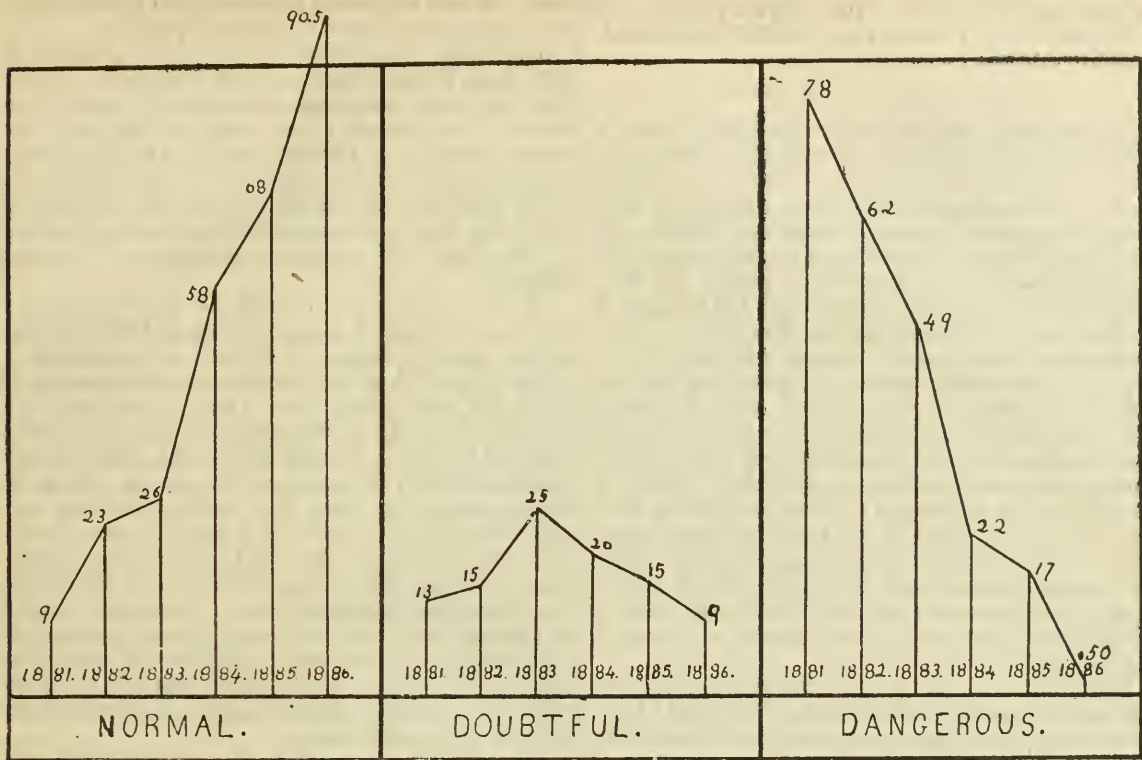


1885.



1886.





to buy the various articles of which the pad is composed at different places, but Messrs. Leach and Greene now keep all these materials in stock, and have also the pads all prepared and done up in packages of a dozen, for those who do not care to take the trouble of making them. It is only necessary to dip the pad itself in the corrosive sublimate solution, and subsequently to dry it. In the antiseptic tablet, manufactured by John Wyeth & Brother, of Philadelphia, after a formula of Dr. Charles M. Wilson, we have a very convenient form of ordering the mercurial solution. The addition of one of these tablets to three pints of water at once furnishes us with a solution of the required strength. For an average case between four and five dozen pads are sufficient. Should the patient prefer to make the pads the following materials will be required: four yards Canton flannel, five yards cheese-cloth, three-fourth yard oiled muslin, one pound absorbent cotton waste, one pound carbolized cotton. In either case fifty antiseptic tablets will be sufficient.

The discovery of Koch and the investigations of other bacteriologists have produced practical results, which must be apparent to any one familiar with the reports of many of the Lying-in Hospitals in Europe and America. The adoption of similar methods of prophylaxis in private practice can only be a question of time. The germ theory, upon which this practice is founded, is new and to a great extent contains much yet to be investigated. Sufficient, however, is known to have already produced results which demonstrate the fact, that, to a further study of the germ theory, we must look for still greater advances in that preventive medicine, which is so rapidly reducing human morbidity as well as human mortality. The advocates of the use of antiseptic obstetrics in private prac-

tice will unquestionably meet with opposition on the part of many, who will quote their own experience as evidence that puerperal septicæmia is a disease of extreme rarity in private practice. This may be true, but judging from my own observation in consulting-practice I am convinced that it is not as rare as would appear from the statistics of private practice which so frequently appear in our medical journals or in the records of medical meetings. Many physicians do not follow up their cases, and the number of visits after the birth of the child is frequently very limited. Cases which thus pass from observation are considered successful by the physician in attendance at the delivery, though it may happen that subsequently they are attended by some other physician during a long and troublesome, if not fatal illness. A somewhat extended dispensary service has taught me the truth of this observation.

Kucher, in his admirable book on "Puerperal Convalescence and the Diseases of the Puerperal Period," reports that the statistics of life insurance companies³ show that of 2,182 insured women, 197 (9.03 per cent.) died from puerperal causes, and that statistical tables indicated that nearly seventy-five per cent. of the deaths during childbed are due to puerperal fever. Even if the danger from septic infection be as slight, as some would have us believe, should we neglect to use every known precaution to reduce even that danger to a minimum? The experience of those who have investigated this subject and practically tested this method of treatment has demonstrated, that absolute asepsis means absolute freedom from puerperal septicæmia, and that the occurrence of puerperal septicæmia means the absence of absolute asepsis.

³ System and Tables of Life Insurance from the Experience and Records of Thirty Life Offices. Levi W. Meech.

SOME NOTES ON THE TREATMENT OF PHTHISIS IN COLORADO: WITH ILLUSTRATIVE CASES.¹

BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.

IN presenting this subject for the consideration of the meeting this evening, I am well aware that it is so vast a one that we can hope to touch upon but few of the prominent points and must necessarily leave much of the details unconsidered; and further, that the class of cases to be considered are so common with us, by virtue of our becoming a refuge for those affected with pulmonary disease, that the thoughts to be presented may seem trite and threadbare. In regard to this latter point, if indeed it be necessary to urge any extenuating reason for presenting this subject, I can but say, that while I have frequently conversed with one doctor and another in regard to the cases of phthisis under his observation I have never, during a six years' residence in this State, listened to an article upon the subject in either the local or State society,—due, no doubt, to the fact that common-place and everyday events are deserving of but little notice, and that we see so much of phthisis in its several stages of decline, arrest or cure, that it may seem as though there were but little of interest to be said on the subject.

However, as I look around the assembly and see the number amongst those of us present who I know have come to this State on account of some pulmonary difficulty, and who having found a restoration of health, have said, "Here am I and here will I abide," I cannot feel that the discussion will be devoid of interest and I am conscious that the utmost that I can attempt is to formulate a few ideas which will serve as a theme for the discussion.

There will be found those amongst us who will agree with Flint that: "There is no such affection as a non-tuberculous pulmonary phthisis," and on the other hand there may be those who hold to Niemeyer's theory, backed by the researches of Virchow, that phthisis is frequently catarrhal in origin. Some will believe that Koch and others have proven beyond a doubt that the *bacillus tuberculosis* is the unfailing cause of phthisis pulmonalis, and others are still holding their decision in abeyance.

It is not my intention to even touch upon these disputed points, but rather to treat of the subject in terms which, we shall probably all agree, give evidence of pulmonary phthisis and to cite cases as types and by way of illustration of what I wish to say of the selection of cases to which our climate is adapted; the kind of cases from which we may expect the most favorable results; the precautions that must be observed in order to obtain these results and considerations of a like nature.

We recognize, for instance, a stage of incipency in phthisis characterized by loss of strength and weight, cough, more or less difficulty in breathing, more or less expectoration of a glairy mucus, fever, increased frequency of the pulse, night sweats, hæmorrhages, and the physical signs of dulness on percussion, broncho-vesicular respiration, bronchophony, prolonged expiration, and it may be the development of fine subcrepitan râles.

It is not necessary that all of these symptoms should be present in order to justify a diagnosis, any more

than it should be insisted absolutely that typhoid fever can never exist without diarrhœa or petechiæ.

Experience has demonstrated that the progress of such cases, if remaining in a moist, low climate, where there is a small percentage of sunshine, is from bad to worse. These are they who form the recruits to the annual mortality of 100,000 persons who die of consumption in the United States. On the other hand, we of Colorado can certify to the vast numbers of recoveries that have occurred amongst invalids coming to this State with symptoms indicative of incipient phthisis.

We have among our citizens not a few who were sent to us because of a consolidation of limited extent at one apex, evidenced by dulness on percussion, a prolonged and blowing expiration, the development of a few fine subcrepitan râles, it may be produced only by cough with deep inspiration, the physical signs being attended by loss of strength and weight, night sweats, cough, especially on going to bed and on arising in the morning, or at least by a constant hacking, and more or less expectoration of a glairy mucus. Such cases may or may not have had one or more hæmorrhages and they may or may not have a family history of an hereditary phthisical taint. Although it cannot be claimed that a residence in our climate is an unfailing cure in such cases, yet the numbers of cases is so great as to warrant the assertion that the Colorado climate is admirably adapted to persons suffering from phthisis in its early stages.

Let me cite a few cases by way of illustration and selected with reference to the varying conditions existing.

CASE I. On the 26th of October, 1884, I examined a young man, twenty-one years old, who came from New England with a history of having lost a brother (twenty-two years old) and a sister (sixteen years) of consumption, and having another sister (sixteen years old) sick with consumption — of which disease she died over a year ago. He had always shown a tendency to colds; and in order to throw off this tendency, he had been to Florida, and had also been on a sailing-vessel to Japan. When I examined him he was troubled with a dry, hacking cough, as though there were a constant irritation in his throat. He had indigestion, flushed cheeks, elevation of temperature in the afternoon, rapid and excitable pulse, and a physical examination revealed: expansion, two and one-quarter inches; percussion dull at left apex; auscultation, prolonged and whispering expiration at left apex, with a click or two on cough, with deep inspiration.

To-day this man is entirely free from any cough or hectic. He is living at an elevation of about 8,000 feet, and doing a man's work, and seems well in every respect.

CASE II. On May 1st, 1885, I examined a young man, twenty years old, who had been a jeweller in New York, and who gave the following history: No hereditary taint; he himself had always been healthy, save for a nasal catarrh. In June, 1884, he caught a bad cold, had night sweats constantly, and lost flesh and strength. When I examined him he was very short of breath; coughed, especially in the morning, raised a thick, tenacious sputum, and his voice was decidedly husky. Physical examination revealed dulness at both apices, a broncho-vesicular respiration, bronchophony, and the presence of some fine râles at the left apex.

¹ Read before the Denver Medical Society, December 7, 1886.

This young man has been at work as a machinist almost constantly since he came here. His cough has disappeared; his hoarseness has almost gone. He has gained fifteen pounds in weight. He is strong and well, and shows but little evidence of ever having had any pulmonary difficulty.

The two foregoing cases are average ones; we could find the like on all sides. The one showed signs of incipient phthisis, complicated with a strong taint; the other of incipient disease of both apices, without any taint. Neither of them was hæmorrhagic. As an illustration of the latter condition, let me cite the following:

CASE III. Came to Colorado some nine years ago with a prognosis from an eminent specialist in the East that he could not live six months, because of his hæmorrhagic tendency. For five years he was entirely free from hæmorrhages, and for a good part of the time was able to earn his own support. Finally, in March, 1882, after a hard day's work, he was taken with a hæmorrhage, which was followed by one or two more. He was kept perfectly quiet for several weeks. When he was able to be about again, he one day, about the middle of June, rode horseback twenty-five miles in the afternoon. The next morning he rode the same distance back. The day following he took a long journey by rail, and the day following that he rode horseback some thirty miles. On this followed a slight hæmorrhage, and in about a week afterwards, after some indiscretion, a very profuse hæmorrhage, for which I was called to see him. This was in Estes Park, at an elevation of 7,500 feet. There was some consolidation at the left apex. I speak without notes. I could not find any trace of cavity, and there was no hereditary taint.

Under care, he recovered, so that he gained strength and weight wonderfully. Was able to ride long distances before the summer was over, and since then he has rid himself of his cough; has lived in Leadville, an elevation of over 10,000 feet; went East for several months one summer and autumn, and seems to be in a fair way of living to a good old age.

It may, however, be argued that this is an unusual case. While I think that many like it could be cited, perhaps the following will come nearer being the typical one:

CASE IV. Was one of the few survivors of the "City of Columbus," that went down in Vineyard Sound on her way from Boston to Savannah in the winter of 1884. He, at that time, contracted a cold which clung to him, until in March of the same year he had a hæmorrhage. This was followed by night sweats, loss of weight and strength, and dyspnoea. In August he had a second and profuse hæmorrhage. I examined him August 24th, 1884, and found that his father had died of consumption at the age of thirty-two years. In other respects his family history was good. At the time of examination he suffered from shortness of breath, cough, especially in the morning, a considerable thick, yellowish expectoration; and on physical examination, I found an expansion of two and one-quarter inches, dulness at the right apex, and a few fine, moist râles at the same apex. I have now lost track of this patient, but for many months he gained in every particular, and had had no recurrence of the hæmorrhage.

There are cases that are not so far advanced as those cited, where speedy and great good is received

by coming to our climate. By way of example, let me cite the following:

CASE V. A young man about entering college. Age, twenty-one; comes of a long-lived race. In June, 1886, noticed an invariable morning cough, which grew worse in July. Expectoration greenish-yellow and tenacious. Loss of strength, but no night sweats.

Physical examination made September 18th, 1886. Expansion, three inches; percussion slightly high at the right apex; auscultation, fine, moist râles developed with cough, and deep inspiration over supra-clavicular and supra-spinous regions on the right. Pulse, 40, temperature 99.4°.

This young man has so far recovered that he has, within a few weeks, taken out a life-policy in one of the best insurance companies in the country, the examiners for which are members of this Society.

When the disease becomes more advanced, and larger areas of lung tissue than the mere apex became involved, even then, in a good number of cases, the results are excellent from coming to Colorado. A most marked instance is the following:

CASE VI. A young man, aged twenty years, living on the New England coast, and working in an office, contracted a cold in the early months of the winter of 1881-82, which hung on him until he came to Colorado in March, 1882.

At that time I found family history good. Had lost nineteen pounds in weight; lost strength. Was having constant cough; expectoration muco-purulent and abundant. Marked shortness of breath; hectic. Physical Examination: Percussion note high over the right upper lobe, and abundant fine, moist râles over the same.

His digestion was excellent, and his recuperative powers great. Of all the patients that I have had under my care, I have never had one so rational, nor one who took such good care of himself as he. From the minute that he put foot in Colorado, he began to improve. Life in the open air, sleeping in a tent, and work on a ranche in the San Luis Park made a broad-chested, muscular, powerful man of him, and to-day he is living, in perfect health, in one of the most trying climates on the globe, that of the eastern coast of Massachusetts.

There are cases, where the development of phthisis may well be feared from the fact that a pneumonic product is slow in being resolved, or a pleuritic affection, with adhesions, may produce an irritation which will result in fibroid phthisis. Such cases have been found to do admirably in our climate.

The following illustrations will serve as types.

CASE VII. A young medical student, in Boston, of excellent family history, but with a personal history of two previous attacks of pneumonia, was put to bed early in April, 1880, with a rapid pulse, a temperature of 104.5°, pain on the left side in the region of the nipple, cough, and expectoration which never became "rusty"; also night sweats were present. There was found to be a limited area of dulness near the left nipple, and râles. The diagnosis was made of an acute catarrhal pneumonia. The trouble proved to be asthenic. After four weeks he was sent into the country, then into the hills of Maine, and afterwards into the White Mountains. Although he gained in strength so that he played tennis, climbed mountains, and did all sorts of foolish things, yet the consolida-

tion remained and was accompanied by a constant cough and abundant muco-purulent expectoration. In October of that year he was sent to Colorado, being adjudged an "unfavorable case." For two years he practised his profession, in a desultory way, and lived constantly in the open air out on the frontier. In the fall of 1882, he saw the late Dr. Austin Flint, who examined him then for the first time, and pronounced one lung as good as the other, and to-day, or rather this evening, he is the reader of this paper.

CASE VIII will illustrate the pleuritic condition of which I spoke.

Mr. X., of the Massachusetts coast, aged twenty-eight years and with a family history of having lost a sister, a maternal uncle and the maternal grandfather of consumption, was attacked in September, 1884, with pleurisy of the left side, which confined him to the house for three or four weeks. He came to Colorado in November, 1884, and was having night sweats. He had lost flesh and strength, but he had never had a hæmorrhage.

I examined him in March, 1886, and found that he was coughing a little, was raising a slight amount of thick, tenacious sputum, and that, on a physical examination, there was a slight area of dulness with some fine râles at the base of the left lung, in the axillary line. The signs were aggravated in his case by an irregular life. He has since then done admirably and went East for the summer. I have not seen him since.

But, gentlemen, I will not weary you by the citation of cases that serve only as familiar types to you all. There is probably not a practitioner here but that could match any one of these that I have presented by many others from his own experience. Before, however, proceeding to some general remarks on the treatment of the disease, I wish to record a case of growing recovery from a chronic laryngitis, consequent upon a phthisical condition.

CASE IX. Bostonian, thirty-five years of age, cornerer. Noticed tickling in his throat and a dry hacking cough in August, 1884, which continued until January, 1885, when he had a general breaking-down, but has never had a hæmorrhage. In February, 1885, he went to Minneapolis. He spent the summer months in the pine-woods of Wisconsin and came to Colorado in November of 1885. He used, he says, to expectorate a teacupful of muco-purulent sputa every night, and he had fallen in weight from one hundred and thirty-five to one hundred and twenty-five pounds.

About December 1st, 1885, he had lost his voice. He could only speak in a whisper that could be heard only a few feet, when about September 1st, of this year, under the stimulus of a life out-of-doors day and night, and local treatment, to tone up, if possible, the dilated bloodvessels of the parts, he recovered tone in his voice and to-day, absolutely free from cough and expectoration, in possession of strength so that he can do a hard day's work, and with a voice somewhat husky, but strong enough, as he says, to be heard half a mile, he is anxious to go back to Massachusetts and spread the good tidings of the efficacy of the dry, bracing, Colorado air in the cure of many phthisical conditions.

It is not to be contended that our climate is the be all and end all. We can number too many cases that have come in the advanced stages indicated by emaciation and cavity, and have speedily given up their lives

here, to feel that it is sanative in all phthisical conditions. To be sure we can cite cases that have, even in these stages, prolonged life for months and years; and yet, most of us will probably agree in the assertion that this rare, elevated air is contra-indicated in the so-called third stage of phthisis.

Moreover, in every case, be the trouble great or be it little, the advice and direction of those experienced in the treatment of the disease are aids.

We know, perfectly well, that some cases will do well in one portion of our State and others in another. We know that it is essential to give directions in regard to all hygienic measures, to specify in regard to the minutest details of life, even to make inquiry into the methods of clothing, the diet, amount and manner of exercise, the sleeping accommodations, the hours of sleep, etc.

We know that it is a mistake for persons to come to Colorado and shut themselves up in an office or with indoor work. We can each of us recount the sacrifice of life that has been made, in case after case, by an undue haste to be at the work of life again.

If there is any one thing that we should harp upon to our patients, it is caution. Caution not to exercise too much, especially at the first. Caution not to sleep in an illy-ventilated room, nor in a draught. Caution not to catch cold. Caution not to keep late hours, not to smoke too much or perhaps not at all, and caution not to do this thing or that thing. An exceeding watchfulness is the price of a recovery, and if we expect to obtain good results we must be specific in our details to a degree that it is often wearisome. As I look back upon my cases. I can recall a fatal termination due in all probability to a fishing excursion; another due to a desire to earn a living in a counting-house; another to undue exercise in climbing hills while surveying; another to taxing the strength too greatly by lifting, etc. Even in those cases in which a recovery eventually occurs there are apt to be some set-backs. An imprudence in playing tennis, or riding horse back, or in dancing, or taking part in theatricals, not to speak of the more earnest walks of life, not infrequently causes dangerous and trying exacerbations of the disease.

It sometimes happens that a mental despondency will interfere in cases that, so far as the symptoms, history and physical signs are concerned, warrant a favorable prognosis. I recall one marked case where a young man, having some consolidation at the right apex, which extended down into the upper lobe on the right, was so depressed by the death of his wife, which happened while he was *en route*, and knowledge of which was kept from him for some time, that he sank steadily although his physical condition warranted at least a guarded prognosis.

The one thing that I insist upon in the cases just come to our climate, is rest. So much do I harp on it, that I often tire of the repetition. I urge comparative inactivity for some time after coming here. How often do I tell such patients to exercise short of anything like fatigue, to walk but moderately, and to spend most of the hours of sunshine in some corner on a veranda, where they will be sheltered from the wind and be basking in the sun. The altitude of one mile above sea-level gives the diseased and unaccustomed lungs all that they can properly attend to, without putting upon them the additional work caused by over-exercise.

As regards medication I have but little to say. The treatment is *pro re nata*, so far as drugs are concerned. My rule is to give absolutely none, unless there are very decided and positive contra-indications. My belief is that rules that hold at sea-level with reference to alcoholics do not appertain *in toto* at this elevation. It is often a nice point to determine whether to continue the daily doses recommended by eastern advisers.

Where the stomach will digest it, I find cod-liver oil, either pure, or in an emulsion, of great advantage, and yet even this should be exhibited with caution. In perhaps the larger proportion of cases my advice is in regard to general regimen rather than in regard to the administration of drugs.

Gentlemen, the large percentage of our population that is composed of the invalid class who have found a recovery in this climate and have pitched their tents here, is the most potent argument in favor of its efficacy. We know that we are blest with the great climatic conditions of a dry atmosphere, a rare and pure atmosphere, an amount of sunshine that is unrivalled and high sun-temperatures.

We know that these factors, the absence of endemic phthisis, and a dry soil are strong arguments in favor of this being a curative climate. We know, further, that an out-of-door life is possible during more hours of the day, and during more days in the year, in this climate, than in almost any other on the face of this earth; but the most conclusive testimony to be found, as regards the curative influence of a life in Colorado, in cases of phthisis pulmonalis, is in the thousands upon thousands of people who can, in their own persons, bear testimony to the fact.

At least one hundred thousand people in these our United States die every year at the hands of this fell disease.

Does not our duty, not to ourselves but this large invalid class, compel us to proclaim far and wide, the efficacy of the cure to be obtained in the Rocky Mountain region; to point out the cases that can reasonably expect a benefit; to implore the eastern doctors not to take us as a *dernier resort*, and, finally, to devote our best energies to assisting nature and climate when once the invalid is in our midst?

"It is an absurd supposition that any climate exerts a specific influence in arresting phthisis," writes Dr. Flint, in his article in "Pepper's System of Medicine." Whether this statement be true or not, we know, by proof positive, that Colorado climate, assisted by wise direction, and cautious living, has been curative in cases without number that would probably have proved fatal under their old surroundings and conditions, and we can but argue from this, that what has been done can be done again, and that like conditions and like causes will produce like results in the future as they have in the past.¹

—The Board of Health of Syracuse, N. Y., has condemned the High School building, on account of defective plumbing. It was built in 1869, at the cost of \$100,000.

A REDUCING SUBSTANCE IN HUMAN URINE RESEMBLING GLUCOSE.¹

BY T. BARTON BRUNE, M.D., OF BALTIMORE, MD.

AFTER completing the analysis already reported to this honorable body, I resumed the investigation of the urine on the 20th of last month, at the Johns Hopkins University Chemical Laboratory, and I take this opportunity of expressing my indebtedness to Professor Remsen for his kindness in offering me the facilities of the laboratory, and to Dr. C. Piggott, of the chemical department, for very efficient assistance courteously rendered.

As the behavior of this substance so closely resembled that of the compound reported by Dr. Walter Smith,² and believed by him to be proto-catechuic acid, the first step was to apply his method to the urine in question.

For that purpose, about 240 cc. of the urine were treated with an excess of a solution of neutral lead acetate and filtered. The filtrate gave the same brown and green reactions, with sodic hydrate and ferric chloride, respectively, that the urine did. It was then treated with an excess of a solution of basic lead acetate (Goulard's extract), and again filtered. This second filtrate did not respond to sodic hydrate and ferric chloride. The basic-lead acetate precipitate was then washed, suspended in water, and a stream of sulphuretted hydrogen passed through the mixture. The resulting black mixture was again filtered, and the clear, colorless filtrate responded to sodic hydrate and ferric chloride, as had the original urine.

This filtrate was then distilled in an atmosphere of carbon dioxide, and the distillate tested as before for the brown and green reactions, which were not obtained. The dark-brown, crystalline residue, however, dissolved in water, distinctly responded to sodic hydrate and ferric chloride, as had the urine, and, consequently, according to Dr. Smith, should have been proto-catechuic acid.

The quantity thus obtained was very small — too much so for an elementary analysis — so we determined to compare its solution with a dilute solution of pure proto-catechuic acid. On doing so, a marked difference was at once apparent. Our product in very dilute solution gave, with sodic hydrate, a faint reddish-brown color, rapidly becoming a deep brown on agitation in the air (that is, by oxidation), while proto-catechuic acid gave a very faint brownish color, only slightly deepened on agitation. With ferric chloride, our substance gave a distinct, but transient bluish-green, the liquid then becoming turbid, and of a dirty, greenish-white color. Upon the addition of sodic hydrate, the mixture becomes at first a bright bluish-green, then red, and on agitation, a brownish-red. Indeed, the readiness with which this substance took on a brown color in the presence of an alkaline solution (sodic and potassic hydrates and carbonates) was one of its most striking peculiarities. In the reaction with ferric chloride and sodic hydrate combined, the ferric chloride had to be added in very small quantity, lest on the addition of the sodic hydrate, ferric hydrate should be precipitated in quantity sufficient to obscure the result.

Proto-catechuic acid gave a bright, distinct, permanent bluish-green with ferric chloride, turned to a bright,

¹ Exception was taken in the discussion, to the remark that "most of us will probably agree in the assertion that this rare, elevated air is contra-indicated in the so-called third stage of phthisis, and it was claimed that the amount of lung-tissue involved was more of a contra-indication than the stage of the disease. There is truth it may be in this view; and what is perhaps intended by those maintaining these views is, that Colorado is not the place for "forlorn hopes."

² Read before the Baltimore Academy of Medicine, January 18th, 1887, Continued from page 622, Vol. CXV.

³ Dublin Journal of Medical Science, Vol. xxiii, p. 465, et. seq.

permanent, garnet-red upon the addition of sodic hydrate. With Fehling's solution, both gave a very similar reaction, namely, a slow and imperfect reduction of cuprous oxide, with a dark, greenish-brown discoloration of the supernatant fluid in the case of our substance, and a somewhat lighter color in the case of proto-catechuic acid. Clearly, therefore, our substance was not proto-catechuic acid, although very closely resembling it.

Just at this time, my attention having been called to Dr. Kirk's article in the *British Medical Journal* for November 27th, last, and the similarity of our substance to his "urhodinic acid" being so apparent, we determined to apply his method to the urine in question. Therefore, 750 cc. of the urine were evaporated down to about 60 cc., washed with several volumes of ether, separated from it and acidulated with hydrochloric acid (in the proportion of one-half per cent. anhydrous acid to the original amount of urine). The acidulated mixture was then shaken up with ether, and the yellow, ethereal extract separated from the urine. Both this extract and the ethereal washings gave the sodic hydrate and ferric chloride reactions, and on evaporation of the latter, and drying over sulphuric acid, we obtained large, needle-shaped, branching crystals (which I here show), mixed with resinous and coloring matters. Kirk's "serixanthine" we did not obtain. A small portion of the acid ethereal extract, evaporated spontaneously on a watch-glass, gave the beautiful crystals I exhibited at the last meeting of the Academy.

As we were not satisfied as to the purity of the crystals thus obtained, we subjected the bulk of this ethereal extract to Smith's method, and the resulting product was a reddish, crystalline body, which, on drying above sulphuric acid, gave off strong fumes of chlorine, showing that the hydrochloric acid had decomposed the original substance.

We determined, therefore, to purify by another method, and to use a very much larger quantity of urine. While awaiting this supply from the agent, I saw Dr. Marshall's publication in the *Philadelphia Medical News* for January 8th, 1887, and thus first became aware of his methods and results. As he has devised an apparently good method for the separation of this substance, and has isolated it in a purer state than we have as yet done, and intends to make a thorough investigation of it, we deem it in courtesy due to him to hold back any further publication, at least for the present, and give him the opportunity of completing his work, and of finding out exactly what this most interesting compound is. The crystals exhibited two weeks ago by me, and those which I now show under the microscope (obtained from the neutral lead-acetate filtrate prepared for the polarizer), are, I think, identical with those found by Drs. Marshall and Kirk. They are, as you have seen, needle-shaped prisms arranged in groups, radiating from a centre, like the spokes of a wheel. I believe, also, that this substance is identical with Smith's "proto-catechuic acid," Ebstein's and Müller's "pyrocatechol," and possibly, with Baedeker's "alkapton," although the latter was said to contain nitrogen, which Dr. Marshall says this substance does not.

At present my work stands thus: Quite independently of Dr. Marshall, and in ignorance of his methods and results, I have the honor of reporting to this Academy a crystalline-reducing substance found in

human urine, capable of being confounded with glucose, very similar to proto-catechuic acid, and apparently identical with Kirk's "urhodinic acid." That this compound results, as Kirk suggests, from "a profound perversion or arrest of the metabolic processes" is possible, and, inasmuch as the applicant had eaten nothing known to give rise to a reducing substance, perhaps probable; but in this, as in the majority of other similar cases, there was no apparent disease, and we are, consequently, compelled at present to state that *this substance has no known pathological signification*. Of course, a knowledge of its ultimate constitution may throw further light on this subject.

In conclusion, without occupying your time with an account of the origin and reactions of other reducing agents (principally derived from ingesta), a number of which have been found in human urine, *I will simply emphasize the fact that their occurrence, as well as the discovery of this new compound (if new compound it be) render it necessary to employ other tests to corroborate the positive evidence of Moore's and Fehling's tests for glucose in human urine.*

REPORT ON PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynecology, Harr. Med. School.

THE INITIAL STAGES OF FIBROIDS.

OLSHAUSEN,¹ in a paper read before the first meeting of the German Gynecological Society, held in Munich, gives what he considers to be the initial stages, clinically, of fibroids. The evidences of the beginning of a fibroid which appear before the tumor can be at all recognized, consist in a series of subjective symptoms, especially pains which grow worse during menstruation, but do not cease in the intervals, a feeling of great pressure, irregularities in the menstrual flow, in which it comes too early, and lasts too long. There are abnormal sensations of the bladder as well. The uterus is found to be sensitive to pressure, especially on bimanual examination. These symptoms last a varying length of time from a few months to several years.

After a time the uterus is found to be enlarged, and again after a lapse of time the presence of a fibroid is recognized by its irregular form. From this time the pains cease, and the menstrual flow diminishes in amount, or ceases altogether.

This chain of circumstances can be explained in two ways: either the very earliest stages of the growth of a fibroid give rise to symptoms which disappear with its increased size, or the irritation of the uterus is the primary cause which leads to the development of the tumor. Olshausen considers the second explanation the more probable. Women in whom these prodromal symptoms have lasted for years, are usually sterile during that time, and this symptom is a consequence of a congested state of the uterus which sooner or later leads either to the development of a fibroid or to areolar hyperplasia. In conclusion, Olshausen expressly states that he does not mean to say that this explains the development of fibroids in all cases, but that in numerous cases he has observed this sequence of events.

In the discussion Winckel said it was his opinion

¹ Wiener Med. Presse, No. 31, 1886.

that when such initial symptoms appeared, already small fibroids existed which could not be demonstrated, and that the pain was caused by the stretching of the walls of the uterus by these small growths. The difficulties cease when they have grown out of the wall of the uterus.

PREPONDERANCE OF MALES FOLLOWING CONCEPTION AT THE TIME OF THE POST-MENSTRUAL ANÆMIA.

The solution of the question when and why the determination to the male or female sex takes place has always excited interest. These inquiries have not yet found satisfactory answers, partly because they have rested on a purely theoretical basis, and partly because in the investigation of one factor, the influence of others has not been considered. Therefore even a small contribution to the settlement of the question is welcome, which excites to further investigation, and seems a step in advance.

C. Fürst² opens his article with a short sketch of the generally prevailing opinions as to the time and causes of the determination of sex. In accordance with these it is probable, or at any rate not disproved, that the determination can take place as well before, as during, and even a certain time after the impregnation. As regards the cause, there must be supposed a coöperation of different causes at different times. Among the causes affecting both parties, the influence of better or poorer nutrition has been proved by numerous examples (relatively more males when the nutrition is poorer). If one supposes that such an influence can also be exerted through the nutrition of the already impregnated ovum, then it must, in accord with the very early predisposition to the formation of the genital organs, be the greatest soon after conception.

Fürst came upon the idea, that in cases of conception immediately after the cessation of the menstrual flow there would on account of the poorer nutrition of the impregnated ovum be a preponderance of boys. With this in view he selected from the large material of the Vienna clinic of C. Braun, those cases in which the day of conception was known, and separated the cases of which he was sure, (one hundred and thirty-three), from the less trustworthy (sixty). A study of these cases gave the rather noticeable result of a marked preponderance of boys for the cases in which conception occurred within the first four or five days after the cessation of the menses, thirty-seven boys to twelve girls, and a preponderance of girls for the rest of the interval, seventy-nine girls to sixty-five boys. In sixty-seven cases where the accuracy of the data admitted of no question, the proportion was still more marked, fourteen boys to two girls, and twenty-nine girls to twenty-two boys.

Even if this number of cases is too limited to enable us to lay down the rule that conception at the time of the post-menstrual anæmia is followed by a large preponderance of boys, it can at least lead to farther investigation.

A CONTRIBUTION TO THE DETERMINATION OF SEX DERIVED FROM OBSERVATIONS MADE ON AN AFRICAN TRIBE.

Dr. R. W. Felkin³ gives the results of some observations made on the Waganda tribe, which are interesting for their bearing on the question of the deter-

mination of sex. The female population in Uganda is largely in excess of the male, the proportion being about three and a half to one. This preponderance is due to three causes, first, more female births than male; second, as the Waganda are constantly at war, and their battles are very destructive, the death-rate among the males is greater than among the females; third, the custom after a victory of putting to death the men, but sparing the women and children.

With regard to the first point, the writer made inquiries into the history of three hundred pure Waganda women, and found that two hundred and ninety-one had children, and of the first births, one hundred and forty-four were males, and one hundred and forty-seven were females. Of five hundred imported women, four hundred and eighty-two had children, and of the first births only seventy-nine were males, and no less than four hundred and three were females.

The theory which Felken advances to explain these facts is that "the temporarily superior parent produces the opposite sex." The fact that the imported women at their first births are liable to produce females is accounted for in this way: When in the course of the wars a town is captured, the soldiers are allowed the utmost license, and the nights are spent in excess of every kind. The men, flushed with victory, and exhilarated with wine, are temporarily superior to the women, frightened and sorrowful at loss of home and friends and freedom, and exhausted by long marches. Later, after the captives have been distributed as views and have settled in their new homes, the proportion is more nearly that of the pure Waganda woman, namely, one hundred males to one hundred and thirty-seven females.

Incidentally, Felkin noticed the very small proportion of sterile women, both among the pure Waganda, and among the imported women. The former showed only three per cent. and the latter three and six-tenths per cent., as against about fifteen per cent in England.

RELATION BETWEEN NEUROSES OF THE STOMACH AND UTERINE AFFECTIONS.

Dr. Gustav Braun⁴ refers at the beginning of this article to the frequency with which certain organs when diseased exercise a very marked influence on other organs remotely situated, while with regard to others, for example, the lungs, no such observations are made. The stomach and female genital organs belong to the first category.

We know that changes in form and position of the uterus may cause gastric disturbances, and there are other uterine affections which may have similar effects. Dr. Braun gives the histories of three interesting cases which illustrate this connection.

CASE I. A woman, twenty-five years old, married at seventeen, had a child one year later. Several years after she had an attack of angina tonsillaris, from which time there appeared disturbances of digestion, beginning with loss of appetite, and ending with constant vomiting. Various forms of treatment, including a sojourn at Carlsbad, relieved her only temporarily. Finally, an examination of the condition of the genital organs by Dr. Braun showed a normal condition of affairs except excessive mobility of the uterus. It could be easily pushed by the examining finger into a position of ante or retro-version or even latero-version. On the supposition that this might be a factor

² Archiv. für Gynakologie, xxviii-1.

³ Ed. Med. Journal, September, 1886.

⁴ Wien. Med. Woch. 1886, Nos. 41 and 42.

in the case he fitted a Hodge-Braun pessary, from which time the vomiting ceased, and the patient fully recovered her health.

CASE II. This patient, thirty years old, married, had one child two years old. The birth was normal, but the child large, and the head very hard. Gastric disturbances showed themselves very soon, followed by vomiting, at first only when she was on her feet for a length of time, but later when sitting or lying. After a good deal of unavailing treatment, a vaginal examination revealed a deeply lacerated cervix, with a cicatrix in the right angle of the laceration. Pressure with the examining finger provoked retching and vomiting. The operation for the repair of the cervix was followed by immediate and lasting relief.

This patient, twenty-eight years old, had given birth to a child two years before. Soon after she experienced a feeling of weight in the pelvis, but paid no special heed to it until some months later, when on lifting her child she felt sudden pain in the lower abdomen. From that time vomiting followed as often and as long as she was on her feet, but when lying down she was comfortable. Pessaries were of no use, as the small sizes did not prevent the sinking of the uterus, and the larger ones caused too much pain. Examination showed a large uterus over five inches in length with the cervix very much hypertrophied, which pressed against the intact perineum when she stood up. Rest in bed, and hot-water injections failed to reduce the size of the uterus, therefore the amputation of the vaginal portion was performed, with the result of reducing the size of the womb to a little over three inches, and a complete cessation of all troublesome symptoms.

POLYMASTIA WITH TEN NIPPLES.

DR. F. S. NEUGEBAUER, Jun.,⁵ reported the following case before the meeting of German Naturalists and Physicians held in Berlin in September, 1886.

X. X., twenty-three years, was confined for the second time at the Lying-in Hospital in Warsaw. She had nursed her first child born seven years before, and noticed nothing peculiar about the breasts except some brown spots on the chest which she regarded as mother-marks. After the second confinement she noticed even on the second day, a disagreeable moisture and dripping under the arms. Examination showed two nipples without areolæ in the axillæ, and in addition two more on each side above and to the outside of the normal ones. When the breasts were raised two additional ones were discovered underneath them, making ten in all. When the child nursed, milk trickled spontaneously out of the axillary nipples, but could only be pressed out of the other six.

The author asks the question, whether we have to deal with several nipples on a single gland, or with several distinct mammary glands, each with its own nipple, and inclined to the latter view. He then gives the various theories which have been held as to the cause of these accessory breasts. Ahlfeld explains them by supposing that by the pressure of the amnion, portions of the formative layer are cut off and adhering to the amnion are transplanted to the surface of the body.

Others explain their existence as the result of the aberration of milk ducts. Lichtenstern and many others regard this anomaly as a manifestation of

atavismus. The author favors the latter view. Champney is referred to, who has written a paper advancing the theory that in certain puerperal women the sebaceous glands become changed into, and take on the function of mammary glands.

MOLLITIES UTERI.

Under this name Dr. Scudder⁶ describes an extraordinary softness which sometimes affects the uterus. Dividing the organ into three segments, the cervix, the middle segment, by which he means "the supravaginal cervix with that portion of the uterus containing the internal os;" and the body or upper third, he finds that this abnormal softening may affect one portion alone, or the organ as a whole.

The softening incident to pregnancy, especially of the cervix, is familiar to all. This, according to Scudder, may successively invade the middle segment and the body, though much less frequently than the body alone. This same condition may be found in women who are not pregnant, both nulliparæ and multiparæ. The diagnosis is easily made in the case of the middle segment, by the mobility of the body without affecting the axis of the cervix, in the case of the body, by the ease with which it is molded. The author has found mollities of the middle segment most common in nulliparous women. He considers it due to "malnutrition of the body as such, and of the uterus in particular, such malnutrition of the uterus being aided by congestions or inflammations of the uterus, ovaries, or surrounded tissues and organs, or by pregnancy, neoplasms, etc."

When the middle segment is affected, the symptoms are at first general in character, with some indefinite pelvic distress. Later come menstrual disorders, dysmenorrhœa, menorrhagia and sometimes metrorrhagia and later trouble with micturition, and ovarian dysmenorrhœa. Antelexion or retroflexion followed, the direction seeming to be determined by the position of the uterine axis.

Treatment is constitutional and local. Good hygienic surroundings, tonics, and regulation of the bowels, are essential as general measures. Local treatment would include the reduction of the misplacement, and the adjustment of pessaries and uterine massage.

ON SOME OF THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF WATER AT DIFFERENT TEMPERATURES WITH SPECIAL REFERENCE TO OBSTETRICAL AND GYNECOLOGICAL PRACTICE.

Mr. R. Milne Murray⁷ has written a very interesting article on this subject which places on a scientific basis the use of hot and cold water in the treatment of inflammations and hæmorrhages.

For a very long time cold applications have been used in the checking of hæmorrhages from the uterus, and in recent years water at relatively high temperatures has been recommended as being more efficacious. The evidence thus far has been based almost entirely on clinical experience, and the effect is supposed to be a two-fold one, by causing a rigid tonus of the uterus, and more or less persistent spasm of the muscular tissue of the bloodvessels.

Emmet, whose name is prominently associated with the advocacy of the use of hot water, says the imme-

⁵ Centralblatt für Gynäkologie, 1886, No. 45.

⁶ New York Medical Journal, December 18th, 1886.

⁷ Ed. Med. Journal, Aug. and Sept., 1886.

diate effect is to cause relaxation of the bloodvessels, but if the application be prolonged, reaction ensues, and contraction takes place. To determine the truth of this theory, the author conducted a series of experiments with hot, warm and cold water on the muscular tissue of the uterus, as well as non-striated muscle generally.

The method of experiment, and the various tables giving the results, are interestingly set forth in the article to which the reader is referred for details. The following table will show the more important facts settled by the investigations.

GENERAL VIEW OF THE ACTION OF COLD AND HOT WATER.

COLD, 32° to 60°.	HOT, 100° to 120°.
(1) Marked latent period.	(1) Latent period absent or very short.
(2) Contraction develops slowly.	(2) Contraction develops rapidly.
(3) Relaxation about three times duration of contraction.	(3) Relaxation about twelve to twenty; four times duration of contraction.
(4) Successive applications can only induce contraction after period of rest. These contractions become greatly diminished in efficiency, the period of relaxation and maximal contraction being greatly reduced. Loss in four experiments four-fifths of initial efficiency.	(4) Successive application followed at once by response. Efficiency of contraction, greatly increased. The period of relaxation, and maximal contraction are much increased. Gain in four experiments four times initial efficiency.
(5) Continuous application produces rapid exhaustion, muscle becoming completely relaxed and failing to respond.	(5) Continuous application induces a high degree of contraction, broken up by secondary waves of partial relaxation and contraction.

The following deductions are drawn from the experiments:

1. Water at temperatures of 120° F., and ten degrees lower constricts bloodvessels, and arrests hæmorrhage from small arteries.
2. Water at temperatures of 100° F., and thirty or forty degrees under dilates small vessels, and promotes hæmorrhage.
3. Water at temperatures of 50° F., and twenty degrees under, checks hæmorrhage by constricting bloodvessels, but this only temporarily.
4. After water at the above temperatures has lost its styptic power, water at high temperatures is still effective.

The therapeutic significance of the experiments may be epitomized as follows:

I. It is evident that in water at 120° F., we have an agent of immense power in controlling the local circulation in an organ. The calibre of the smaller bloodvessels becoming narrowed, the abnormal blood-supply will to a large extent be cut off, and the resulting phenomena of inflammation checked.

II. Hot water is efficacious in promoting uterine action, and is hence useful both in cases in which the contents of the uterus have not yet been expelled, and those in which they have, but where the risk of hæmorrhage is imminent from atony of the uterus. In post-partum hæmorrhage it is especially indicated on the following grounds: (1) The rapidity of action; (2) The duration of the tonus produced; (3) The absence of vascular reaction; (4) The absence of exhaustion of the muscular fibre; and (5) Absence of violent shock to the exhausted system.

— It is reported that Dujardin-Beaumetz is using antifebrine extensively in the treatment of epilepsy, and that he considers it one of the most powerful moderators of the spinal centres.

Therapeutical Memorandum.

THE TREATMENT OF SCIATICA. A SUCCESSFUL TREATMENT OF ACNE.

BY JOHN T. METCALFE, M.D., NEW YORK.

FOR many years past I have been in the habit of prescribing a method of treatment for this so often unyielding neuralgia of the sciatica, which is so simple and at the same time has so satisfactorily answered my purpose that I should be glad to have some of the many readers of the JOURNAL give the benefit of their clinical experience in determining the true value of what was accidentally made known to me in the way of a remedy for the "opprobrious" ailment in question.

I need not premise that my remarks are only applicable to that form of sciatica in which we either refer the cause to some diathetic influence, especially the gouty or rheumatic, or to those more obscure in their nature to which we are unable to give a name. Cases due to growth in the nerve or to pressure on its trunk or roots must be relegated to the surgeon's consideration when not of syphilitic origin. In that event any one would naturally be led to adopt specific medication, alone or in conjunction with the treatment of which I wish to make especial mention.

Nearly thirty years ago a prominent New York shipping merchant, with well-marked gouty diathesis, applied to me for relief from left sciatica. He was nearly sixty years old and had led a remarkably prudent and temperate life, his only resort to his medical adviser had been for gout and rheumatism, as his somewhat frequent attacks, for the ten or fifteen previous years had been called.

The suffering was unusually great and notwithstanding rare power of enduring pain soon became unbearable. I will not detail how I had excluded all possible cause of surgical nature; nor how I had used almost every known means to relieve the pain and to procure sleep by internal administration of so-called remedies for his constitutional ailment. I knew that opium was unfriendly to him, but after failure of everything else, I used the sulphate of morphia in doses of one-sixth of a grain subcutaneously. Much relief and more sleep were the immediate results of the anodyne; but the papaverous poisoning and prostration were so alarming that I could not bring myself to repeat the medicine. After a week or ten days, the intense pain subsided, mainly as was then thought, from the constant application of rubber bags and bladders, filled with water as hot as the patient could bear it. Blisters and the actual cautery had not given the slightest relief, except on one occasion, when sprinkling the denuded true skin with one-third of a grain of acetate of morphia acted as unfortunately as the subcutaneous use of the sulphate had done.

As the winter was severe, I advised my patient to pass two months on the island of Cuba, giving him all manner of diatetic and regimenal directions; and strongly advising him to eschew all "doctor's stuff." At the end of the time mentioned, he returned, perfectly well of his torturing ailment. As was natural I complacently and *viva voce* congratulated myself on my clever prescription. "Not so fast," said he, "my dear doctor, I almost died with the infernal thing after reaching my friend's plantation. He sent for an old

French doctor who attended his negroes and family and from him I received a bottle of medicine, which without containing opium in any form, gave me very speedy relief. I know it was not a mere coincidence; for I have tried it twice, since he prescribed it, with exactly the same result. Here is the prescription. It was composed of equal parts of tincture of aconite root, seeds of colchicum and belladonna." The dose was six drops, every six hours, until relief came.

During my old friend's life, his new remedy never failed to give him relief. For many years I continued to prescribe it in sciatica of the kind named; and although I have had some unsuccessful cases, I have come to believe that, as an internal remedy it is worth all others put together of which I have knowledge.

Some months ago I got Mr. Fraser to make tablet triturates, each of which contain three drops of the following mixture;

Tincture of Aconite Root	} Equal parts by volume.
" Seeds of Colchicum	
" Belladonna	
" Actea Racemosa	

Of these, I give one, every four, six or eight hours, according to the necessity of the case. It takes not long to impress the system, especially with the aconite, nor does it as a rule require more than three days to make the patient so firmly believe in its efficacy that he has no need of persuasion to ensure its continuance until complete relief.

To many physicians I have given the formula just mentioned. In neuralgia of the axillary and brachial nerves, it has proved quite as efficacious as in that of the great crural branch. As yet, I have not seen one brother Æsculap who has not thanked me for having led him to try the remedy.

A SUCCESSFUL TREATMENT OF ACNE.

Judging from my own experience, I do not think the ease with which acne, whether of the sebaceous, pustular or papulous form is curable, by external means, is generally very gratifying to patient and practitioner. For the last seven years I have not failed in a single instance to perfectly cure the ten or twelve cases which have come under my observation.

Some have been of long standing and of great severity. The last very bad one was facial and so disfigured the doctor to whom the face belonged that he only went into society with the greatest reluctance. When I told him that I felt sure he could be greatly benefitted and that I thought he could be cured, he said he had given up all hope of amendment and had made up his mind to practice philosophy in accepting the inevitable.

I met my confrère a week ago and actually failed to recognize him at first, so entirely was his face free from the disfiguring acne.

I was led to employ chrysophanic acid in these cases, by reason of learning what it had effected when used as an ointment in treating chronic psoriasis. My habit is to begin with an ointment made of three grains of the acid to an ounce of vaseline. The face is well washed with soap and dried, at night. Before going to bed, the parts in which acne exists are well rubbed with the ointment and this is repeated, every night, until a sharp dermatitis with scarlet skin is produced. Inunction then ceases, until disappearance of the artificial inflammation of the skin, when a repetition of the ointment is made, under conditions above stated.

In all delicate skins, the three grains strength is sufficient. In others it may be necessary to increase the percentage of chrysophanic acid until sufficient dermatitic power is produced. Almost never have I been obliged to go beyond five grains to the ounce. It is necessary to caution patients that the bed-clothes and garments be not stained by the ointment, and to have them wash the fingers well that the eyes may not be made to suffer.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

TWENTY-SIXTH ANNUAL MEETING.

JANUARY 8, 1887, the President, DR. A. D. SINCLAIR, in the chair.

DR. WM. L. RICHARDSON read a paper on

THE USE OF ANTISEPTICS IN OBSTETRIC PRACTICE.¹

DR. CURTIS said he had previously heard Professor Richardson's lectures on this subject and had been very much interested in his personal observations of antiseptic obstetrics at the Boston Lying-in Hospital. The contrast between the clinical charts of this hospital in former years and those of the present time was very striking. A by no means unimportant fact coincident with the introduction of the present antiseptic treatment was the absence of ophthalmia neonatorum. He believed that the same system of rigid antisepticism should be introduced into private practice.

DR. BLAKE said that in hospitals the septic influences were such that strict antiseptic precautions were necessary, and the system adopted by the reader was admirable; but he was not prepared to believe that the same precautions were essential in private practice. Many physicians of large experience in the past had lost no cases from puerperal fever and had never taken especial antiseptic precautions. The conditions and surroundings of patients are the same now as then, whence, therefore, the necessity of especial precautions now? Of course, if the surroundings or the condition of the patient were such as to make the physician apprehensive of danger, or if the physician himself had been exposed to septic influences, it would be his duty to use appropriate precautionary measures; but he was yet to be convinced that such measures were necessary in ordinary cases.

DR. LYMAN thought Dr. Blake's objections to strict antiseptics in private practice were not tenable. Deaths from puerperal fever do occur in private practice as well as in hospitals. The vast majority of general practitioners have but a limited experience in comparison with those connected with public charities, and if the ratio of mortality between this public and private practice could be honestly worked out, the immunity claimed by the latter would, perhaps, not be so much a matter for congratulation. He had himself, with a comparatively limited experience, lost three cases from this cause in years past and he would not now feel at ease in conducting obstetric cases without rigid antiseptic precautions. If there be doubt as to their necessity, it is unquestionably our duty to give the

¹ See page 73 of this number of the Journal.

patient the benefit of the doubt. He thought that no man had a right in the present state of our knowledge to ignore these precautions. He hoped the reader's paper would have a wide-reaching influence for good.

Dr. Doe said that the chart portraying the hospital's experience corresponded very closely with his own results in practice. Until six years ago he had taken no especial precautions and had used the ordinary napkin as a covering to the vulva; during that period of his practice he had four cases of puerperal fever. After that he began to use a compress or pad of carbolyzed cheese cloth and borated cotton; thereafter he had no septicæmia, but did sometimes have cases that caused him anxiety from rise of temperature and abdominal tenderness. Since the autumn of 1885 he had used a pad of cheese cloth and tissue rubber dipped in a 1 in 1000 solution of corrosive sublimate, and had used the same solution for disinfecting his hands. It was his custom also to have the genitals bathed every three hours with a 1 in 2000 solution, and a vaginal injection of the same strength was administered just before the birth of the child. Since adopting this method he had had no anxious cases. The fact that some practitioners of large experience had had no puerperal fever in the past was not a reason for omitting antiseptic precautions in the present day. Nor are these precautions necessary only in hospitals; for the danger of infection by the finger of physician or nurse is as great in private practice as in hospitals, and particularly so with physicians in large practice who are seeing continually both contagious and non-contagious cases.

Dr. Chadwick said that he had restricted his obstetric practice to such a degree that his recent experience did not enable him to contribute much to the present discussion. He could recall four or five cases of puerperal septicæmia, which at the time of their occurrence he was inclined to think were auto-genetic; but in the light of recent scientific work he was now satisfied that the infection was communicated by himself or others, although so far as he knew at the time he had been exposed to no special septic influences. He was in hearty accord with the teachings of the paper, and thought the methods recommended by the reader should be adopted in private practice.

Dr. Elliot said the conditions of infection were the same in surgery as in obstetrics, and the proposed obstetric pad was like a Lister dressing; other things would do as well or better in either case. Winckel arrived at the conclusion before 1879 that the germs, which infected a patient, came not from the air (although the air is theoretically full of micro-organisms) but from the examining finger of nurse or doctor and from instruments; he believed, in short, in contact-infection and not in air-infection. Winckel did not, therefore, believe it was dangerous for a healthy puerpera to occupy a bed next to an infected patient, provided nothing from the infected patient came in contact with the healthy one. Great pains were therefore taken in Winckel's wards that fingers and instruments should be aseptic and no pads were used; and his mortality was only one-half of one per cent. It was hard for Dr. Elliot to believe in air-infection, when he knew that the peritonæum could be exposed during operations without spray for an hour or more without infection. He thought that Dr. Richardson's good results during the past year were not due to the introduction of the antiseptic pad, but to a most care-

ful and laborious drill of assistants and attendants in the details of cleanliness. Dr. Elliot had used corrosive sublimate in ovariectomy for cleansing hands, sponges, etc., for several years, and had found it to be on the whole the best antiseptic.

Dr. Boardman remarked that he had little if any thing to say except to commend the paper and to confirm the deductions made therein. While, of course, he had had an intimate relation with what had been tried and accomplished at the hospital and had contributed his share to the ill results and claimed a participation in the benefits attained; while he had observed, in a general way, the gradual improvement in the condition of the patients, which had been exhibited under the successive methods of treatment that had been followed since his connection with the hospital, he by no means had appreciated to its full extent, until very lately, the gradual evolution of the central idea which is embodied in the paper and which is so graphically illustrated by the diagrams, and he desired too, to take this opportunity to disclaim any credit for participation in the preparation of the paper which, obviously with much labor and care, had been written by his colleague alone, although with the utmost courtesy throughout he had kindly employed the plural "we" when the first person singular would have been more appropriate in most instances.

He thought it proper, too, to state that daily vaginal douches were finally abandoned only after mature consideration, and the responsibility for this change was assumed by Dr. Richardson, he (Dr. Boardman) having declined to initiate the change because he felt that under their use a notable improvement in the condition of the patients had been observed; indeed, he thought, at the time, that the results obtained were, perhaps, the best possible in a hospital and he felt that it was best to let well enough alone. The results of the experiment, however, appear to confirm the wisdom of the change as is very well illustrated in the diagram marked "dangerous," which, upon the very liberal though arbitrary standard adopted by the writer, indicates a notable improvement during the year 1886, when the douches were abandoned. And, again, this same diagram, taken in connection with the statements of the successive methods of practice which have obtained at the hospital, shows, at a glance, remarkably well the development of the fundamental rule which, we believe, should govern in obstetric antiseptics, namely, that success is to be reached by rendering the patient aseptic at the start, so far as we can, by preventing the admission of the germs which, it is believed, most if not all physicians of the present day regard as the efficient agents in producing sepsis, and which we believe must come from the outside, thus differing essentially in no wise from the methods most generally followed at the present day in abdominal and general surgery.

The lesson inculcated by the experience of Winckel, to which reference has been made by a previous speaker, and which by no means was peculiar to or original with him, was a valuable one, as every one must admit, and, in my opinion, may be employed as a valid argument in support of the theory which the paper is intended to advocate, namely, the prevention of the introduction of septic germs within the utero-vaginal tract. If recollection is not at fault, in Winckel's subsequent service septic cases have occurred which could not be traced to similar causes. In the

Boston Lying-in Hospital, too, before it was the custom to employ vaginal douches daily, when patients were treated in the traditional, let-alone way, except that external cleanliness was maintained, septic cases have repeatedly occurred which could not possibly be explained by the immediate contact of those who had charge, and made vaginal examinations, of the patients, at least so far as could be determined at the time. While we must admit the possibility of such an occurrence, it is believed that the paper demonstrates the fact that other factors have operated, as a general rule, to produce these many septic cases.

Individuals commonly refer to a large personal obstetric experience where no antiseptic precautions have been taken and yet they record a very small mortality and a trifling percentage of, or no, septicæmia, even when, as a rule, the surroundings of their patients would seem to have been such as to have favored the occurrence of this affection in many instances. They argue from these premises that the general practitioner is not called upon to resort to the precautionary measures under discussion which, however, they generally admit may be demanded in hospitals. In this connection we must not lose sight of the fact that the experiences of many, if not most, of these individuals extend back into years when the term puerperal fever included a multitude of ills, so to speak, when septicæmia was not at all, or imperfectly understood, and, too, a general statement of experience, covering many years and not confirmed by a definite reference to recorded details, is always open to question as to its accuracy. Admitting, however, the notable freedom from septicæmia in the practice of some individuals, the fact remains that septic cases do occur outside the hospitals, as is proved by the life insurance statistics to which allusion has been made in the paper, wherein it is stated that among 2,000 females insured quite a large proportion died from puerperal affections and accidents, and among the deaths a very large per cent. occurred from septic causes. These cases, in all probability, occurred in private practice and, further, it may rightly be assumed, in well-to-do classes of society and this fact alone would seem to invalidate the argument drawn from the favorable reports of individual experience.

It is understood from the paper that the records of the hospital indicate a pretty gradual disappearance of septicæmia in quite direct conjunction with the approach to the present practice of avoiding the disease by the most strict adherence to rigid rules which are regarded as efficient in preventing the entrance of bacteria into the parturient canal. It appears, too, that the paper shows quite conclusively that the disappearance of the disease from the hospital has not simply followed a law which has seemed obvious in some periods and assumed in others, that the septicæmic influence "has come and gone," without reference to treatment which has been employed against it, and this inference is confirmed by the similar and nearly simultaneous experience elsewhere, in this country and abroad, in localities so widely separated that it would be utterly unreasonable to refer to this so-called cyclic law or law of self-limitation as a valid argument against the deductions which the reader has made.

Dr. STRONG said that the introduction of antiseptics into obstetrical practice, as described by the paper of the evening with its convincing array of statistics, was a notable event in that department of medicine, being

the first complete experiment of that kind in New England. It seemed to him that any practitioner neglecting to enforce the principles laid down here must feel a direct personal responsibility for septicæmia among his patients. In regard to the slight danger of infection from bacteria of the air, as was shown by the immunity during long operations on the peritoneum, the cases seemed to the speaker not parallel, as in the one every precaution is taken in the way of ventilation, painting walls and floors, and insuring as thorough disinfection as possible; in the other, the air that comes in contact with the exposed surfaces is that confined under the bed-clothes of the lying-in woman, a most fruitful source of germs for infecting the lochial discharge.

The speaker thought it a great gain to have a safe and agreeable substitute for the vaginal douche in private practice; being convinced of the dangers that possibly attended the douche, it had been his custom never to employ it as a routine treatment, reserving it for personal administration only. As the speaker passed through two severe epidemics at the Lying-in Hospital, while house-pupil several years ago, he realized better than most of those present what the statistics meant in the way of freedom from anxiety and hard work.

He inquired what advantage was to be gained from the "sprinkler" rather than bathing the vulva, and if the pads were stained through. He was answered that patients liked sprinkling better, and the nurse was not obliged to touch the vulva: the pads were changed with sufficient frequency to prevent their being stained through.

In concluding, the speaker said that in obstetrics as in surgery, absolute cleanliness was the desideratum; in certain cases this could be accomplished by the use of pure air and water; but in the majority of cases more was needed, and this was the advantage which thorough and systematic employment of antiseptics gave; it ensured cleanliness, it was the easiest method of keeping the parts aseptic.

Dr. REYNOLDS admitted the pertinence and the importance of the criticisms made by Dr. Elliot; but he was not prepared to adopt unhesitatingly the conclusions to which those remarks pointed. Some of the speakers scouted the idea that grave and fatal disease occurs in any appreciable proportion, out of hospitals. The monthly mortality returns furnish constant evidences that this statement is not well-founded. Dr. Reynolds recalled in the first twelve years of his professional life, four cases of death among lying-in women, his patients being largely of the poorer class; one at least of these, an attack of the foudroyant type, where the fatal result occurred on the second or third day, after an illness of thirty-six hours, though he knew no explanation of it in the facts of the birth. Within only the last fortnight, he has seen in consultation two cases of septic poisoning that ended fatally in the second week of the lying-in. Both these women were in comfortable quarters; each of them has been attended by a man of the best ability, well known in this community. In neither case had the antiseptic pad been employed; although ordinary precautions against infection had not been neglected.

Dr. Reynolds is as unwilling as any colleagues can be to advocate fussy precautions in the lying-in room, or even in our attempts to control other forms of infectious disease. It is not unlikely that after a time,

perhaps after a comparatively short time, many details of the treatment which Dr. Richardson has described may be found unessential. This is, however, not yet true and our present obligation may be thus stated. After all child-birth a certain percentage of danger from septic poisoning exists. In lying-in hospitals, where all the causes of risk are greatly increased, the immunity from every disturbance of health, which the use of the aseptic pad secures, is simply marvellous. This contrivance is not costly, is easily applied, and gives great comfort. He who, in our present state of knowledge, rejects it in his private practice, becomes directly responsible for any dangerous septic symptoms that his patients suffer.

Dr. BAKER said his experience at the Free Hospital for Women, before and after the adoption of rigid antisepsis, coincided with the results at the Lying-in Hospital. Although after labor there is a more extensive surface from which septic germs may be readily admitted, still in purely gynæcological practice there is sufficient opportunity for septic infection in the absence of efficient precautions. The Free Hospital has always been closed in summer and thoroughly fumigated with sulphur. Still, before the days of antisepsis, it was only in the fall and early winter that temperatures were low after operations: by February, temperatures began to run high and frequently operative work had to be suspended; thus much time was lost. When carbolic acid came to be generally used, there was some improvement in the general course of the cases. But since the spray had been given up, and corrosive sublimate had been used to bathe the parts during operations and to sterilize all germs on the hands of surgeons, assistants and nurses, temperatures had been low, cases had run smoothly, and there had been no occasion to suspend the operative work of the hospital. This experience proved to his mind the convincing character of the paper, and he thought the reader was entitled to great credit for the able manner in which he had brought the subject before the Society.

Dr. GREEN said that the advantages of rigid antisepsis accrued not to the patient alone, who indeed was first to be considered, but to the physician as well, inasmuch as the chief anxiety of obstetric practice was thereby dispelled. Since he had adopted the methods now so clearly laid before the Society, he no longer apprehended the invasion of septicæmia in his cases, and his main care was the process of lactation and affections of the breasts and nipples. It seemed to him, therefore, that a purely selfish desire to be relieved of anxiety was a sufficient inducement for the physician to conduct his cases antiseptically.

The students of the Harvard Medical School who were put in charge of obstetric cases were instructed to conduct their cases with every attention to antiseptic detail. During the year 1886, over three hundred women, out-patients of the Boston Lying-in Hospital and Boston Dispensary, had been attended by students under his supervision: in this number occurred only two cases of septicæmia. One of these two cases was delivered by a midwife before the student arrived, and the other was conducted without antiseptics: both cases, however, recovered. Not only this, but there was a marked absence of high temperatures and abdominal tenderness, which features had been a frequent cause of anxiety before the method now in vogue had been adopted.

In closing the discussion Dr. RICHARDSON said that he was glad the sentiment of the meeting had been so favorable to the use of antiseptics in obstetric practice. While he agreed with Dr. Blake that septic cases were comparatively rare in private practice, he thought that their rarity had been overestimated, and that it should be our aim to avoid all danger, even though the possibility of the danger occurring was but slight. He had used in the hospital the corrosive sublimate in the strength of 1 to 2,000: but, having seen a few cases of mercurial poisoning follow the use of a solution of that strength, the proportion had been changed to 1 to 3,000, which was the strength now used by Professor Winckel in Munich. The use of the pad was merely to provide some safe antiseptic substitute for the napkin formerly used; and no especial merit was claimed for this particular form of pad.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, December 16, 1886.

Dr. HERMAN KNAPP delivered an address on
FERMENTATION, PUTREFACTION, AND SUPPURATION,
WITH DEMONSTRATIONS AND EXPERIMENTS.

In introducing the subject, he spoke of the immense importance of bacteriology, which he thought was not yet sufficiently appreciated in this country. He had been particularly impressed with a remark made by Professor Briege, of Berlin, a short time since, to the effect that the great majority of all diseases seem, in the light of recent investigation, to be of bacterial origin. In support of the correctness of this proposition, he referred to the weekly mortality lists of different cities, as reported in the *Boston Medical and Surgical Journal*. During the week ending August 28, 1886, the number of deaths from infectious diseases in New York City was set down at thirty-three per cent. of the total mortality; those from consumption at sixteen per cent.; and those from croup and diphtheria at about five per cent. Here were nearly fifty-five per cent. of all deaths attributable to diseases of undoubtedly bacterial origin. In addition, twenty per cent. of the deaths were from diarrhœal diseases, and at least ninety per cent., if not all of these, were cases of germ disease. This brought the percentage up, therefore, to seventy-five; but this did not include such affections as pneumonia, peritonitis, syphilis, gonorrhœa, and skin diseases; and if only ten per cent. of these were classed as of this character; it would increase the percentage to eighty-five. As yet, however, nothing had been said of surgical diseases in which undue suppuration was caused by microbes, and estimating the mortality from these at five per cent., we had a grand total of ninety per cent. of all deaths to be attributed to disease of bacterial origin. It seemed, therefore, that Professor Briege was right.

Bacteriology, he continued, had shown its principal fruit in surgery, and there could be no question that antiseptics had advanced this branch of medical science to its present high position. Antisepsis, however, was in reality nothing but the practical application of the three words—fermentation, putrefaction, and suppuration.

He then proceeded to give a *résumé* of the history of fermentation from the time when Lavoisier found

that sugar was split into carbonic acid and alcohol by the process of fermentation, which he thought to be simply chemical in character, knowing nothing of the animated life that was concerned in it. The discovery of the yeast-plant in 1835 threw a new light on the matter, and he gave some account of the researches of Ampère, Turpin, Franz Schultze, Liebig, Schwann, Helmholtz, Pasteur, Tyndall, and others since then in connection with this subject.

Fermentation he described as the decomposition of carbo-hydrates through the agency of the yeast-plant, and he compared the action of the latter to that of the bacteria which cause putrefaction and suppuration. Putrefaction was brought about by different kinds of microbes, fifteen or twenty varieties of which had now been discovered. There were, he said, two grades of putrefaction: The first was met with where there was but little oxygen present, and the products were water, carbonic acid, and ammonia, the process of decomposition being attended with little or no offensive odor. The second grade, or putrefaction proper, as generally understood, was seen where there was a large quantity of oxygen present.

Now the question arises, Dr. Knapp went on to say, whether suppuration and putrefaction are one and the same thing. Surgeons used the two terms promiscuously, and it seemed that suppuration, if not identical with putrefaction, was its consequence. There was, however, one cardinal point of difference, as would be mentioned further on. Having spoken of the experiments of Recklinghausen and others with the cornea of the frog, he referred to the common assertion of surgeons that, if all germs were excluded, suppuration would not take place. Personally, he had undertaken to investigate three special points in this connection, namely: (1) Does mere traumatism produce suppuration? (2) Do foreign bodies alone produce suppuration? (3) Do chemical agents of themselves produce suppuration?

In the first place, then, Does simple traumatism produce suppuration? In Berlin and at home he had made a number of experiments on the eyes of rabbits. If a wound were made by a perfectly clean instrument, he had found that it would heal by first intention, with no suppuration whatever; but if the wound were made with a contaminated instrument, suppuration invariably resulted. He now exhibited a rabbit in which extraction had been practised on one eye with a sterilized knife, and the other eye had been operated on with an instrument contaminated with pyogenic organisms. The result was that in one case the parts had perfectly healed, entirely without suppuration, while in the other profuse suppuration had been at once set up, and pronounced staphyloma finally produced. He said that he had performed a number of similar operations, and the results had always been the same.

One of the axioms on which antiseptics was based was that simple fractures never suppurate. While this was true, as a rule, there were rare exceptions; but it was a fact that when suppuration did occur, it was always in cases where some other focus of suppuration was found in the body. Whenever the individual was healthy, therefore, no suppuration would take place. In support of this statement, he mentioned the experiments of Becker, who, having made fractures in animals, injected pyogenic fungi into the ear, with the result of at once producing suppu-

ration, although the existing injury was only a simple fracture. Other similar experiments showed how ulcerative endocarditis and other suppurative processes could be produced by the introduction into the system of pyogenic organisms.

Dr. KNAPP then took up the second inquiry, Are foreign bodies by themselves capable of producing suppuration? The conclusion at which he arrived was, that if they were introduced antiseptically, they would produce no suppuration, and that they could remain indefinitely without giving rise to it. By way of illustration, he exhibited a rabbit, into the cornea of one of whose eyes he had introduced, by means of sterilized instruments, a piece of rusty hair-pin after having first brought the latter to a glow, for the purpose of destroying any organic matter which might be adherent to it. The result was, that no suppuration whatever occurred, although the foreign body had now been in the eye for quite a long time. Into the cornea of the other eye of the same rabbit he had introduced a piece of the same rusty hair-pin which had been dipped in fluid containing pyogenic fungi; and within twenty-four hours a violent phlegmon was set up which soon completely destroyed the eye. Still, the truth of the proposition that foreign bodies alone will not cause suppuration was not yet generally admitted, and Pasteur, in 1878, had stated that even if foreign bodies are introduced antiseptically, they were capable of producing suppuration. Whether he still adhered to the same view or not, Dr. Knapp was unable to say.

He then came to the third question, Do chemical agents by themselves produce suppuration? This, he said, was almost universally answered in the affirmative. Especially in the case of croton oil was it claimed that suppuration was caused without the intervention of germs. If this exception could stand, however, the theory of suppuration could not stand. It was a very difficult question to satisfactorily test in a practical manner; but the solution of the problem had been undertaken by four observers under very strict precautions. The results of their experiments went to show that chemical agents do not of themselves produce suppuration. In repeating some of these experiments Dr. Knapp had experienced much difficulty, especially as regards croton oil, on account of the extreme irritation caused by it. Oil of turpentine, however, he had found much more manageable. He had followed the method of J. Straus, which he proceeded to describe. On account of the practical impossibility of otherwise completely disinfecting the fur of the animal, he sterilized the skin of a rabbit by means of the actual cautery. Then, having made the injection of the chemical agent under the skin by means of sterilized apparatus, the opening made by the needle was sealed up again by the actual cautery. Some of the experiments were performed by means of a pipette, the opening in the skin through which its point was inserted having been made with a heated knife. With the experiments made with oil of turpentine and croton oil (although there were but five in which the latter was used) suppuration resulted in only ten per cent. of the cases. As a rule, there was coagulation of fibrin with some necrosis, but no suppuration; in the cases in which suppuration did occur, it was found that there were always germs present, on account of some imperfection in the performance of the experiment.

Roice, of Utrecht, had made the same experiments in connection with the anterior chamber of the eye; and this method of procedure had the great advantage of allowing the whole process set up by the chemical agent to be observed by the experimenter. Dr. Knapp had repeated Roice's experiments, and he had also in one instance introduced the chemical agent into the abdominal cavity. No appreciable effect was produced upon the animal, and when, two weeks later, it was killed, no pathological changes whatever could be observed at the autopsy. He here exhibited Koch's syringe, which he said he had found very useful in making his experiments. In his experiments upon the eye inflammation was caused, but no suppuration, even with croton oil; which he found could be used more satisfactorily when mixed with olive oil in the proportion of one to two. In some of the animals operated on the injection was made through the sclerotic. When the same chemical agent (either croton oil or turpentine) was introduced into the other eye in connection with pyogenic fungi, the most violent inflammation and suppuration were always produced.

He also made cultures from the two classes of eyes, using staphylococci principally for this purpose. From the eyes containing pus an immense number of microbes, with pus, resulted. But microbes (although no pus) were also obtained from the eyes from which pyogenic fungi had been excluded; and this required an explanation. The animals were killed, and the microbes were found not only in the eyes, but also in the kidneys and the blood; although there appeared to be none in the brain. It was evident, therefore, that the system had become infected through the suppurating eye; and the microbes which were found in the other eye had no doubt originated from this source. Hence it was determined to make the two different classes of experiments in two different series of animals, instead of operating upon both the eyes of the same rabbit. When the cultures were now made, no microbes were found to have come from the non-suppurating eyes. These experiments, he thought, were satisfactory and conclusive. In the eyes into which pyogenic germs were introduced in connection with the chemical agent, suppuration occurred, and microbes were found in large numbers; but in the eyes from which such germs had been excluded there were neither suppuration nor microbes. The results found in the latter were merely coagulated fibrin and fibrino-leucocytic exudation. Dr. Knapp thought, therefore, that so far as this whole series of experiments went, we were justified in formulating the proposition that suppuration is always produced by microbes; and hence there can be no suppuration without the intervention of these morbid agents.

What, then, is suppuration? he asked in conclusion. Just as in the case of fermentation, the microbe ought to enter into the definition. As previously remarked, fermentation was the splitting up of a hydro-carbon into similar forms through the agency of the yeast-plant. Putrefaction, again, was the similar splitting up of a nitrogenous substance through the agency of microbes. Finally, suppuration was likewise the splitting up a nitrogenous substance through the same kind of agents. The difference between the two was, that in putrefaction the process always is concerned with dead nitrogenous substances, while suppuration always takes place in living ones. In this way the parallelism of these processes was established.

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PROTECTION OF THE PURITY OF INLAND WATERS.

SANITARIANS have long been impressed with the importance of protecting the purity of inland waters which furnish, or are likely to furnish, sources of domestic water-supplies; and manufacturers have been equally impressed with the difficulties attending such protection. In direct ratio to the density of the population, and the availability of the water-courses for manufacturing purposes, are the importance and the difficulty of protection increased. These two factors, density of population and availability of the water-courses reach their highest development in certain parts of New England, and preëminently in eastern Massachusetts; it is, therefore, natural that this State should be the first to attempt to grapple seriously with the problems involved.

A public Statute of 1878; the appointment and reports of three separate State commissions on drainage; the many excellent papers on pollution of water-supplies scattered through the volumes of the Board of Health reports almost from its origin in 1869, all testify to the growing appreciation of the magnitude and pressing nature of the problem.

In regard to certain watersheds all interests, the sanitarians, the legislators, the local authorities, the very manufacturers and inhabitants — are agreed that something should be done to provide for sewage and refuse otherwise than by emptying them into the streams and ponds; and yet from year to year plans, systems and charges are discussed and action is postponed.

The last legislature established another Act "to protect the purity of inland waters," the execution of which was intrusted to the State Board of Health. The principal duties of the Board as contained in that Act are summed up as follows:

- (1) To have the general care and oversight of inland waters.
- (2) To have the custody of maps, plans, etc., made for this purpose.
- (3) To recommend legislation and suitable plans for systems of main sewers.

(4) To cause examinations of the waters of ponds and streams to be made.

(5) To recommend measures to prevent the pollution of waters.

(6) To conduct experiments on the purification of drainage.

(7) To conduct experiments on the disposal of manufacturing refuse.

(8) To consult with and advise the authorities of cities and towns, or with others, with reference to water-supply and drainage.

(9) To consult with and advise manufacturers with reference to the disposal of manufacturing refuse.

(10) To bring to the notice of the Attorney-General all omissions to comply with existing laws.

The act further provides that authorities of cities and towns, and all others intending to introduce systems of water-supply or sewerage, shall submit to the Board outlines of their proposed plans or schemes in relation to these subjects; and that manufacturers intending to engage in any business, drainage or refuse, from which may tend to cause the pollution of any inland waters, shall also give notice to the Board of their intentions.

Under this Act the Board has made its first report to the Legislature, covering the first four months of the practical operation of the act from September 1st to December 31st, 1886. A chief engineer, an assistant and a consultant have been appointed, and the report of the engineer accompanies that of the Board.

Sanitary sins almost invariably have their origin in ignorance or selfishness, or in a combination of the two. As the Board of Health will be free from both of these influences, and we hope will know how to make itself felt as free from them, much may be expected from its intervention in these questions — provided it pursues them with the requisite zeal and tact, and provided the present legislature makes the necessary appropriation to defray the expenses entailed by the employment of expert engineers, chemists and biologists.

It is still an open question how far chemistry and biology are competent to establish the absolute safety of a given water-supply, but to be of positive value in determining the character of a body of water, of considerable size, subject to varying conditions, and its capacity for self-purification, examinations must be frequent and extended over sufficiently long periods of time, and such examinations involve expense. Moreover, it is only by such extended and systematic examinations that the rate at which the pollution of a stream makes progress can be determined.

Owing to their volume, and perhaps for other reasons, the Merrimac and Connecticut rivers were exempt from the operation of the Statute of 1878 for the prevention of the pollution of rivers and sources of water-supply. The Merrimac river, however, is at once the sewer and a source of water-supply of Lowell and Lawrence, two of the large cities of the Commonwealth and both among the large manufacturing centres of the world. In regard to this river the Board of Health reports to the Legislature that :

"The analyses of its water, made in 1873, 1879 and 1886, show that in 1873, when the amount of impurity in the water was sufficiently small to allow the water of the river, both at Lowell and at Lawrence, to be accepted as good drinking-water, the impurities then added by the sewage of Lowell and the refuse from the factories were so modified by flowing nine miles, and by being diluted by the increase in quantity of water, due to an increase of one-seventh of the drainage area, that the water at

Lawrence above the city was as good as that above Lowell; but in 1886 we find that, with substantially the same quantity of water flowing in the river, the percentage of impurities from animal and vegetable putrefaction, as shown by the albuminoid ammonia, has increased above Lowell by thirty-six per cent., and above Lawrence by fifty-seven per cent.; and that the impurities poured into the river at Lowell are now greater than the exposure to the air in flowing nine miles and the increased dilution can overcome, leaving the water above Lawrence with twelve per cent. more of impurities, due to animal and vegetable putrefaction, than that above Lowell, and fifty-seven per cent. more than it contained when the water-works were established at Lawrence, and now approximating the undetermined border line beyond which the water would be unfit for drinking.

"These results are obtained in September and October, when the quantity of water flowing in the river was about double the minimum quantity known to flow during a week of severe drought.

"At times of drought, and during the winter when the river is covered with ice, and the water having received the sewage of Lowell is not exposed to the air until it reaches the reservoir of the Lawrence Water works, the percentage of impurities is probably increased, — notably above that given by the table; but of these conditions we have no analyses.

"In considering the table of analyses of the Merrimac river water still further, we find that, although polluted by the factories of Lowell and Lawrence, and such sewage as was there discharged, the analyses of 1873 showed the water above Bradford and Haverhill to be as good as that above Lowell; but this result no longer obtains, for the analyses of 1886 show the water above Bradford to have thirty-four per cent. more impurity than that above Lowell, and eighty-one per cent. more than it had in 1873, rendering it, unquestionably, an unfit source for the domestic water-supply of Bradford.

"This result is not unexpected; the same result has happened to every water-course in the State which happens to lie in the midst of a populous and growing district. A gradually increasing mass of pollution suddenly reaches a point at which the stream is no longer able to neutralize it, either by dilution or by any of the so-called processes of oxidation; and a condition of things is arrived at as disgusting as that of the Blackstone at Millbury, or of Alewife Brook in Cambridge and Somerville, or of the North River at Salem.

"In no one of these instances was the introduction of sewage a nuisance originally, and in no one of them would it have been possible to say in advance just where the saturation point would be reached."

The Board are of the opinion that the interests of the public require that, for one year at least, chemical and, when necessary, biological examinations should be made once a month, of all waters supplied for domestic purposes, by water boards, water commissioners and water companies within the State; and that thereafter such examinations should be made at intervals not exceeding six months.

They also believe that, with sufficient money to carry on experiments with scientific accuracy at some one of the public institutions of the State, where favorable conditions can be secured, very much can be learned in regard to the practicability of the disposal of sewage by irrigation fields under the conditions of climate to which we are subjected in these latitudes. Experiments are also contemplated upon the purification of sewage and refuse from industrial establishments. The Board estimates that the sum of \$30,000, will be required in the proper and advantageous discharge of its duties under the act.

We hope the sum will be appropriated, and it would not be amiss for physicians to impress upon their representatives in the Legislature the importance of the questions involved.

ANTISEPTICS IN OBSTETRICS.

PROFESSOR RICHARDSON'S paper on the use of antiseptics in obstetric practice, and the free discussion thereof by the Obstetrical Society of Boston, both appearing in this issue of the *JOURNAL*, have placed this important subject so fully and clearly before our readers, that perhaps editorial comment is superfluous. Our admiration, however, of the scientific industry and clinical acumen which for years have been applied by the leaders in obstetric medicine to the investigation of the causes of puerperal fever, the media of its propagation, its prophylaxis and treatment, and our appreciation of the great benefits to mankind which will result from the universal acceptance and application of the now well-established principles of puerperal prophylaxis are such that we can forego no opportunity of contributing to the dissemination of what we believe to be the true principles of obstetric antiseptics.

While not underrating the importance of hygienic surroundings to puerperal women; while not ignoring the noxious effects of hospitalism and the consequent necessity of periodical fumigation and disinfection of hospital wards in addition to the usual attention to ventilation and general cleanliness, we are in accord with those who believe that puerperal fever is puerperal septicaemia and that it is propagated by contact, by infection,—by the introduction of septic germs from without to the inevitable abrasions and lacerations of the parturient canal.

This principle once accepted, the prevention of puerperal fever consists simply in taking due care that at the beginning of labor the vagina and genitalia of the patient are rendered aseptic, that during the labor and the puerperism all that comes in contact with the patient,—the examining finger, the hands of the nurse, catheters, forceps, needles, sutures, napkins and towels should be surgically clean; in other words, the possible infection by septic germs can be rendered impossible by sterilizing the micro-organisms before that which carries them comes in contact with the patient. The way and manner in which this can be accomplished has been admirably described by Professor Richardson.

We are aware that the advocates of rigid puerperal antiseptics meet with much opposition from those who, while admitting the great benefits accruing therefrom in lying-in hospitals, claim, nevertheless, that puerperal fever is comparatively rare in private practice and that unless some special reason exists therefore, rigid antiseptics is superfluous. Such opponents forget that there are minor and non-fatal forms of septicaemia; that, although death from septic causes is comparatively rare in private practice, fatal cases do nevertheless occur; that, apart from the fatal cases, there are many instances of tedious and prolonged convalescence with circumscribed peritonitis, phlebitis and other manifestations undoubtedly due to septic infection. Such cases cause the medical attendant much anxiety, and the patient undergoes the suffering,

confinement, and subsequent debility of a prolonged convalescence. Is it not worth while to prevent such complications by the application of rigid antiseptics to all cases? What valid objections can be adduced? The necessary precautions entail but slight expense; the trouble is very little to one who has once accustomed himself to the prescribed methods; the annoyance and possible danger of frequent douching is avoided, and the methods pursued are agreeable to the patient.

We have one word of caution, in connection with the use of the pad: let it not be conceived that the pad has any mystic power in the absence of other precautions. If unclean fingers and instruments are used during the labor, the pad might as well be dispensed with. Further, if for any reason the pad, which is in many respects a luxury, cannot be obtained, the customary napkin, if rendered thoroughly aseptic by immersion in a corrosive sublimate solution and subsequently dried before use, will fulfil the necessary requirement. The merit of the pad consists in the comfort it affords the patient in being soft, absorbent, and impervious; it requires less frequent changing than the napkin, and the patient is therefore less frequently disturbed. Moreover, the pad is destroyed after use, and the expense of washing thus saved is almost equivalent to the cost of the pad.

FATAL EFFECTS FROM INODOROUS FUEL-GAS.

SEVERAL deaths and a large number of prostrations have recently been caused in Troy by the escape of fuel-gas from leaks in the mains; many of the cases occurred in houses which were not supplied with the gas, and it is supposed to have passed into the cellars through the ground or by means of sewer-pipes.

This gas, which on account of its cheapness and many practical advantages, has been very extensively used in Troy, is entirely inodorous, and is said to contain nearly thirty per cent. of the deadly carbonic oxide. It consists also largely of hydrogen, and is manufactured by the process of T. S. C. Lowe, of Norristown, Pa., from simple water; the water being first converted into steam in an ordinary steam boiler. Thence it is passed through one upright cylinder of boiler-iron lined with fire-brick and filled with fire-brick loosely thrown in. These fire-bricks are heated red hot by an air-blast upon gases derived from a second upright furnace of coal, which is made incandescent also by an air-blast. By the passage of the steam over the heated fire-brick, hydrogen, carbonic oxide and carbonic acid gas, are given off, and passing thence into the second furnace, the carbonic acid takes up one more part of carbon and becomes converted into carbonic oxide. The cost of manufacture is only about nine cents a thousand cubic feet of gas. When the accidents referred to occurred, the company very properly discontinued its production and it is likely

that the Legislature will prohibit its manufacture altogether in the State unless suitable safeguards can be devised in connection with its use.

Leaks necessarily occur in gas-pipes, and an inodorous gas, charged with carbonic oxide to a much less degree than this fuel-gas, ought not to be distributed.

Efforts to make this fuel-gas odorous by carbolic acid or naphtha—the latter making the fuel-gas similar to the illuminating water-gas—increase the expense beyond the point of profit.

THE TREATMENT OF STRICTURE OF THE URETHRA BY GELOSINE BOUGIES.

THE treatment of urethral stricture by bougies of gelosine is an application of the principle whereby dilatation of the natural passages (like the cervix uteri) is effected by substances, which, like laminaria, swell under moisture.

Bedoin has lately reported to the Paris Société Therapeutique satisfactory results in the use of gelosine bougies in urethral stricture. Gelosine is the Japan seaweed, which, in its dried state, undergoes a gradual and extreme degree of augmentation of volume when brought into contact with liquids, such as water, or the secretions of the human body.

Bedoin has devised cylindrical bougies of various sizes out of this alga, which, according to his experience (he has now tried them in several bad cases) when employed in stricture of the urethral canal effect very thorough dilatation, and with very little pain. He regards gelosine as fulfilling all the conditions requisite for the preparation of bougies which are strong and flexible, may be used with entire safety, and are sure to do their work thoroughly and effectually.

Such, at least, is the inventor's opinion. The introduction of tents into the strictured portion of the urethra was tried and abandoned about the middle of the last century, because of the serious accidents to which the method gave rise.

At the séance of the 7th of June, 1854, of the Paris Surgical Society, bougies of prepared sponge, as proposed by Professor Alquié, of Montpellier, were exhibited, but their use was evidently of short duration. Flexible ivory had been previously experimented with; bougies of this material possess, like sponge, the property of dilating in the canal, but, in practice, they dilated above and below the stricture faster than at the strictured portion, so that withdrawal was extremely difficult. Laminaria bougies were highly praised by Dr. Robert Newman in the *Medical Record* of July 1st, 1872.

The prolonged retention in the urethra of a bougie which fills the canal, keeping up only a passive, and not a constantly-increasing distention, is very likely to give rise to serious disturbances. Even the retention of a small instrument is an evil only to be suffered on special occasions. The constantly-increasing pressure of any slowly-dilating material within the urethra

is sure to prove an evil sooner or later, no matter how promising the first experiments with some new material may seem.

MEDICAL NOTES.

— Dr. James Davies states, in the *Therapeutic Gazette*, that the Druidic College of the twelfth century considered tannin the most potent of all the products of nature in producing sterility, and that tea-drinking, as practised by the public, undoubtedly acts in the same direction.

— Dr. J. J. Chisolm, of Baltimore, has been appointed Chairman of the Section of Ophthalmology in the Ninth International Medical Congress, in the place of Dr. E. Williams, compelled to resign on the ground of ill-health. Dr. Judson B. Andrews, Superintendent of the Hospital for the Insane, Buffalo, N. Y., has been appointed Chairman of the Section of Psychological Medicine, in place of Dr. John P. Gray, recently deceased.

— Dr. J. C. Reeve, of Dayton, Ohio, records in the *Philadelphia Medical News*, January 1, 1887, an instructive case of death from shock following the use of an aspirator needle. The patient had abscess of the liver, diagnosed before death, and confirmed by autopsy. The needle was introduced three inches in depth at a point two inches below the costal cartilages, and one inch to right of median line; the direction of its course being upward and backward. It punctured the liver but failed to reach the abscess which occupied the right lobe. No anæsthetic was used, and the patient was dead in ninety seconds after the operation. The heart was normal, and death was due to simple inhibition of its action.

— Dr. F. H. Darby, a prominent physician of Morrow, near Cincinnati, Ohio, was recently summoned to another town as a witness in a trial for wife murder. On taking the stand, he stated that he would answer any questions of fact that he could, but would not answer questions of opinion, that is, give expert testimony, without receiving an expert's fee. The judge told him such a fee could not be allowed and cited a decision of the Supreme Court of one of the States, that physicians could be compelled to give expert testimony without additional compensation. The doctor gave replies to all questions of fact but when asked to state "whether in wounds like this there would be immediate gaping or would the lips of the wound for a time remain in contact or nearly so?" he refused to reply. He was adjudged guilty of contempt of court but submitted to imprisonment for two days rather than recede from his position.

BOSTON.

— An order was introduced last week in the House of Representatives, which requires the Committee on Public Health to examine and report what legislation is necessary for protection against poisonous substances in wall and other papers, and in textile fabrics and other articles in common use.

— Another case of suicide from "Rough on Rats" is reported, in the person of a young woman nineteen years of age.

— The Boston Board of Health, through its chairman, Samuel H. Durgin, M.D., publishes the following summary of deaths in Boston, with principal causes, for the year 1886, compared with those for 1885; the whole population in each year being 400,000.

	1886	1885		1886	1885
Total No. of deaths from all causes	9,268	9,618	Cerebro Spinal Meningitis	14	19
Annual death rate per 1000 inhabitants	23.17	24.04	Diarrhœa	172	170
Total No. from Zymotic diseases	1,644	1,879	Dysentery	61	62
Percentage of deaths from Zymotic diseases to total mortality	17.73	19.53	Diphtheria	329	334
Total No. of Still-births	543	520	Erysipelas	39	40
Total deaths of children under 1 year	2,110	2,156	Intermittent Fever	—	3
Under 2 years	2,640	2,812	Measles	36	84
Under 5 "	3,186	3,466	Purpura	7	2
Percentage of deaths under 5 years to total mortality	34.37	36.03	Puerperal Fever	17	20
Total No. of deaths from diarrhœal diseases under 5 years	605	621	Pyæmia	17	11
Total No. of deaths from diarrhœal diseases, all ages	705	723	Remittent Fever	5	2
Percentage of deaths from diarrhœal diseases to total mortality	7.60	7.51	Rheumatism	28	39
Alcoholism	39	55	Scarlatina	—	156
Croup	94	125	Small Pox	—	2
Carbuncle	3	7	Syphilis (congenital)	20	21
Cholera Morbus	28	30	Syphilis	7	10
Cholera Infantum	444	461	Septicæmia	26	31
			Tonsillitis	4	5
			Typhoid Fever	135	152
			Typhus Fever	—	—
			Whooping Cough	37	26
			Yellow Fever	—	1
			Other Zymotic diseases	1	11
			Cancer	299	274
			Phthisis Pulmonalis	1,607	1,523
			Bright's Disease	172	187
			Bronchitis	420	487
			Heart Disease	581	566
			Pneumonia	778	963
			Old Age	268	268
			Violent Deaths	361	350

NEW YORK.

— During the progress of a fire on Vesey Street, which occurred January 21st, Superintendent Frederick Simmons, who attempted to cut a wire of the United States Illuminating Company, which caused obstruction to the firemen, was instantly struck dead by the force of the electric current with which it was charged.

— Dr. W. M. Lively, on January 20th, sent to the Bureau of Vital Statistics the certificate of death of Alice Downs, a colored woman, whose age he states to be 110 years, 11 months, and 9 days. She was born in Maryland, had never married, and had lived in New York for fifty-two years. The cause of death was pneumonia.

— Prof. E. L. Youmans, the well-known scientific writer and editor of the *Popular Science Monthly*, died January 18th, of fibroid phthisis, at the age of sixty-five. He was the intimate friend of Herbert Spencer, Huxley, and Tyndal. He studied medicine, and received the degree of M.D. at the University of Vermont, but never engaged in practice.

— At a meeting of the Section on Practice of the New York Academy of Medicine, held January 18th, Dr. E. Darwin Hudson, Jr., was elected Chairman for the ensuing year. A paper on "The Use of Quinine in the Pneumonia of Children" was read by Dr. Mary Putnam Jacobi, after which Dr. J. West Roosevelt read a paper on "A Short Account of our Present

Knowledge of Beriberi, with Observations on Cases recently in Bellevue Hospital." Dr. E. C. Seguin gave a report of three cases of beriberi in private practice, and Dr. H. H. Vincburg reported his observations of over one hundred cases in the Sandwich Islands.

— The annual meeting of the Saturday and Sunday Hospital Association was held January 18th, at St. Luke's Hospital. Among those elected members of the Executive Committee was Mr. Cornelius Vanderbilt. Mr. George McCollough Miller, who was re-elected President, in his address, suggested that the president of any auxiliary which should contribute \$1,000 or more should become a member of the Association for one year. The general agent, Mr. Cook, reported that the collections already amounted to about \$48,000, and that there was little doubt that the total would reach \$52,000, a considerable number of churches still remaining to be heard from.

— The popularity of the courses of lectures on anatomy, physiology, zoology, physical geography, and other scientific subjects, provided by the Legislature for the public school-teachers of New York and Brooklyn, and delivered by Professor Bickmore at the American Museum of Natural History, has been well attested by the increasing attendance from 121 at the opening of the course of 1884, to 140 at the opening in 1885, 286 in 1886, and 504 the present year. The lecture-hall is now entirely inadequate to accommodate those who wish to attend, and a bill providing for an enlargement of the Museum and better facilities for public instruction has been introduced into the State Senate.

Miscellany.

IS TETANUS CONTAGIOUS?

AT the Société de Chirurgie, an interesting paper, as we learn from the *Lancet*, followed by discussion, was read by M. Larger, which seemed to show clearly that there were good grounds for believing in the contagiousness of tetanus. Four patients who had been treated in the Colmar Hospital were seized with tetanus at different intervals, and all died. The nature and severity of the wounds varied in each case from an amputation to a simple incised wound. The only thing common to them all was that the cases had all occupied contiguous beds. Tetanus is rare at Colmar. None of the patients had had anything to do with horses. A veterinary surgeon, M. Cagnat, had practised castration on horses for twenty-five years without a single case of tetanus. At the end of 1884, he removed with an *écraseur* a tumor of the testicle in a horse; the animal died of tetanus. Operations for castration practised with the same *écraseur* on five horses afterwards were followed by tetanus and death in all the animals. The *écraseur* was then submitted to disinfection by being heated to a high temperature. The instrument was afterwards used for fresh castrations, and without tetanus resulting in any of the animals operated on.

LOCAL ANÆSTHESIA IN DENTAL SURGERY.

LAGRANGE, in the *Bulletin Gen. de Thérapeutique* (December 30, 1886), proposes the following means for the extraction of teeth without pain. He injects into the gums bordering on the teeth to be extracted a few drops (fifty centigrammes) of a three per cent. solution of carbolic acid, in which five centigrammes (or about a grain) of cocaine has been dissolved. The operation of extraction is quite painless.

His rules, as stated in the article in the journal aforesaid,¹ are as follows:

(1) Make a solution of cocaine (five centigrammes) in fifty centigrammes of carbolic solution (three per cent.).

(2) Inject thirty centigrammes of this cocaine solution into the gum outside of the decayed tooth, and twenty centigrammes into the gum inside of the tooth.

(3) The injection into the gum outside of the tooth must be made somewhat deeper than that made inside. This injection, moreover, has a much more marked anæsthetic action.

(4) In order that the insensibility may be complete, at least five minutes must elapse between the injection and the extraction.

(5) When roots are to be extracted, the injection should be made between the gingival border and the tooth, and the injection should penetrate as deeply as possible alongside of the roots.

(6) A little numbness and a slight shivering (*frémissement*) is apt to usher in the local anæsthesia determined by the injection.

A PATHOGNOMONIC SIGN OF CANCER OF THE STOMACH.

THE Paris correspondent of the *Lancet* says that at a recent meeting of the Société Médicale des Hôpitaux, a patient was shown who exemplifies the condition said by German writers to be characteristic of cancer of the stomach, a condition found by M. Debove to be constant in such cases, and which he proposes as a pathognomonic sign of the disease. In malignant disease of the stomach, it will be found that hydrochloric acid is always wanting, whereas it lasts constantly during digestion in every other case. In M. Debove's patient, this absence of hydrochloric acid enabled a diagnosis to be made at a period when there was no other symptom of cancer, and the disease was looked upon as dyspepsia, an opinion shared by M. Debove himself until he had ascertained the composition of the gastric juice. Since the beginning of the year the man has been under observation, and the real nature of his disease, now constituted by a characteristic tumor the size of an egg, is no longer doubtful. In reply to questions, M. Debove said that he obtained the liquid for examination by means of the œsophageal tube, and that the test used for distinguishing the acids were those recommended by the Germans. A solution of gentian violet (1 to 5,000) gives a blue coloration with HCl. "*L'orange Poirier*" in saturated solution gives a red reaction with the same acid. Lactic acid is recognized by the increased yellowing of perchloride of iron, and by change in color of a mixture of perchloride of iron and carbolic acid, from amethyst-blue to yellow.

¹ Bull. Gen. de Thé., December 30, 1886.

Correspondence.

IN RE PASTEUR.

ANOTHER SIDE OF THE REVEILLAC CASE.

MR. EDITOR,—In the *JOURNAL* for January 20th, an editorial deals with the case of young Réveillac, who died after having subjected himself to Pasteur's "intensive" method of inoculation. For the facts as presented in that editorial I will refer your readers to the editorial itself. To give those of them, however, who are debarred from access to French Medical journals, the opinions which were expressed by members of the Paris Academy of Medicine, in reply to Prof. Peter's assertions, seems but simple justice to Pasteur:

Dujardin-Beaumetz said (in brief): "M. Peter's case is interesting but not conclusive. He saw a man who had been bitten by a mad dog, who had been inoculated and who died frothing at the mouth, but this by no means proves that the patient died in consequence of the inoculation. It is very important to observe that many symptoms of rabies — ærophobia, hydrophobia, constant spitting, — were not seen in this patient, and also, as every one knows, that the paralytic form of rabies in man is absolutely exceptional. In every causal aspect this case is not proved, the less so in view of the fact that there has been a certain number of similar cases, in which it was shown that death was caused by anything but rabies; for example: the child who, bitten by a mad dog and inoculated by the "intensive" method, received one month later a blow on the ribs, experienced severe pain in this locality, went to bed, exhibited convulsive phenomena, which were attributed to rabies, and shortly after died. Animals inoculated with the spinal matter did not develop rabies. This child, then, did not die from hydrophobia. Probably succumbed to uramic accidents. Scientific records show analogous cases."

Brouardel said: "I made the autopsy upon this child. It is sufficient to say that the diagnosis — rabies — had been made without examination of the urine and that the latter was very albuminous."

Peter, having reiterated symptoms which he considered as proof that his man died from rabies caused by the inoculation, *Dujardin-Beaumetz* replied: "A person may exhibit symptoms of hydrophobia without being mad," and he quoted cases in proof, then added: "In order to be certain that death is caused by rabies, all will agree with me that symptoms far more serious than those reported by M. Peter are necessary and I assert that the diagnosis of rabies ought not to be scientifically accepted until after positive inoculations with spinal matter from the subject supposed to have died of rabies, have been made."

Chauveau said: "With reference to paralytic hydrophobia I would say to M. Peter that it is not, as he believes, a hydrophobia of the laboratory. Ordinary rabies communicated by bites is often paralytic in animals. But suppose, in short — what is far from proved — that this man died mad; the conclusion in this particular case should then be, that the preventive inoculations were inefficacious and nothing more. This is very admissible because we all know that the immunity provided by the inoculations is never absolute. As to the assertion that rabies was communicated by these inoculations, that is another thing. I have just shown that the paralytic form of rabies proves absolutely nothing. I can say as much of the premonitory phenomena said to have taken their point of departure from the inoculated localities. These local phenomena are often missing; sometimes they are observed when rabies does not manifest itself. I have seen an example. In any case they have only an unimportant value and we can draw no conclusions whatever from their existence."

Verneuil said: "I think, in his communication, that M. Peter has abused the *post hoc ergo propter hoc*. When a person has been inoculated with an infectious malady and then dies, it is not always and fatally from this infectious disease. M. Peter's patient was bitten and inoculated.

Then, it is true, he died. But in view of the details of his illness, nothing is less certain than that the cause of his death was rabies. In fact everything is lacking in this case. Nothing has been said of temperature or spitting; there was no autopsy and no subsequent inoculation (with the spinal matter). Now, in order to draw conclusions, in a case of such gravity, absolute facts and not simple conjectures, are necessary. If we must abandon our illusions they will have to be wrested from us by facts of another sort of value than that of those we have just heard."

Thus ended the discussion, not one voice having been raised in support of Peter. The entire discussion may be found in *La Semaine Médicale* for January 5, 1887.

Yours respectfully, HAMILTON OSGOOD, M.D.

[We are happy to publish Dr. Hamilton Osgood's letter and glad to give all the comments made at the meeting of the French Academy upon the Réveillac case. Pasteur's side of the inoculation question has been frequently given in these columns, and it was with the purpose simply of giving "the other side" that we reproduced Professor Peter's statement in the editorial note referred to. His extravagant anti-microbism, as well as anti-Pasteurism, is too well known not to open his statement of any such question as that involved in the Réveillac case, to examination. Our editorial note referred to several of the points brought up in the debate, and, while one or two of our phrases may have been misleading, we by no means wished to indicate that Peter had proved his point. —Ed.]

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 15, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Diarrhoeal Diseases.	Acute Lung Diseases.	Diph. & Croup.	Measles.
New York	1,439,039	814	365	24.48	1.59	21.77	9.10	8.99
Philadelphia	971,363	409	127	13.20	1.20	15.36	6.72	.24
Brooklyn	690,000	350	160	17.05	1.16	25.20	7.54	4.06
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	199	61	13.28	.51	18.11	10.06	—
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	166	68	12.66	—	10.84	7.84	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	110	23	54.54	18.18	11.82	18.18	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	106	50	34.44	2.82	19.74	14.10	11.28
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	26	10	19.25	—	15.40	—	—
Charleston	60,145	31	8	12.92	—	6.46	6.46	—
Worcester	68,383	28	10	—	—	24.99	—	—
Lowell	64,051	30	13	40.00	13.33	6.66	3.33	10.00
Cambridge	59,660	22	7	18.20	4.55	9.10	13.65	—
Fall River	56,863	28	15	10.71	10.71	10.71	—	—
Lynn	45,861	9	3	55.55	—	11.11	22.22	—
Lawrence	38,825	11	0	9.09	—	18.18	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	7	1	—	—	14.28	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	4	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	1	11.11	—	33.33	11.11	—
Taunton	23,674	10	0	—	—	10.00	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	9	1	—	—	22.22	—	—
Newton	19,759	4	2	—	—	25.00	25.00	—
Malden	16,407	5	1	—	—	—	—	—
Fitchburg	15,375	5	1	—	—	—	—	—
Waltham	14,609	2	1	16.66	—	—	—	—
Newburyport	13,716	6	0	—	—	—	16.66	—
Northampton	12,896	2	1	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,312; under five years of age 934; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 436, consumption 364, acute lung diseases 440, diphtheria and croup 189, measles 103, diarrhoeal diseases 38, typhoid fever 35, cerebro-spinal meningitis 11, erysipelas 11, scarlet fever 19, whooping-cough 16, malarial fever nine, puerperal fever five. From typhoid fever, Philadelphia 11, New York nine, Baltimore five, Brooklyn, Boston, and Pittsburgh two each, Charleston, Lowell, Lynn and Lawrence one each. From scarlet fever, New York six, Brooklyn three, Philadelphia four, Boston three, Pittsburgh two, Baltimore one. From whooping-cough, New York seven, Brooklyn four, Philadelphia and Pittsburgh two each, Lynn one. From cerebro-spinal meningitis, New York five, Nashville and Lowell two each, Philadelphia and Lynn one each. From erysipelas, New York five, Philadelphia two, Brooklyn, Boston and Charleston one each. From malarial fevers, New York five, New Orleans two, Philadelphia and Baltimore one each. From puerperal fever New York two, Brooklyn, Boston and Nashville one each.

In the 20 cities and greater towns of Massachusetts, with a

population of 961,138 (population of the State 1,941,465) the total death-rate for the week was 22.02 against 22.61 and 21.77 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 1st the death-rate was 23.1. Deaths reported 4,374: infants under one year of age 951; acute diseases of the respiratory organs (London), 573; measles 244, whooping-cough 90, scarlet fever 80, fever 56, diarrhoea 36, diphtheria 30.

The death-rates ranged from 16.8 in Blackburn to 36.0 in Halifax; Birkenhead 22.4; Birmingham 22.9; Bradford 19.5; Brighton 24.2; Hull 31.1; Leeds 28.5; Leicester 21.7; Liverpool 32.4; London 23.9; Manchester 32.3; Nottingham 21.3; Sheffield 20.1.

In Dublin 38.0.

For the week ending January 1st, in the Swiss towns there were 32 deaths from consumption, lung diseases 19, diarrhoeal diseases nine, diphtheria and croup six, measles three, scarlet fever three, whooping-cough one.

The death-rates were: at Zurich 5.7; Geneva 16.2; Basle 17.0; Berne 25.7.

The meteorological record for the week ending January 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Jan. 15, 1887.																			
Sunday, ... 9	30.230	11.0	14.0	3.0	69.0	84.0	94.0	82.0	N.	N.	N.	8	8	7	F.	N.	N.	—	—
Monday, ... 10	29.528	18.0	28.0	10.0	81.0	64.0	60.0	68.0	N.W.	N.W.	N.W.	6	19	17	C.	C.	C.	—	—
Tuesday, ... 11	29.830	17.0	24.0	6.0	64.0	50.0	63.0	59.0	W.	W.	W.	13	15	20	C.	C.	C.	—	—
Wednesday, ... 12	29.660	29.0	34.0	16.0	75.0	52.0	63.0	63.0	S.W.	S.W.	W.	10	14	13	C.	C.	C.	—	—
Thursday, ... 13	30.124	32.0	36.0	28.0	61.0	38.0	58.0	57.0	W.	W.	E.	14	7	3	C.	C.	O.	—	—
Friday, ... 14	29.776	21.0	37.0	11.0	100.0	100.0	81.0	94.0	E.	N.	N.E.	48	26	17	N.	R.	N.	—	—
Saturday, ... 15	29.764	15.0	18.0	10.0	91.0	92.0	68.0	84.0	N.W.	N.	N.	6	11	7	O.	N.	O.	41	0.93†
Mean, the Week.	29.844	204.						72.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; †, rain and melted snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 15, 1887, TO JANUARY 21, 1887.

FORWOOD, W. H., major and surgeon. Ordered for duty at Fort Meade, D. T. S. O. 5, Department of Dakota, January 14, 1887.

BROOKE, JOHN, major and surgeon. Ordered for duty as post-surgeon at Fort Monroe, Va. S. O. 10, Division of the Atlantic, January 14, 1887.

GARDNER, W. H., major and surgeon. Ordered for duty as post-surgeon at Fort McHenry, Md. S. O. 10, Division of the Atlantic, January 14, 1887.

POPE, B. F., major and surgeon. Ordered for duty at Fort Clark, Tex. S. O. 15, A. G. O., January 19, 1887.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, Wednesday evening, February 2d, at eight o'clock. Dr. David W. Cheever will report the following cases illustrative of the Surgery of the Abdomen. I. "Deep Abscess of Abdomen in a Child: Abdominal Section: Drainage: Recovery." II. "Abscess in Abdomen (Perityphlitic?) in a Young Man: Abdominal Section: Drainage: Tapping through Rectum: Recovery." III. "Pyo-Nephritic Abscess after Labor: Laparotomy: Drainage: Partial Recovery." IV. "Pelvic Abscess in a Female: Exploration through Abdominal Wall: Dilatation of Urethra: Drainage through Bladder: Partial Recovery." V. "Volvulus: Abdominal Section: Artificial Anus: Death." VI. "Herniotomy: Mortification of Bowel: Resection and Intestinal Suture: Death." VII. "Stoppage of Bowels: Recovery without Operation." VIII. "Stoppage, and Peritoneal Irritation: Recovery without Operation."

GEORGE H. MONKS, M.D., Secretary.

ERRATUM.

On page 61, second column, line twenty-nine, of JOURNAL of January 20th, instead of "disappoints" read "often disappoints."

APPOINTMENT.

At the adjourned annual meeting of the Boston Society for Medical Improvement, Dr. O. F. Wadsworth was chosen President for the ensuing year.

DEATH.

Died at New Bedford, Mass., January 14, 1887, William Alexander Gordon, M.D., M.M.S.S., in the seventy-eighth year of his age.

OBITUARY.

ESTES HOWE, M.D.

Dr. Estes Howe died at his home on Oxford Street, Cambridge, Mass., January, 1887, at the age of seventy-two years and six months. He was a native of Northampton, and was a son of Judge Howe of that city. He was graduated at Harvard

in 1832 and subsequently studied medicine, being for many years a successful practitioner. At one time he resided in Cincinnati. Since coming to Cambridge he had represented the city in the Senate in 1859 and 1871, and was at one time a member of the Cambridge Water Board. Of late years he had not actively practised his profession. For thirty-five years he had been Treasurer of the Cambridge Gas-Light Company.

WILLIAM PERRY, M.D.

The oldest living graduate of Harvard College died January 11, 1887, at Exeter, N. H., in the person of Dr. William Perry. He was born at Norton, Mass., December 20, 1788, and was therefore at the time of his death aged ninety-eight years and twenty-one days. He was a member of the class of 1811 of Harvard. After graduating from Harvard Dr. Perry studied medicine with the eminent Dr. John Warren, and soon after settled at Exeter, where he enjoyed a long and successful practice. He was one of the first persons to advocate a State insane asylum. He attended church constantly from the time when, four years old, he went barefooted, to about six months ago. He leaves two sons, Dr. William G. Perry, the oldest practicing physician in Exeter, and John L. Perry, until within a few years connected with the *Cincinnati Gazette*, who now devotes his time to literary work. He was grandfather of Sarah Orne Jewett, the authoress. He was sole survivor of the passengers on Fulton's first steamboat passage down the Hudson River, August 10, 1807, being at that time on his way from Union College, Schenectady, N. Y., to Harvard College, which he had just determined to enter. On reaching Albany he found that none of the regular river boats would start for several days, but that the "Katherine of Clermont," Fulton's boat, then on her trial trip, had just reached Albany and would start on her return next day. He took passage on her as far as Kingston. After she landed him she travelled but a few miles before her boiler burst and she was laid up for repairs several days. Dr. Perry had retained his health up to the present winter.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the American Ophthalmological Society. Twenty-Second Annual Meeting. New London, Conn., 1886. Boston: Published by the Society. 1886.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year, 1886. Washington, 1886.

First Annual Report of the Maine Eye and Ear Infirmary from its Opening April 22d, to December 1st, 1886, together with the Constitution and By-Laws. Portland, 1886.

Some Medico-Legal Cases under State and National Laws. By B. Joy Jeffries, A.M., M.D., of Boston. From the Transactions of the American Ophthalmological Society, Twenty-Second Annual Meeting, 1886.

Über subdiaphragmatische Echinokokken und deren Behandlung. Vortrag nebst Demonstration von drei geheilten Fällen gehalten im Verein für innere Medizin am 1. November 1886. von Dr. Leopold Landau, Dozent der Gynäkologie an der Universität Berlin. Berlin, 1886.

Report on Diseases of the Rectum. By Joseph M. Matthews, M.D., Professor of Principles and Practices of Surgery and Diseases of the Rectum in the Kentucky School of Medicine, Louisville, Visiting Surgeon to Louisville City Hospital, etc. Read before the Kentucky State Medical Society, at Winchester, June 24, 1886. Louisville, Ky., 1886.

Lecture.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.¹

BY M. ALLEN STARR, M.D., PH.D.,
Professor of Nervous Diseases, New York Polyclinic.

THE discovery of a new disease is never made suddenly. It is a gradual process, and certain stages in the progress towards its complete recognition may be observed. There is first the period of clinical observation, when isolated cases of an unfamiliar and mysterious affection are recorded as curiosities. To this succeeds the period of diagnosis, when, by a comparison of the now numerous cases, a clinical picture of the disease is gradually filled out. In this stage there is much to impede the progress of discovery. For not content with an analysis of symptoms, and a grouping of cases, the majority of observers offer theoretical explanations of the nature of the new affection, and an element of speculation enters, which often obscures the facts. There is, however, a real progress in this period, for it is characterized by inductive reasoning from fixed data, and, as a result, reliable conclusions are reached, which make a diagnosis possible. The third period is that of pathological discovery, where the morbid changes lying at the basis of the disease are accurately ascertained. In this stage erroneous theories are eliminated, true explanations for various symptoms become self-evident, and the exact nature of the affection is determined. The disease has now a status of its own. And at first this might seem to be the final stage in the progress of discovery. It is not. There remains a period of etiological classification, when conditions, formerly supposed to be dissimilar, are found to have a common basis, when the pathological changes are ascertained to be the same although the clinical pictures have varied, and when classification of the various forms is rendered possible and a definition of the disease is reached.

Such a gradual advance toward general recognition is well illustrated by the history of multiple neuritis, which is to engage our attention at the present time.

I think we may claim that one of the first cases presented was by an American physician, Dr. James Jackson, of Boston, in 1882.² In a paper "On a Peculiar Disease Resulting from the Use of Ardent Spirits," which he named arthrodynia, he gives a most graphic picture of what we now know to be one form of multiple neuritis.

He says, "This disease comes on gradually. It commences with pain in the lower limbs, but especially in the feet, and afterward extends to the hands and arms. The hands may be affected first in some instances, and in all cases in an advanced state the pain is more severe in the feet and hands than in the upper part of the limbs. The pain is excruciating, but varies in degree at different times. It is accompanied by a distressing feeling of numbness. After the disease has continued a short time, there takes place some contractions of the fingers and toes, and inability to use these parts freely. At length the hand and feet become nearly useless, the flexor muscles manifesting, as in other diseases, greater power than the extensors. The whole body diminishes in size, unless

it be the abdomen, but the face does not exhibit the appearance of emaciation common to many visceral diseases. The diminution is especially observable in the feet and hands, and some time the skin of these parts acquires a peculiar appearance. The same appearance is noticed in a slighter degree in the skin of other parts. This appearance consists in a great smoothness and shining, with a sort of fineness of the skin. The integuments look as if tight and stretched, without rugæ or wrinkles, somewhat as when the subjacent parts are swollen, but the skin is not discolored. Yet in this disease there is not any effusion under the skin, and the character which this assumes arises from some change in the organ itself. The most characteristic symptoms are manifested in the limbs, but the pain is not limited to these — and other symptoms are exhibited in other parts. The pain sometimes shoots suddenly up one or both legs, and in one case it frequently passed up the back and then forward to the pit of the stomach. The functions of the stomach are always impaired. The mind is weakened. Sleep is prevented by pain. I believe that this disease is always fatal when the use of spirituous liquors is not abandoned before the powers of the digestive organs are greatly impaired."

It is hardly possible, even at the present day, to add to this description, which portrays in strikingly vivid language the main features of one form of multiple neuritis.

The next observations of importance in establishing a clinical picture were made by Magnus Huss, who, in his work upon chronic alcoholism, in 1852, gave a very complete description of alcoholic nervous symptoms, dividing the cases into paralytic, anæsthetic, convulsive, epileptic, and hyperæsthetic forms.

In 1855 the great work of Duchenne was published,³ and in it a number of cases are recorded which we now recognize as multiple neuritis. In these cases there were sensory disturbances, consisting of pain, numbness and loss of sensation; motor disturbances consisting of paralysis, with atrophy, especially marked in the distal parts of the extremities, and attended by a loss of faradic contractility in the paralyzed muscles; and cyanosis, coolness, and increased sweating in the affected limbs. Duchenne grouped these cases together under the title, "Paralysie Générale Spinale Subaiguë Ascendante," because he thought a gradual advancing lesion in the spinal cord, from below upward, would explain the symptoms. It is true that he found no microscopic change in the cord in the only case in which he made an autopsy. But when, under the leadership of the French school, from 1860 to 1865, the microscopic appearances in nervous lesions began to be studied, the hypothesis of Duchenne at once appeared to be verified, for it was found that such symptoms as numbness, pain and anæsthesia were associated with lesions of the posterior columns of the spinal cord. And it was also proven that atrophic paralysis was caused by a degeneration of the ganglion-cells of the anterior gray horns of the cord, not necessarily visible to the naked eye. It seemed an easy step to the conclusion that when these symptoms occurred together, the entire spinal cord was the seat of disease, and that wherever they occurred a spinal lesion was progressing. The pathology of this form of paralysis appeared to be definitely ascertained, and for many years the fallacy of such a conclusion was

¹ Lecture I of the Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, Jan. 25, 1887.

² New England Journal of Medicine and Surgery, Vol. xi, p. 351.

³ *Electrization Localisée.*

not detected. All atrophic paralysis was invariably referred to spinal lesions, because spinal lesions may cause atrophic paralysis.

But facts rarely accommodate themselves permanently to theories, and after a time a mass of very unwieldy facts began to accumulate. Cases of atrophic paralysis without spinal lesion were observed, and these threw doubt upon the theoretical pathology. The period of true pathological observation had begun and gradually went on to completion. In 1864 Dumeuil reported the following case, which deserves to be cited, as it is the first in which an autopsy established the existence of a wide-spread disease in the peripheral nerves as a cause of sensory motor and atrophic symptoms.

Observation I.—A tailor, aged sixty-one, after suffering from prickling in the toes for two weeks, was suddenly taken with weakness in the left arm and right leg, and, a few days later, by the same paresis in the left leg. Within five days he could not stand or walk. The paralyzed feet hung flaccid, and were totally paralyzed; the thighs could be moved freely. Anæsthesia was found on the right sole and calf, and on the left foot and outer side of the leg. In the muscles of the hands and forearms a considerable atrophy, with paralysis, developed. The faradic contractility was abolished in the paralyzed muscles. He complained of a painful numbness in the paralyzed limbs up to the knees, and limited to the hands.

No improvement; death in four and a half months.

Autopsy: Spinal cord and nerve roots were normal. The finer nerve-branches in the legs and hands were degenerated, only a small number of nerve-fibres being found. Single fibres showed no continuous myelin sheath; but this was segmented and granular. There was an increase of connective tissue, and many fat cells in the nerves.⁴

This case being of an anomalous character excited very little attention. Two years later, however, Dumeuil reported another, and published an elaborate article on peripheral paralysis, in which he said: "My own observations have convinced me firmly that many paralyzes of obscure origin are caused by true spontaneous neuritis." . . .

Singular as it may seem, an interval of ten years elapsed before another case of similar nature, accompanied by a record of *post-mortem* examination, appeared. Then Eichhorst, of Berlin, reported the following interesting history:

Observation II.—A female, aged sixty-six, after suffering daily for two weeks from a chill, fever, and sweat, attended by malaise, anorexia, and constipation, noticed an œdematous swelling of both feet and legs, and complained of pain in the abdomen. A week later, on admission to the hospital, these symptoms continued. The urinary examination was negative. Three days after admission she suddenly felt a severe boring pain in the left leg, shooting into the toes, and at the same time a profuse sweat broke out over the calf and back of the foot. A few hours later a total paralysis was found in the muscles supplied by the peroneal nerve, with a marked anæsthesia. The electric reaction, at first preserved, was found two days later to be gone. After six days, during which she had no further chills, a paralysis of the anterior tibial nerve developed, and soon after of the posterior tibial nerve also. One week later entire paraplegia of the

legs, with anæsthesia, severe pains, continual sweating, increasing œdema, and loss of the tendon reflexes had ensued. There followed a paralysis of the left, and soon after of the right, radial nerve. Moderate fever continued and albuminuria appeared. Three weeks after her admission sudden blindness developed, the ophthalmoscopic appearance, being at the time normal; the patient then lay in bed with eyes closed, unable to move a limb. The extremities perspired constantly, and were tender, any pressure on nerve-trunks being very painful. In the face there was no trouble, and the senses were normal except that of sight. No trouble in swallowing. Nothing abnormal about the viscera during the entire disease. No irregularity of pulse or respiration. Death occurred on the forty-fourth day of the disease.

Autopsy: Spinal cord absolutely normal. The nerve-trunks in the bicipital grooves appeared intensely red to the eye, the perineum being discolored and the endoneurium blood red. The same appearance was noticed in the large nerve-trunks of the arm in their course, as well as in the left tibial nerve. The microscopic examination showed a remarkable distention and tortuosity of the blood-vessels of the perineum; the vessel-walls were thickened, their nuclei increased. In the vicinity of the vessels a large number of lymphoid cells were found, which everywhere followed the vessels and infiltrated the connective tissue. There were also numerous fatty cells. The connective-tissue fibrillæ of the perineum were thickened, shining, and swollen; their nuclei were increased and partly infiltrated with fat granules. Similar changes now seem in the endoneurium, namely, numerous extravasations of blood, which separated the nerve-fibres and compressed them. The nerve-fibres showed marked degeneration, especially those lying next the endoneurium, consisting of disintegration of the myelin sheath, and a distention and spindle-shaped swelling of the individual nerve-fibres. The nuclei of the sheath of Schwann were not increased in number, but the protoplasm about them was coarsely granular and opaque. The cells of the endoneurium were everywhere wanting, being replaced by fatty granular cells, even between the uninjured fibres.⁵

This is the first case to be found in which the microscopic appearances are described with sufficient detail to be satisfactory. It is to be noticed that here the lesion was an acute inflammation, and was, apparently, a diffuse one, both interstitial tissue and nerve-fibrils being involved in the process. That it was primarily an interstitial inflammation, and that the affection of the nerve-fibrils was secondary, due to pressure of the products of exudation, is clearly seen in the fact that those fibres were more seriously affected which lay near vessels, while the deeper fibres in large bundles were not at all degenerated. The appearance of the fibres was such as occurs in any degeneration from pressure. There is no reason, therefore, to believe that the process began diffusely.

As to the symptoms in this case, it is to be remarked that they were ushered in by an acute febrile movement with chills, and that severe pain was an early and prominent symptom; also that œdema and sweating were present; and the optic nerves were involved.

The clinical picture in the following case of Joffroy, published three years later, was somewhat different, as was also the pathological condition.

⁴ Dumeuil. *Gaz. Heb.*, 1864, p. 203, and *Gaz. Heb.*, 1886, No. 4.

⁵ Eichhorst. *Virchow's Archiv*, Bd. 69, p. 265, 1876.

Observation III. — A washerwoman, aged thirty-three, in the last stage of phthisis, was admitted to the hospital on March 5th. In February she had noticed a rapidly increasing weakness of her legs, and at the time of admission she could not walk or raise her feet from the bed. She could flex the knees but not extend them. There was no contracture, and the muscles were relaxed and flabby. Sensation to pain, temperature and pressure impressions, was normal, but the muscular sense was lost, and reflexes were diminished. She showed such a degree of mental weakness that tactile sense could not be tested. She had no shooting pains, no loss of control over bladder and rectum, no bedsores. Two weeks later the arms became involved in the paralysis, and atrophy, incoördination, and loss of muscular sense, with fibrillary motions, developed within a few days. There was great diminution of faradic excitability in all the paralyzed muscles. At the end of ten days the arms were entirely powerless, but retained their sensibility. On April 7th she died.

Autopsy: A chronic meningitis of the brain explained the mental symptoms. The spinal cord was normal. The nerves appeared normal; but microscopic examination showed very marked degeneration in all the nerve-trunks, but especially in the sciatic, radial, and ulnar nerves. There was a segmentation of the myelin sheath, which at places was reduced to a finely granular mass. Many sheaths of Schwann were filled with this mass; others were empty. The nuclei of the sheaths of Schwann were increased in number. All the spinal nerve-roots were normal. The changes in the nerves were followed down into the fine terminal branches in the thenar muscles. The muscles were atrophied, and showed fatty degeneration.⁶

Here, in contrast with the preceding case, it is to be noted that the lesion was not attended by congestion of the nerves, or by any exudation of lymphoid cells, or by marked interstitial changes. The affection was a true parenchymatous inflammation, with degeneration of the myelin sheath and axis cylinder. As a result, the microscopic appearance of the nerves was not such as to attract attention, and it required a microscopic examination to demonstrate the changes present. Joffroy, who reports this case as one of general spontaneous neuritis, finds the lesion identical with that observed in cases of localized neuritis occurring from cold, from lead-palsy, or as the sequel of the infectious diseases. In regard to the symptoms, also, the case contrasts strongly with the preceding one. The patient had phthisis. The disease advanced more slowly. Pain was absent, and the sensory symptoms were by no means prominent, the muscular sense being the only one affected.

In 1880, the following cases were observed by Leyden in the Charité Hospital of Berlin, in both of which changes were found in the peripheral nerves. They are cited because they not only enlarge our clinical picture, but confirm the pathological conditions already described. . . .

When the characteristic features of a new disease have once been clearly pointed out, it is remarkable to observe how rapidly cases of it begin to be recognized. In the two or three years which followed the appearance of Leyden's article, numerous cases of multiple neuritis were reported in the journals; and

many physicians, reviewing their records, recognized, in cases previously obscure or imperfectly diagnosed, typical pictures of the new disease. It may be well to consider a few of these cases, in order to complete our clinical knowledge of the affection.

Observation VI. — A female, aged thirty, of intemperate habits, but otherwise in good health, after suffering from formication, coldness, and pains in her feet and legs for some months, noticed an œdema of both legs. This increased rapidly after a few days, and the swollen limbs became painful to touch or pressure, and were the seat of severe, lancinating pains, which were worse at night. Within a month the same symptoms appeared in the arms and hands, and a marked hyperæsthesia developed in all the extremities, as well as a rapidly-progressing paralysis; so that, on admission to the hospital, six weeks after the appearance of the œdema, it was impossible for her to lift her limbs from the bed, or to extend her hands and fingers. The movements in the distal portions of all the extremities were much more impaired than those near the trunk, and in the paralyzed extensor muscles the faradic excitability was almost abolished. Heart and kidneys normal. She had some fever, and was delirious at night. The symptoms increased rapidly; the paralysis became total; respiration became difficult; the heart rapid, and a week after admission to the hospital she died.

Autopsy: Tubercles in the lungs. Brain and cord were normal. Nerve-roots were normal. In the nerves of the extremities marked degeneration was found, especially in the radial and tibial nerves. By the side of a small number of empty sheaths were found fibres, whose myelin was segmented and in drops, separated by empty spaces. The axis cylinders were indistinct. There was no increase in the nuclei of the sheath of Schwann.

In discussing the case, Dr. Lanceraux made the diagnosis of alcoholic paralysis, assigning the lesion to the nerves, and differentiating it from a myelitis or a meningitis. In so doing, he criticised the view of Wilks and Lockhardt Clarke, who still considered alcoholic paralysis as a central disease. He cited another case, very similar, of a female aged thirty-three, in which the symptoms were pains, hyperæsthesia, tenderness, paralysis, with atrophy in the extremities, but in which œdema was not so marked, and came on quite late in the course of the case. The same lesion were found. To these he added two cases, in which the patients manifested the same symptoms, but had never drank. They were both, however, sellers of varnish, and lived day and night in an atmosphere permeated by alcoholic vapor, from which he concludes that chronic alcoholic poisoning can occur by absorption through the lungs — a valuable observation, but hitherto not confirmed.⁷

The following case was reported by Granger Stewart, together with two other cases, which resulted in recovery:

Observation VII. — A male, aged thirty-one, noticed during August, 1880, a weakness of the legs, and during the following month a pain of a prickling character in the legs and feet. These increased in intensity, and in October a similar feeling came on in the fingers and hands, accompanied by a loss of power and stiffness. When seen, in November, he had a tingling

⁶ A. Joffroy. Arch. de Phys. Norm. et Path., 1879, pp. 172-198.

⁷ E. Lanceraux. De la Paralysie Alcoolique, Gaz. Heb. de Méd., 1881, p. 120.

pain in both legs, from the knee to the back of the foot, with numbness and feeling of cold in the toes and plantar surfaces, so also in the hands, to a less extent. No girdle pain or formication. Sensibility to touch was diminished in the legs and hands. Transmission of impressions was delayed. Sensibility to heat, tickling, and pain were all diminished, as was also the muscular sense in the feet. There was no nystagmus, although he complained of things dancing before his eyes. Sight was normal. There was no incontinence of urine or feces. The skin reflexes were absent in the soles, but normal in the abdomen and groins. The knee-jerk was absent. Voluntary motion was greatly impaired in legs and arms, and attempts to use the muscles caused pain. Electric irritability of the muscles, and sensibility of the skin was much diminished. There was no vaso-motor or trophic changes. His mental condition became changed during his stay, his memory was impaired, and he seemed drowsy. A month after his first examination he died of pneumonia.

Autopsy by Dr. D. J. Hamilton: The median, ulnar, and tibial nerves showed great changes. With a low power of the microscope, the bundles of fibres appeared to be affected by fatty degeneration. With a high power, it was found that the axis cylinders were swollen, so as to form a number of fusiform bodies in the course of the nerve-tubes. These, at parts, were divided into a number of round, homogeneous, colloid bodies. When set free, these bodies underwent a fatty degeneration, forming compound granular corpuscles. In some fibres the axis cylinder was totally destroyed, nothing but a quantity of fibrous tissue remaining. The cords of the brachial plexus and the sciatic nerves were normal. Slight evidence of secondary sclerosis in the spinal cord was found in the columns of Goll, and in the direct cerebellar columns. Its origin could not be explained.⁸

It must not be supposed, from the fact that all the cases so far cited were fatal, that death is always the result in multiple neuritis. This is very far from the truth, and probably, if the mortality had been greater, the pathology of the disease would not so long have eluded search. The fatal cases have been brought together, in order that the pathological appearances observed might be noted and compared, and might become somewhat familiar by repetition. It is time to enter upon the more careful study of their pathology, and so, for a time, let us leave the clinical features of the disease.

[The lecturer then reviewed the normal anatomy of a nerve, before proceeding to discuss the changes occurring in inflammations of the nerves. This part of his subject was profusely illustrated.]

THE PATHOLOGY OF MULTIPLE NEURITIS.

In studying the pathological processes which occur in multiple neuritis, it is necessary to keep these various elements of the normal nerve in mind, since each element is subject to changes. The exact character of these changes is best understood by observing the results of nerve-degeneration artificially produced in animals. And a study of this will not be out of place here, for, as we shall see, the changes occurring in multiple neuritis correspond quite exactly to those produced by experimental degeneration.

In considering the pathology of degenerative neuro-

tis we enter at once upon a mass of controversial statements. It would seem to be a simple matter to establish, by observations upon nerves which had been experimentally compressed or severed, the changes which ensue in nerve injuries. But, as a matter of fact, there is, perhaps, no field of experimental pathological inquiry in which the results have differed more widely. In the first place, it is probable that the rapidity and even the character of the changes differ in different animals. Secondly, various methods of investigation, of hardening, dissecting, and staining the nerves, seem to have resulted in the production of different appearances. And, lastly, it is by no means certain that a uniform pathological process goes on after experimental lesions. After a lesion of a nerve-trunk, a process of degeneration sets in at the point of injury, and involves a small portion of the central end and the entire peripheral part of the nerve, from the seat of injury onward. This process may be more or less complete, and may, or may not, be followed by a second process of regeneration in the diseased nerve. It is necessary to distinguish between the degenerative and regenerative processes; and, inasmuch as it is affirmed that they may proceed simultaneously in various parts of the same fibre,⁹ it is not strange that the confounding of the two should have increased the confusion in the statements.

The majority of writers upon nervous diseases and upon general pathology seem to have followed Ranvier closely, without any mention of the fact that other authorities differ from his conclusions. It will be necessary here to present the various views which are held.

[The process of degeneration was then described in detail, and the differences of opinion pointed out.]

Authorities seem to agree that the same results follow a division of a nerve that are observed after its compression, with the difference that at the point of section the myelin runs out of the sheath of Schwann. The cut ends become swollen into bulbous extremities by a growth of connective tissue.

Whether a true union of the divided ends ever occurs is still a matter of uncertainty. The majority of authorities, following Ranvier, affirm that while a primary coaptation of the ends by an exudate which is secondarily transformed into connective tissue, may occur and hold the ends in position, no true primary union of nerve-fibres is possible, and under all circumstances the degenerative process already described goes on to completion. Glück, however, claims to have observed an actual union of the two ends, with re-establishment of function, at a time too early to have admitted the occurrences of degeneration and regeneration, and Walberg, approaching the subject from the surgical side, and considering the results of nerve-suture, inclines to the same view.

In the midst of such contrary statements, what conclusion can be reached as to the actual facts? It seems evident that but one conclusion is certain, namely, that under different circumstances different processes occur. The various observers are equally trustworthy. It is impossible to choose one set of conclusions rather than another, or to rely wholly upon one series of experiments, however capable the observer may be, for they all rest upon repeated observations. It is undoubtedly true that in some cases

⁸ Granger Stewart. *Edinburgh Medical Journal*, April, 1881.

⁹ E. Neumann. *Ueber De- und Regeneration der Nerven*, Arch. f. Mikro. Anat., xviii.

the degeneration process, so graphically pictured by Ranvier, from the beginning segmentation of the myelin down to the final result in the connective-tissue strand, the relic of the empty sheath of Schwann does go on; while in other cases of a less serious nature the distinction is less complete, and there remains a fibre consisting of a sheath of Schwann, containing a granular mass which may be either an axis cylinder or a mass capable of developing into an axis cylinder under favorable circumstances. If this is the case, we can affirm that brilliant surgical successes, with rapid restoration of nerve function after suture, are possible when the partial degeneration is present, but are impossible when the total destruction of the nerve-fibre has occurred. And statistics show that there is a certain percentage of operation which fail of any result, though repeated on the same nerve. . . .

It is evident that future research should be directed, not so much to determine which of the processes described occurs, as to settle under what circumstances the one is produced rather than the other. And such research will have an eminently practical bearing, inasmuch as it will also demonstrate under what circumstances nerve-suture is likely to be attended by success.

THE PROCESS OF REGENERATION.

After the process of degeneration has gone on for some time in the nerve-fibre, it may cease, and the process of regeneration may begin. With regard to the method of this process two widely divergent views are held. Ranvier¹⁰ and his followers claim that the new nerve is wholly a product of the central end of the injured nerve, growing out from it and making its way along the track of the peripheral end, which takes no active part in the process. Neumann and Mayer, on the contrary, believe that the regeneration goes on in the peripheral end of the cut nerve, segment by segment being formed successively, beginning at the point of injury and proceeding outward, the entire nerve being built up by the union of each distal segment with the one lying centrally to it, until this process has reached the end.

[To these various views was given a more exact statement accompanied by numerous illustrations.]

The process of degeneration in the nerves, consequent upon the destruction of the ganglion cells from which they arise (the so-called Wallerian degeneration) differs in no respect from that ensuing upon compression or division, excepting that in the latter case only the distal part of the divided nerve undergoes the pathological change, while in the former it is the entire nerve that is affected. And in the changes described in multiple neuritis the same progress of events and the same varieties of determination are observed.

When the cases of multiple neuritis are examined from a pathological standpoint, several varieties may be distinguished. In some of the cases, and these are the most numerous, there is a parenchymatous inflammation in the nerve-fibre only visible to the microscope. At the outset of this inflammation the myelin sheath appears slightly swollen, is less homogeneous, and from a difference of refractive power is less translucent. It then becomes split up into segments of different length and form, the segmentation occurring preferably at the incisures of Schmitt, while the incisures at other parts disappear. Between these segments of myelin, a finely granular protoplasm is seen, in which

new nuclei are found. These nuclei probably are the cells of Rosenheim which have emigrated, although a few near the nucleus of the sheath of Schwann may be due to its division. In some fibres the axis cylinder may still be preserved. In others it is broken at the same places as the myelin. At the next stage of the process the changes are more marked. The myelin is now reduced to a series of small globules surrounded everywhere by granular protoplasm, and in this protoplasm the nuclei are now very numerous. The axis cylinder cannot be distinguished in the mass, as a rule, but occasionally a fine line is seen passing through the mass, which may be a remaining cylinder. The succeeding stage presents a different picture. While up to this time the size of the nerve-fibre has remained about normal and uniform, it is now seen to vary. At places the fibre is still wide and filled with a granular mass, at other places it is narrow, the mass having disappeared, leaving either a collapsed sheath, or a sheath containing only nuclei here and there. In a few such narrow fibres there seems to be an axis cylinder lying directly within the sheath of Schwann, and occasionally separated from it at various places by nuclei. But this appearance is rarely seen. As a rule, no trace of the axis cylinder remains. As any single fibre may show at some places constrictions, at other dilatations, the variations in its calibre is the most striking feature of this stage. In the terminal stage the calibre is uniform again, but is now everywhere reduced. The sheath of Schwann is empty, or contains only a little granular substance, and the nuclei are now less numerous than before. There is in fact only an atrophied tube with none of its original contents. These tubes lying side by side are folded and undulating, and appear like a strand of connective tissue.

These various stages of parenchymatous inflammation are to be seen in different fibres in the same specimen. Their appearance is identical with that observed in the course of degeneration of a nerve after compression, or after destruction of the spinal ganglion-cells. This has led such an accurate observer as Erb to advance the hypothesis that some slight changes in trophic cells in the spinal cord, not visible to the microscope, are present primarily, and that these changes are of a secondary nature. But this cannot be admitted.

It cannot but be admitted that the first class of cases of neuritis must be considered as due to a primary parenchymatous inflammation in the nerve-fibres. This form seems to be much more frequent in its occurrence than the first variety, and constitutes the lesion in the majority of the cases hitherto reported.

A second class of cases presents a different appearance.

In this class the mere inspection shows the nerve to have been the seat of pathological changes, for it is either congested, swollen, and lacking in lustre, or it is yellow and irregularly swelled by the accumulation of fat, or it is evidently reduced to a mere connective-tissue strand. Upon teasing the nerve it is at once clear, from its brittleness, that individual fibres are lacking in continuity and are changed in structure. And if it is examined under the microscope, the exudation of serum, and of lymphoid bodies, the great increase in the number of connective-tissue nuclei, the distended condition of the vessels, as well as the various appearances characteristic of nerve degeneration,

¹⁰ Loc. cit., ii., 42-67.

are clearly seen. Here the inflammation is either originally an interstitial inflammation or, more probably, a diffuse one. It is possibly that the degenerative processes in the nerves may have been due to the compression by the exuded products of inflammation within the nerve-sheath. . . .

It is to be noted that in both of these forms the pathological changes are always more intense in, and are occasionally limited to, the peripheral terminations of the nerves. The nerve-trunks may be slightly involved in their distal portions, but it is very rare to find any changes in them at their origin from the plexuses. And, as a rule, the spinal nerve-roots in cases of multiple neuritis are normal. In making autopsies upon such cases this fact is to be remembered, and the nerves are to be removed down to their finer branches in the muscles and fascia.

One additional pathological form must be mentioned, since it has been described by such a careful observer as Gombault.¹¹ It is the so-called segmental periaxillary neuritis. In toxic neuritis from lead poisoning, Gombault found that the degenerative process was not uniform in the entire length of a nerve-fibre. On the contrary, entirely normal segments alternated with the degenerated segments in the nerves. . . .

While it is, of course, impossible to describe definitely, the process which goes on to complete regeneration of nerves in multiple neuritis, there is no reason to suppose that it differs in any way from that observed in experimental lesions.

The time required for the completion of the process will depend upon the severity and extent of the degeneration. When that is slight the recovery may be rapid, cases having been reported where a total cure took place in two months. As a rule, however, it is a slow process. The large majority of the cases on record required over four months for the complete regeneration, and is not a few cases from ten to sixteen months elapsed before the condition of the nerves was proved to be normal by the total disappearance of all symptoms.

With the end of 1883 we may consider the third stage of pathological discovery in the history of multiple neuritis as terminating. At that date the symptoms of the disease had been recognized as constituting a distinct clinical picture; hypothetical lesions in the spinal cord had been abandoned, and the exact pathology of the disease had been ascertained. Since 1883 the final period in the development of knowledge of the affection has been in progress.

About one hundred cases, of varying degrees of severity, have been observed (see Bibliography). The lesions described have been confirmed in all their details. The symptoms arising in the course of the disease have been subjected to careful analysis, together with their varied modes of combination. Certain diseases hitherto considered of spinal origin are found to be due to peripheral disease. Thus it has been discovered that a form of ataxia may occur from multiple neuritis of alcoholic or arsenical poisoning, which closely resembles and was formerly confounded with tabes; also, that some cases supposed to be anterior poliomyelitis must now be differently named. And as physicians review their records, they find that former diagnoses require revision in the light of new discoveries, and that greater circumspection is to be

exercised in differentiating spinal from peripheral affections. The grounds for such differential diagnosis will require attention in the next lecture. And, what is perhaps of greater importance, the fact has been elicited that some combinations of symptoms formerly supposed to be without a pathological basis, some of the so-called peripheral neuroses, really belong to this class of diseases. At present we have only time to allude to one or two forms of peripheral neuroses, which must be removed from that unsatisfactory category of disease and be considered as peripheral neuritis.

And the first of these is the affection termed numb-fingers. This was first described by J. J. Putnam, of Boston, but met with instant recognition from neurologists and from general practitioners all over the world. It is a disease chiefly seen in women between the ages of forty and sixty, usually associated with dyspeptic or uterine symptoms, but entirely independent of them. It begins as a tingling sensation in the ends of the fingers, felt at night, and sufficiently annoying to keep the patient awake. It then extends to the entire fingers, and may invade the hand, and is felt by day as well as by night. The fingers are so numb that all finer acts become impossible; the patient can no longer sew or knit, cannot be sure of holding anything securely, and finds herself unable to perform any delicate movement. Sometimes a slight degree of anæsthesia and analgesia can be discovered by ordinary tests, but often the disturbance of sensation is purely subjective. There is rarely any incoördination, and paresis is usually wanting. It may develop in the feet as well as in the hands, making walking more or less disagreeable, and adding to the discomfort of the patient. The affection is of indefinite duration, often subsiding quickly under treatment, sometimes baffling all attempts to arrest it. For a time it was considered a purely functional affection, then a spinal-cord disease, but now, in the light of the parallelism between the symptoms mentioned and those which are characteristic of multiple neuritis, we cannot but consider it a slight form of this disease.

The second of the peripheral neurosis which must be referred to peripheral neuritis is intermittent paralysis. Cases of sudden paraplegia, lasting a few hours and passing off as rapidly as it appeared, have been observed too frequently to admit of any doubt. Westphal has described such a case in which no cause could be found. Gibney reported some cases presumably due to malaria. Others have thought the disease of functional character, either central or peripheral. But in the light of recent observations upon infectious cases of multiple neuritis it becomes evident that these sudden, transient paraplegiæ find their adequate explanation in such an affection.

And, lastly, there are numerous cases of indefinite nervous symptoms, pain of various kinds, formication, and odd sensations grouped under the indefinite term numbness, flashes of cold and heat accompanied by actual changes in the temperature of the part, or only by apparent vascular irregularities, slight spasms, or tremors; functional weakness, with sense of fatigue not reaching the grade of paresis, and many equally obscure manifestations of disturbed function in various parts of the body, which reach their best explanation in the theory of multiple neuritis.

And since it was one of the objects of the founder of this lectureship to determine the true nature of such

¹¹ Gombault. Archives de Phys., 1873, p. 592; also Arch. de Neurol., i, 1.

peripheral neuroses, it is with the greater interest that we examine the disease to which they must be assigned.

In the present stage of progress in the history of neuritis much attention is being given to the etiology of the disease. Cases which, from their causation, were formerly separated, are now found to be closely allied in their pathology. Thus the forms of paralysis occurring after the ingestion of various poisons, such as arsenic, lead and alcohol, are known to be due to a common pathological change. The various kinds of sensory and motor disturbance occurring as complications of the acute diseases, diphtheria, variola, typhoid and typhus fevers, and severe malarial fever, are traced to a lesion in the peripheral nerves. Tuberculosis is known to predispose to neuritis, and many cases formerly supposed, without question, to be produced by central or meningeal affections of a tubercular character, are now assigned to a peripheral cause. It is a question whether syphilis will cause a simple degenerative neuritis, but syphilitic affections of the nerves are easily recognized and well known. Nor can the nervous system escape the action of those micro-organisms which are now recognized as the constant cause of many diseases. There is an epidemic form of multiple neuritis, fortunately not prevalent in this country, but occasionally imported here in the form of sporadic cases, known as kakke, or beriberi, the bacillus of which has recently been discovered and cultivated. And, lastly, there is a class of cases, of supposed spontaneous origin, in which cold or over-exertion are assigned as causes, but which need further investigation in regard to their etiology.

It is evident from this array of causes that several conditions, formerly separated from one another because of the different circumstances of their occurrence, are really forms of the same disease. But while they may be brought together upon a pathological basis, and while all have many symptoms in common, each of the forms of neuritis presents certain distinct features.

Original Articles.

THOUGHT-TRANSFERRENCE.¹

BY MORTON PRINCE, M.D.,

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I HAVE been asked, for the benefit of those who have not followed the experimental investigations in thought-transference, and in view of the present popular interest taken in professional "mind-reading," so-called, to give an account, to-night, of the work that has been done in the investigation of these phenomena, and of the results thus far reached. I cannot, therefore, do much more than give a general *résumé* of the subject, as it now stands.

The experimental investigation of mind-reading, which was first systematically carried out in England, grew out of the popular interest taken in the well-known "willing game." The principle of this game is that one or more people *will* that another person shall *do* something — such as touch some object in the room, or take something from a given place, and put it in another place.

The willers are usually in contact or in close

contiguity to the one who is willed. It is well known that most of these performances are done by voluntary or involuntary pushing on the part of the willers. Still there remains over a small residue of phenomena, which it was thought seemed to point to something more, and to be sufficiently well attested and important to become the legitimate object of serious scientific investigation. Accordingly, in the early part of 1882, a number of gentlemen well known in England for their scientific, literary, and other attainments, formed the society known as that for Psychical Research. Its object was to provide a machinery and means for the systematic study into all such phenomena as are commonly designated by the terms, mesmeric, psychical, spiritualistic, etc.

The subject of mind-reading, afterwards called thought-transference, was given to such men amongst others, as Prof. W. F. Barrett, Edmund Gurney, F. W. H. Myers, Prof. Balfour Stewart, and Prof. Alfred Hopkinson. It will thus be seen, at the outset, that the work has not been undertaken by a lot of irresponsible and uncultured impressionists, but by men of unquestioned intellectual capacity and integrity.

By mind-reading is meant the power of one person directly inducing an idea, similar to his own, in the mind of another person, without conveying any information through any one of the five senses. This definition, it will be observed, makes the person whose mind is read the *active* agent, while the mind-reader, the one who becomes conscious of the other's thoughts, is the *passive* agent. This is the more correct interpretation of the phenomena than the usual inverse definition, as it emphasizes the active and essential part played by the person whose thoughts are transferred — a point often lost sight of.

It appears that previous to the experiments undertaken by the Society, the attention of a Rev. Mr. A. M. Creery, B.A., having also been called to the phenomena of the well-known "willing game," he determined to investigate it, with the idea of ascertaining whether any of the results were due to the simple action of willing, as well as to involuntary pushing. "For this purpose," to use his own words, "I employed four of my children, between the ages of ten and sixteen, all being in perfectly robust health, and a maid-servant about twenty years of age. Each went out of the room in turn, while I and the others fixed on some object, which the absent one was to name on returning to the room. After a few trials, the successes preponderated so much over the failures, that we were all convinced there was something very wonderful coming under our notice. Night after night, for several months, we spent an hour or two each evening in varying the conditions of the experiments, and choosing new subjects for thought-transference.

"We began by selecting the simplest objects in the room; then chose names of towns, names of people, dates, cards out of a pack, lines from different poems, etc.; in fact, any thing or series of ideas that those present could keep steadily before their minds; and when the children were in good humor, and excited by the wonderful nature of their successful guessing, they very seldom made a mistake. I have seen seventeen cards, chosen by myself, named right in succession, without any mistake. We soon found that a great deal depended on the steadiness with which the ideas were kept before the minds of 'the thinkers,'

¹Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, December 8, 1886.

and upon the energy with which they willed the ideas to pass. . . .

"The distance between the thinkers and the thought-readers is of considerable consequence. As a rule, the best results take place when this distance is not more than a yard or two; but under very favorable mental conditions, we have often had four or five cards named right in succession, while the thought-reader was placed in a room on the landing above that in which the thinkers were assembled."

So far, however extraordinary the phenomena appeared to be, they were of course of no value as evidence, on account of the want of rigor in the conditions under which the experiments were performed. Mr. Creery, however, communicated the facts to Professor Barrett, who under more stringent conditions repeated the experiments. Later they were further investigated by Mr. and Mrs. Sedgwick, Prof. Balfour Stuart, Prof. Alfred Hopkinson, and the committee on thought-transference. A large number of experiments were performed, while every possible precaution, which the committee could devise, was taken to prevent any information being acquired by the subjects through any one of the senses, including under this, of course, collusion. It will be impossible for me, this evening, even if desirable, to describe with any diffuseness the large number of experiments that have been made, and shall limit myself to a general description of the methods employed, and a few examples of the results arrived at. It should be stated, as bearing to a limited extent on the question of intentional fraud that Mr. Creery is vouched for as a man "of unblemished character, and whose integrity indeed has, it so happens, been exceptionally tested." This would not however bear upon the question of intentional deception on the part of the children.

The method pursued in the inquiries were as follows:

The places where the experiments were performed varied; sometimes being at the house of Mr. Creery, sometimes in other rooms chosen by the experimenters. The usual practice was to send a child out of the room. The name of an object, such as a penknife, box of chocolate, or a number, or a playing-card drawn at random from a pack, or a *fictitious* name was written upon a piece of paper and silently shown to those present. The child was then recalled, by one of the experimenters. From this time not a word was allowed to be spoken, save "Right" and "No" in response to the guesses of the child, who stood near the door with downcast eyes. No one was allowed to enter or leave the room. No other sound, than the above responses or movements by any one, were permitted. Sometimes the rest of the family remained in the room and sometimes they were excluded; sometimes they were shown the name of the thing to be guessed and sometimes not. The results by this did not appear to be essentially altered in either case. As an example the following may be cited.

Easter, 1881, present: Mr. and Mrs. Creery and family, and W. F. Barrett, the narrator. "One of the children was sent into an adjoining room, the door of which I saw was closed. On returning to the sitting-room and closing the door also, I thought of some object in the house, fixed upon at random; writing the name down, I showed it to the family present, the strictest silence being preserved throughout. We then

all silently thought of the name of the thing selected. In a few seconds the door of the adjoining room was heard to open, and after a very short interval the child would enter the sitting-room, generally speaking with the object selected. No one was allowed to leave the sitting-room after the object had been fixed upon; no communication with the child was conceivable as her place was often changed. Further, the only instructions given to the child were to fetch some object in the house that I would fix upon, and together with the family, silently keep in mind to the exclusion, as far as possible, of all other ideas. In this way I wrote down, among other things, a *hair-brush* (It was brought); an *orange* (It was brought); a *wine-glass* (It was brought); an *apple* (It was brought); a *toasting-fork* (Failed on the first attempt, a pair of tongs being brought, but on a second trial it was brought). With another child, (among other trials not here mentioned), a *cup* was written down by me (It was brought); a *saucer* (This was a failure, a plate being brought; no second trial allowed. The child being told it was a saucer, replied, 'That came into my head; but I hesitated, as I thought it unlikely you would name saucer after cup, as being too easy'.")

EXPERIMENTS MADE APRIL 13TH, 1882.

Objects to be Named.

A white penknife.—Correctly named, with the color, the first trial.

Box of almonds.—Correctly named.

Threepennypiece.—Failed.

Box of chocolate.—Button-box said; no second trial given.

Penknife hidden.—Failed to name the place.

Numbers to be Named.

Five.—Correctly given the first trial.

Fourteen.—Failed.

Thirty-three.—54 (No), 34 (No), 33 (Right).

Sixty-eight.—58 (No), 57 (No), 78 (No).

Fictitious Names to be Guessed.

Martha Billings.—Failed; Biggis was said.

Catherine Smith.—Catherine Shaw was said.

Henry Cowper.—Failed.

Cards to be Named.

Two of clubs.—Right first time.

Queen of diamonds.—Right first time.

Four of spades.—Failed.

Four of hearts.—Right first time.

King of hearts.—Right first time.

Two of diamonds.—Right first time.

Ace of hearts.—Right first time.

Nine of spades.—Right first time.

Five of diamonds.—Four of diamonds (No), four of hearts (No), five of diamonds (Right).

Two of spades.—Right first time.

Eight of diamonds.—Ace of diamonds said; no second trial given.

Three of hearts.—Right first time.

Five of clubs.—Failed.

Ace of spades.—Failed.

As comments on these experiments the committee remarks:

"Now if we apply to these two sets of experiments the sources of error enumerated by Dr. Beard, the conclusion, we venture to think, is inevitable that we have here very strong evidence in favor of a class of phenomena entirely new to science. Involuntary actions, such as movements of the lips, etc., could not reach the child when she was out of sight and hearing, as was the case in the first series of experiments. *Conscious or unconscious deception* on the part of the subject does not apply, as the thing wished for was selected and written down by one of us. *Collusion* by a third party is avoided by the fact that none were allowed to enter or leave the room until we had selected the thing to be guessed and in the second series of expe-

riments by the exclusion of all members of the family either from the room or from participation in the requisite knowledge; whilst *chance and coincidence* we have already dealt with. In many trials, such as the guessing of fictitious names, made up by us on the spur of the moment, the chances against success were, of course, incalculable; yet, as will be seen by the following record taken from our last day's experimenting, these names were guessed with as much ease as cards, where the chances against success were far less."

Among the experiments selected April 17th, 1882, was the guessing of fictitious names. The results were as follows:

Words chosen.	Words guessed.
William Stubbs.	William Stubbs.
Eliza Holmes.	Eliza H—
Isaac Harding.	Isaac Harding.
Sophia Shaw.	Sophia Shaw.
Hester Willis.	Canandra, then Hester Wilson.
John Jones.	John Jones.
Timothy Taylor.	Tom, then Timothy Taylor.
Esther Ogle.	Esther Ogle.
Arthur Higgins.	Arthur Higgins.
Alfred Henderson.	Alfred Henderson.
Amy Frogmore.	Amy Freemore, then Amy Frogmore.
Albert Snelgrove.	Albert Singrore, then Albert Grover.

After this, a Mr. Smith of Brighton was found, who in conjunction with Mr. Blackburn, a member of the society, was able to do what had been done by the Creery children. In addition, however, it was found that Mr. Smith was able to reproduce drawings of mental pictures in the mind of Mr. Blackburn. In the earlier experiments of this kind, Mr. Smith held Blackburn's hand for a few moments, and then *releasing it* while still blindfolded, drew his own impression of the figure. The original, of course, had been previously determined and drawn by the committee and shown by them to Blackburn. Later the conditions were made still more stringent, no contact at all being allowed. The *modus operandi* is described as follows: (162)

"The percipient, Mr. Smith, is seated blindfolded at a table in our own room; a paper and pencil are within his reach, and a member of the committee is seated by his side. Another member of the committee leaves the room, and outside the closed door draws some figure at random. Mr. Blackburn, who so far has remained in the room with Mr. Smith, is now called out, and the door closed; the drawing is then held before him for a few seconds, till its impression is stamped upon his mind. Then, closing his eyes, Mr. Blackburn is lead back into the room and placed standing or sitting behind Mr. Smith at a distance of some two feet from him. A brief period of intense mental concentration on Mr. Blackburn's part now follows. Presently, Mr. Smith takes up the pencil amidst the unbroken and absolute silence of all present and attempts to reproduce on paper the impression he has gained. He is allowed to do as he pleases as regards the bandage round his eyes; sometimes he pulls it down before he begins to draw, but if the figures be not distinctly present to his mind, he prefers to let it remain on, and draws fragments of the figure as they are perceived. During all this time, Mr. Blackburn's eyes are generally firmly closed (sometimes he requests us to bandage his eyes tightly as an aid to concentration), and except when it is distinctly recorded he has not touched Mr. Smith, and has not gone in front of

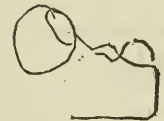
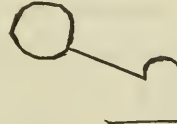
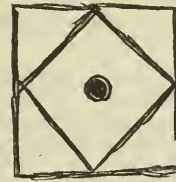
him, or in any way within his possible field of vision since he re-entered the room.

"When Mr. Smith has drawn what he can, the original drawing, which has so far remained outside the room, is brought in, and compared with the reproduction. Both are marked by the committee and put away in a secure place. The drawings and reproductions, given at the end of the Report are in every case fac-similes of the untouched originals, from which they have been photographed on the wood blocks."

A few examples of these drawings with the reproductions I have attempted to reproduce here. [A number of diagrams were shown the audience a few of which are printed here.]

Originals.

Reproductions.



Mr. Smith had no idea that the original was not a geometrical diagram.



Mr. Blackburn forgot the eyes.

In order to determine whether the results thus far reached might be attributed to chance, they were submitted to mathematical calculation. The results thus calculated have been arranged in tabular form, I have had them copied here upon this blackboard. You will see that the probabilities are immensely against the results being due to blind chance and in favor of there being some other active agent. In some cases you will see that the probabilities against chance are almost infinite. Referring to this, the Committee made the following comments:

"The outline of results during the present investigation, which extended over six days, stands as follows: Altogether 382 trials were made. In the case of letters of the alphabet, of cards, and of numbers of two figures, the chances against success on a first trial would be naturally 25 to 1, 51 to 1, and 89 to 1, re-

spectively; in the case of surnames they would, of course, be indefinitely greater. Cards were far most frequently employed, and the odds in their case may be taken as a fair medium sample; according to which out of the whole series of 352 trials, the average number of successes at the first attempt by an ordinary guesser would be $7\frac{1}{3}$. Of our trials 127 were successes on the first attempt, 56 on the second, 19 on the third, making 202 in all. On most of the occasions of failure, 180 in number, second trials were made; but in some cases the guesser professed inability, and declined to make more than one, and in others we allowed three; no trial beyond the third was ever allowed. During the last day or two of trial, after it had occurred to us to notice the point, we found that of the failures to guess a card at the first trial, those wrong both in suit and number were a small minority.

"Our most striking piece of success, when the thing selected was divulged to none of the family, was five cards running named correctly on a first trial; the odds against this happening once in our series were considerably over a million to one. We had altogether a good many similar batches, the two longest runs being eight consecutive successes, once with cards and once with names; where the adverse odds in the former case were over 142,000,000 to 1, and in the latter something incalculably greater. If we add to these results others obtained on previous visits, it seems not too much to say that the hypothesis of mere coincidence is practically excluded."

Since the first experiments were made a number of other people have been found who have been able to repeat the performances of the Creery children and Mr. Smith.

Mr. Malcolm Guthrie, of Liverpool, discovered in Miss Relph and Miss Edwards the ability to reproduce the mental impressions of others. These young women were carefully experimented with by Mr. Guthrie, Mr. Steel, President of the Liverpool Literary and Philosophical Society, Mr. James Birchall, Secretary of the same, Mr. Hughes, of St. John's College, and later by Dr. Oliver J. Lodge, Professor of Physics in University College, Liverpool. It would be interesting, if space allowed, to give some account of the "mind-readers," and of the incidents leading to the discovery of their powers, as a knowledge of the circumstances enables us to judge in some measure of the good faith of the performers. Passing over this I can only say that the experimenters apparently, judging by the published reports, took every conceivable precaution to guard against fraud, and unconscious deception.

The fact here should not be allowed to escape notice, that here we have to do with an entirely different and independent set of experimenters, as well as performers. The chances that there were sources of fallacies which escaped the first experimenters are lessened by their being undetected by a second independent set of observers.

The following gives an idea of the results obtained with guessing objects. The conditions of the experiments as described were generally very stringent, and in the ones here quoted no contact was allowed. They include all the experiments made on the particular date given, April 9th, 1883. Present: Mr. Guthrie, Mr. Birchall, Miss R., Miss R—d, Miss J., Miss E., and Miss C. Percipient, Miss R.

Objects.

Answers.

- A gold cross.—It is yellow. . . it is a cross.
- A red-ivory chess knight.—It is red . . . broad at the bottom . . . then very narrow . . . then broad again at the top. It is a chessman. Asked to name the piece, said she did not know the names of the pieces.
- A half-crown.—It is round . . . bright . . . no particular color . . . silver . . . it is a piece of money . . . larger than a shilling but not as large as . . . The percipient was unable to say more.
- A diamond of pink silk on black satin.—Light pink . . . cannot make out the shape . . . seems moving about. N.B.—The object was held somewhat unsteadily by Mr. G.

As it is the successes that are of particular interest, I have selected the following from a large number of trials at different sittings.

Objects.

Answers.

- An egg.—Right.
- A penholder with thimble inverted on the end.—A column, with something bell-shaped.
- A small gold eardrop.—Round and bright . . . round and bright . . . with loop to hang it by.
- A gilt cross.—Right.
- A yellow paper-knife.—Yellow. . . Is it a feather? It looks more like a knife with a thin handle.
- A pair of scissors standing open and upright.—Is it silver. . . No—it is steel. . . It is a pair of scissors standing upright.
- A diamond of blue silk on black satin.—It is a diamond.
- An apple.—Right.
- An orange.—Right.
- Letters G. D. V.—Right.
- A key first looked at and then withdrawn and thought of only.—Right.
- A plain gold cross, imagined only, not seen.—Right.
- Mr. J's. gold chain and pendant, imagined only.—Right.
- A pineapple, imagined only.—Right.
- Letter C.—Right.

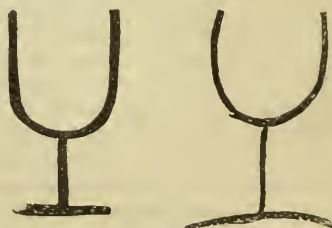
These are but samples of the results of a large number of experiments which were continued on a number of occasions. Of course there were a considerable number of failures; on the other hand, some of the successes were very brilliant. A number of experiments were also made in reproducing drawings after the manner of Mr. Smith, these were very successful. A few of these, perhaps the most striking, are reproduced here that a better idea may be obtained of the degree of success attained.

Experiments were also made in the reproduction of the sensations of *taste*, *smell*, and *pain*, with equally successful results.

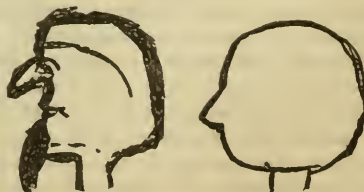
It is proper to state, as it bears on the responsibility and good faith of the experimenter, that Mr. Malcolm

Originals.

Reproductions.

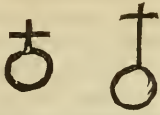


Mr. Guthrie and Miss E. No contact.



Mr. Hughes and Miss E. No contact. Miss E. said, "It is like a mask at a pantomime," and immediately drew as above.

Original at left.



Original at top.



Mr. Guthrie and Miss E. No contact. Miss E. almost directly said, "Are you thinking of the bottom of the sea, with shells and fishes?" and then, "Is it a snail or a fish?" — then drew as above.

Guthrie is represented as holding "an important position in Liverpool, being a Justice of the Peace, and an active member of the governing bodies of several public institutions, among others of the new University College; that he is a severe student of philosophy, and the author of several works bearing on the particular doctrines of Mr. Herbert Spencer." At the request of Mr. Guthrie, Professor Oliver J. Lodge, D.Sc., later took part in the experiments, superintending the conditions and modifying the details. In his reports he confirms all the previous results.

Since this a number of people in different parts of England have given accounts of similar experiences and claimed for them evidence of true thought-transference. But the testimony in these cases is not sufficiently full or well attested to give the experiments the same weight that may be given to those just discussed.

Such are the facts which we have to consider. Then remains the question, "What conclusions do they admit of?" What interpretation is to be put upon them. The distinction between the facts and the interpretation of those facts cannot be too strongly emphasized. We cannot be too often reminded of this distinction; it must constantly be borne in mind. Admitting the results thus far obtained to be true, does it necessarily follow that the explanation is to be found in a direct transference of thought? Is there any other explanation possible; and is it not logical to admit the facts and deny the conclusions? Let us review the evidence as it at present stands:

First. We have as experimenters a number of gentlemen noted for their integrity, and whose standing would exclude all intention at deceit on their own part.

Second. The experimenters, after considerable previous experience, arrange the conditions of the experiments, so as to exclude by every possible device all possibility of communication by the ordinary channels, the senses (including collusion.) They are allowed to arrange the conditions according to their own option, in such a way as to test in the most stringent manner the phenomena under investigation. In this way the experiments differ essentially from those made with ordinary professional spiritualists and mind-readers. Under these stringent conditions, results are obtained showing that the thoughts of one mind have been communicated in some way to another.

Third. The experimenters conclude that the communication has been made by direct thought-transference.

Regarding the second count, the evidence to most people, at any rate, to such as have studied the reports of the investigations thus far made, will seem overwhelmingly in favor of the accuracy of the alleged facts; but it may be logically urged that opinions founded from *reported accounts* of experiments are of little value; the more faultless the report, the more certain that opinions founded on it are but the repeti-

tion or reflex of the opinions of the original experimenters, which alone are of value. Opinions founded on it are like soldiers in a theatre, who, being made to go round in a circle, appear to be many-fold more numerous and effective than they are.

It is only the opinions of the experimenters themselves which are of value. Thus far, the number of subjects who have given successful results have been comparatively small, and the observers likewise limited. However accurate the latter may be, a person cannot be accused of extreme skepticism who should urge, in view of the extreme rarity of a keenness of intellect requisite for accurate observation, as well as the unfamiliar nature of the phenomena, that the observers may have overlooked sources of fallacies that may yet appear; and it is only by multiplying the observers, as well as the subjects, that the phenomena themselves can be established beyond possibility of doubt.

Regarding the third count, the conclusions of the Committee, it may be said in their favor that there is no inherent improbability against them. We know that nerve-force, in many ways, manifests properties similar to those of electrical-force. We know that if a current of electricity be passed through a wire in the neighborhood of another closed circuit of wire, the first current will *induce* a second current in the second wire. Now there is no reason why, in a similar way, the neural currents of the brain should not *induce* similar currents in homologous centres in a neighboring brain under favorable conditions. To some minds, indeed, it may seem strange if they didn't.

Similar analogies may be found in a magnet being affected by neighboring iron or another magnet; in the sun's action upon the earth; and in a globe set into vibration by the vibrations of another globe.

In the second place, admitting the phenomena, it may be said that, in the absence of all communication by the senses, direct thought-transference is the most rational and obvious explanation. But, on the other hand, it may be urged that this explanation seems more obvious merely because of the limitation of our knowledge, and that if we had a more intimate acquaintance with psychical phenomena, we might find other as yet unknown channels by which information might be unconsciously conveyed from one mind to another; or that an explanation might be found in laws of thought by which two minds, under similar conditions, should pursue the same course. At any rate, this last possibility has not as yet been sufficiently worked out.

If called upon to summarize the evidence as it stands, I should say that: *First*, all the evidence *that we possess, such as it is*, goes to prove that certain persons, under certain favorable conditions, can become cognisant of the thoughts of another without any communication by the senses. *Second*, that the best *working* hypothesis that we possess is in favor of direct thought-transference as an explanation. *Third*, *à priori*, there is nothing inherently impossible or improbable in the hypothesis. *Fourth*, the subject must be considered as still *subjudice*, and needs further investigation to settle the question beyond possibility of doubt.

Before dismissing the subject, I wish to say a few words in regard to the nature of the evidence before us: There are two objections or arguments which are commonly employed against thought-transference: One is that similar claims have been made almost

from time immemorial by spiritualists, clairvoyants, and the like; that all sorts of equally extraordinary performances have been done by these sort of people; but as each has been investigated, it has broken down and failed to stand the tests of rigid examination; or if not, that no thorough examination has been allowed. Furthermore, the performances of professional jugglers, like Herman and Heller, are cited as evidence, showing how easy it is to impose upon even the clearest observer.

To my mind, objections of this sort are most illogical and unscientific. There is not the slightest parallel between the two cases. In the first place, no one can find the slightest similarity between professional mediums and the earnest, conscientious, responsible people who have conducted the investigations, many of them skilled by profession in experimental methods of research; nor even between the former and the "mind-readers," like the Liverpool young ladies, Miss R. and Miss E., and the Creery children.

In the second place, no physical experiments in the laboratory have been more under the control of the chemist and the physiologist than have these. The subjects have given themselves up to the experimenters, not occasionally and fitfully, but day after day. Any and every sort of condition have been cheerfully acquiesced in and imposed. They have seemed, judging by the reports, to take the same interest in studying the question as any one else. Nor are the conditions of the experiment apparently complex. It seems as if the only essential conditions requisite are to see that the subject or percipient does not get any clue to the agent's thought through any one of the five senses — touch, taste, smell, sight, and hearing.

The first three are easily excluded. It would seem as if the latter two could easily be. No paraphernalia are used; no dark closets, no strange rooms; no attempt to regulate the experiment. The subjects, too, in no case have been trained professionals, and, in one case, only children. It seems strange, at first sight, that so many adult intelligences could be deceived under such conditions by such youthful minds. The experiments, too, have not been carried out by one set of people only; on the contrary, the same subjects and different subjects have been examined by independent observers, and each has confirmed the results previously obtained.

The second objection, referred to as usually raised, is that the existence of thought-transference is so inherently improbable that the chances are far greater that there has been some error in the observations than that the hypothesis is true. This objection, in the first place, overlooks the distinction between the facts and the interpretation of the facts which I have already insisted upon. Further, in my judgment, it seems to me far from the truth. Whether I admit thought-transference or not, I see no valid ground on which to base such an assumption nor, so far as I know, has any been given. If thought-transference directly contradicts some well-established law, as perpetual motion would that of gravitation, then it might be said that it was inherently improbable. But no established fact or law is controverted by it. If, again, the theory of thought-transference maintained that there was a constant influence of one mind upon another or others, that all minds act and interact upon one another in the course of the ordinary affairs of life, or that complicated processes of thought

were transferred from one individual to another, then it might with reason be said that there was an inherent improbability against the theory. For if this were the case, the probability of the fact, having so long escaped detection, would be small, while the disastrous consequences to society would be so great that it might be doubted whether progress in civilization could go on.

But the theory is far less extensive than this. The conditions under which thought-transference can take place, if at all, are very limited, while the ideas themselves are very simple. The number of people, too, who possess the alleged faculty is comparatively very small. It is necessary that the agent, who is as essential for success as the percipient, shall concentrate his attention, to the exclusion of all other thoughts, on a particular idea. If he cannot do this, the experiment will probably fail. The percipient must likewise put himself into a state which may be called expectant attention, excluding as far as possible all consciousness of surroundings. The idea to be transferred must be simple, such as a mental picture of an object, not too complicated in structure, a number, a taste, or a pain. The more complicated the idea the greater the liability of failure, complete or partial. It seems to me that one of the strongest points in favor of the theory is the failures themselves. They are just what would be expected under the theory. A careful analysis of the failures will show, I think, that their character comports exactly with what would be predicted from the theory itself. Space and time will not allow me to go into this here. But, in conclusion, we may say the experiments furnish two classes of facts, namely, successes and failures, both of which furnish strong affirmative evidence for the theory. But still in spite of this strong presumptive evidence, it is given by too few experimentally, and the subjects have been too sparse to justify us in accepting the hypothesis without further confirmation.

It may not be out of place before concluding, to caution you not to confuse these phenomena with those of muscle-reading as performed by so-called professional mind-readers. The latter class of experiments have of late been so exhaustively discussed that it is not worth while to more extensively refer to them here. Those who are interested will find in the *Nineteenth Century* for December, 1886, a very entertaining article by Mr. Stuart Cumberland, a very successful professional, who has retired from the business. He now furnishes the public with a very complete explanation of how the tricks are done.

RECENT PROGRESS IN LEGAL MEDICINE.

BY F. W. DRAPER, M.D.

WOUNDS OF THE GENITAL ORGANS IN THEIR RELATION TO CRIMINAL ABORTION.

LESSER¹ has observed eleven cases of wounds of the uterus or vagina, produced by instruments used to induce abortion. In these eleven cases, there were thirty-eight lesions, as follows: eight wounds of the vagina, twenty of the cervix, or of the body of the womb adjacent to the cervix, ten of the remainder of the uterine body. In German and other medical literature of the last twenty years, Lesser found mention of twenty-eight additional cases, in which the lesions involved the vagina seven times, the cervix and lower

¹ Vierteljahrsschrift f. gerichtl. Med. N. F. xlv, page 1.

zone of the uterine body nine times and the rest of the body of the womb twelve times.

The wounds observed by Lesser were lacerations or punctures except in four instances of contusions of the vagina and cervical mucosa. He raises the question whether the expulsion of the fœtus is expedited to a greater degree when the wounds involve the body of the womb than when they affect the cervix and vagina only. His notes in eleven cases favorable for a determination of the question show that neither the seat nor the extent of the injuries has any constant relation with the rapidity of the abortion or with the energy and frequency of the uterine contractions. The interval between the operation for the abortion and the expulsion of the fœtus was eight hours in one case, where punctures and contusions were found in the upper part of the body of the womb; twelve to sixteen hours with a perforating wound near the fundus of the organ; twenty-four hours with a wound of the posterior wall of the body of the womb; twenty-four to forty-eight hours with another wound of the body. In the cases of cervical lesions only, the interval was from one to nineteen days; where the vagina alone was involved, the period of delay varied from two to five days.

Lesser remarks that the rapidity of the abortion is especially controlled by a perforating puncture of the ovum and by the extent to which the membranes are torn; and that the lesions of the womb or vagina which do not involve the uterine contents doubtless play a secondary part only. He mentions the case of a multipara who at about the fourth month of her pregnancy submitted herself to an operation for an abortion which produced a deep punctured wound of the cervix; the fœtus was not expelled till the nineteenth day, although there had been from the sixth day inflammation of the external genitals, with swelling and tenderness of the abdomen and other signs of peritonitis.

Lesser declares, also, that the presence and the extent of wounds have no influence upon the interval between the operation and the death when the abortive procedures result fatally. In the cases of wounds of the womb, he notes the death as occurring four, seven, nine, twelve, thirteen, nineteen and twenty-two days and, in one case, more than a month, after the operation; while in cases where no traumatism was produced, the death followed on the sixth, ninth, twelfth, thirteenth, twenty-seventh and thirty-first day. These two series of cases are regarded as properly comparable, because the cause of death is invariably puerperal fever.

WATER IN THE STOMACH AS A SIGN OF SUBMERSION DURING LIFE.²

A man's dead body was found in a ditch and it was suspected that the death was due to criminal violence. The autopsy disclosed the following, among other appearances: a contusion in the left temporal region; another contusion on the right cheek; three short excoriations on the left side of the neck and two on the right, between the larynx and the sterno-mastoid muscle, with extravasation of blood beneath them; the lungs fully distended, emphysematous, of purple color, with deep-seated hæmorrhages of considerable size, but without water or froth in the air-passages

and without injection of the mucous membrane; the right cavities of the heart distended with dark, liquid blood, and the liver likewise engorged. The stomach was filled with food floating in a quantity (from 300 to 400 grammes) of turbid fluid without any odor of alcohol, or beer, or coffee. Among the negative data noted were the absence of froth from the nostrils and mouth, the unsodden state of the hands, the normal appearance of the eyes, the natural position of the tongue, and the unaltered condition of the brain and spinal cord. The inspector, Dr. Duriau, formulated his opinion that the deceased came to his death by manual strangulation, after an unsuccessful attempt to destroy him by submersion. There were, he believed, sufficient evidences of the asphyxia by strangulation; there was room for question relating to the attempt at murder by drowning. The air-passages did not present a trace of froth, a sign which is justly regarded as of the highest value. The body had been in the water only seven hours and the liquid in the stomach, while having no resemblance to the ordinary table-drinks, was like the water in the ditch. In the expert's opinion, this water was swallowed during an attempt to drown the deceased; in support of this belief, Dr. Duriau cites "the well-established fact" that animals when held under water swallow considerable quantities of the fluid when the passage to the stomach is clear.

The theory thus formulated by the medical inspector was fully confirmed by the confession of the two culprits at their trial. They said that they first struck the deceased on the head and partially stunned him. They then threw him into the ditch and tried to hold him there; but he recovered sufficiently to resist their efforts and to escape from them temporarily. They seized him a second time, threw him down and strangled him with their hands; they then threw his dead body into the ditch.

Professor Brouardel, commenting on this case, when it was reported at a meeting of the Medico-Legal Society of France, said that, notwithstanding assertions to the contrary by many authors, it had been demonstrated experimentally that the fluid in which dead bodies are immersed does not penetrate, by gravitation, to the stomach.

(To be continued.)

Therapeutical Memorandum.

CARLSBAD WATERS IN THE TREATMENT OF GOUT AND BILIOUSNESS.

BY J. B. POTSDAMER, M.D., PHILADELPHIA.

Mr. J. B., aged sixty-nine, weight one hundred and ninety pounds, height five feet seven and one-half inches, had an attack of renal colic about twenty-two years ago. Oxalate crystals appeared in the urine. For a time his life was despaired of. Fifteen years ago he began to grow stouter, and had periods of depression. He consulted a physician at that time, who advised horseback exercise, otherwise serious results might follow. This instruction was not carried out. Eleven years ago, while being treated for a colles fracture, left, he had an attack of inflammatory rheumatism, confined to the right shoulder joint. Shortly after this he had another attack of renal colic,

² Annales d'Hygiène Publique et de Médecine Légale, January, 1886, page 83.

not as severe as the first one. Since 1860 he has had occasional attacks of muscular rheumatism, at times quite severe. In the early part of last year he began to complain of pain in the thumbs, which were swollen. He had pain in toes, but not so marked. The pain in the thumbs kept him awake at night. He takes very little exercise. Diagnosis: gout. He was put on a course of iodide of potassium, and the wine of colchicum seed, without beneficial results, although pursued for a long time. The salicylates were then tried, with the same result. Both the above methods were pursued in conjunction with a regulated diet. He was then placed on Carlsbad waters, the Sprudel being used. He drank three or four wineglassfuls a day, the water always being heated first. Beneficial results were noticed before beginning on the second bottle, as the patient was able to sleep at night. Improvement continued, and after six bottles had been used the pain was gone, and the swelling disappeared. At the present writing, six weeks after this treatment was begun, the patient is perfectly well, having used but ten bottles of the water. The only restriction placed upon Mr. B. J., while drinking the Carlsbad waters, was that he was not to drink any malt, and very little of spirituous liquors. This he did not carry out, as he drank about a glass of beer a day.

Mrs. S. B., aged forty-five, of full habit. Has had frequent attacks of biliousness. Was called in to attend her early last fall. Symptoms as follows: Complexion muddy; tongue coated with yellowish fur; bitter taste in the mouth; appetite poor; bowels constipated; some dizziness. Her feet are somewhat swollen. She was given small doses of calomel, followed by a saline purge. Bitter tonics were then administered. Jalap, fifteen grains, and cream of tartar, an ounce, were given about every four days, to keep the bowels open and to diminish the swelling of the feet. The patient improved, and I discontinued my visits. About six weeks later I was sent for, when I found a recurrence of the above symptoms. The patient is very stout. On physical examination I found the liver considerably enlarged. Carlsbad Sprudel water was ordered, in wineglassful doses four times a day, *to be taken cold*. The patient soon began to improve. After taking five bottles, is well. The swelling of the feet has disappeared, the bowels are regular.

Mr. S. H., aged forty; rather plethoric; exhibited symptoms similar to Mrs. B. Feet were not swollen, liver not enlarged. The same treatment was pursued, with a regulated diet; was well after taking three bottles.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

DECEMBER 8th, 1886. Meeting opened at 8.00 P.M., Dr. F. I. KNIGHT, in the chair. The reading of the records of the last meeting was omitted. The Chairman announced that Dr. W. N. Bullard would show a case of great interest before the commencement of the regular programme as announced on the cards of invitation. Dr. Bullard presented the patient and described the condition as that of

SYMMETRICAL ATROPHY OF THE LOWER EXTREMITY WITH BACKWARD DISLOCATION OF THE TIBIA.

A full report of the case will be published later.

The paper of the evening was by Dr. MORTON PRINCE, and was entitled

THOUGHT-TRANSFERRENCE AND SO-CALLED MIND-READING.¹

PROF. JOSIAH ROYCE was invited by the Chairman to open the discussion, and began his response by citing a suggestion recently made to him by a friend (Mr. Barrett Wendell of Cambridge), to the effect that thought-transference, so far from being in any way a supernatural gift, or an extraordinary acquirement in addition to those attained by the average of persons, may be a persisting trait of a former less cultivated condition of the human race, and may therefore be a rudimentary characteristic, and an indication of retrograde nature, rather than a sign of advance. The nature of the phenomena reminds one in fact of those traits of the lower animals which are often grouped under the common name of "instinct," and which are seen to a marked extent in birds, as well as in many families of the lower beings. In man, this may have long been an obsolete condition, having been replaced by the higher attributes of human acquirement, particularly by speech, which has thus supplanted the ruder and more imperfect modes of communication formerly carried on by other and less comprehensive methods of conveyance of ideas. This suggestion of Mr. Wendell's is seen to be faintly indicated in the researches of the English observers, and the challenge has gone forth, and must be met. We find ourselves in the presence of unknown phenomena, which demand scientific investigation at our hands. The labors of so many intelligent and conscientious investigators must produce some result, and it is more than likely that the subject will be brought nearer to a logical and reasonable explanation than is at present the case. If in a certain period of time, perhaps twenty or thirty years, no advance has been made, it may then be said that the attempt of science to unravel the mystery at present surrounding this subject, has been a failure. Among the recent additions to our means of forming a judgment, may be mentioned the book just published by Messrs. Myers and Gurney, called "The Phantasms of the Living," an elaborate effort to collect and criticise the evidence for the supposed apparitions of living persons in places remote from those where they are actually present. Phenomena of this sort, if they were to be established, would be apt to suggest some sort of thought-transference as their true explanation. The narratives in which such events were described, seemed until recently to be mere folk-lore, yet the candid investigator must admit that at the present moment there is at least a chance of finding something more than folk-lore in such accounts. The challenge has here also been fairly made. Either these stories must upon examination turn out to be demonstrably worthless, or else some such phenomenon as thought-transference must be admitted as a fact. In any case, in the interests of the fair and free study of nature, we ought to consider such matters further. If the truth were known, it would surely prove to be not marvelous in the popular sense, not romantic, not of a sort to encourage superstition (for the truth of nature, once

¹ See page 108 of the Journal.

found, is always free from these faults); but it would doubtless prove to be important, for the truth of nature is always important. The speaker recommended the American Society for Psychical Research to the sympathy and to the scientific interest of those present. This body, he said, has undertaken to work in an independent and critical way in the field of these significant inquiries.

MR. T. W. HIGGINSON said that some light was thrown upon Prof. Royce's theory of the lower action of the mind in thought-reading by the fact that it so often seemed to involve a lower range of moral activity as well. He had given some investigation, many years ago, to the phenomena of mediumship and had practically abandoned the inquiry in consequence of the absolute impossibility of finding any firm foothold among the phenomena. The possession of abnormal powers was apt to be combined with a mental or moral state which destroyed all inclination for a scientific or even a candid examination. While the inquirer was always assured that the performers courted such investigation, it always proved in practice that all tests must be within such narrow limits as to be valueless. Thus, the Davenport brothers were tied with knots in their dark cabinet, but the knots must be at just such points and tied in just such a manner as the performers required. The only way to detect their deceit was, by apparent clumsiness, to spill some flour on the tied hand and then to exhibit the same flour on the curtains which the "spirit-hands" had pushed aside, and this the speaker had accomplished.

But these were the cheapest and most easily detected frauds. The speaker was inclined, while investigating, to put some faith in the so-called medium-power and certainly had experiences which went far beyond the recent instances of thought-transference, even if these last were wholly genuine. He had not only had his mind read, but things known and forgotten brought back to memory in spite of him; yet the moment any serious test was attempted, either the mediums or their controlling power had become evasive or silent. Those mediums who could accomplish anything shrank from anything like scientific investigation; and those who would submit to scientific investigation yielded nothing of any value. Worst of all, there was a *luxury* and slipperiness of moral principle. The most remarkable medium whom the speaker ever saw, had admitted to him, in conversation, that mediums possessing the real power were often tempted to eke out their performances by a little deception, in order to produce conversion in unbelievers. When asked if he himself ever did this, he could only say that he was so nearly unconscious during his trances, or so highly-wrought, that he could not positively assert that he had never yielded to this temptation.

No person accustomed to such investigations could help seeing in the late experiments of Mr. Bishop the professional demeanor characteristic of mediums and of the Davenport brothers. Welcoming inquiry at the outset, he immediately began to evade or resent it when practically applied. He certainly did remarkable things, but these were constantly vitiated by the attempt to deceive the senses of his audience and make them appear more remarkable still. Proposing in his circular to have contact with his associates in the carriage experiment, through eighteen feet of wire rope, he asserted up to the end that if he touched them personally it was through inadvertence. Yet those who

walked by the side of the carriage testified that the hands of the associates were on his head for much the greater part of the time. Such tricks as these render investigation practically worthless, and show the performer to be upon a low moral plane.

The speaker said that he had joined the Society for Psychical Research from a feeling of duty; but without expecting any dazzling results. The chief result thus far was to show how much more prolific was England than America in ghost-stories. The speaker was on the committee on apparitions and haunted houses, of which Prof. Royce was chairman: they had sent out many circulars and obtained very little. Prof. Lowell had lately said of the old buildings in America that they rarely looked venerable, that time refused to console them. Perhaps they were not to be consoled even with a ghost. Nevertheless, the speaker felt a certain pride in the few thin pamphlets thus far issued by the American Society; he felt proud of the pages that were *not* there, as compared with the thick reports of the English Society, containing a great deal that was hardly worth printing. The American reports, so far as they went, were the work of men of trained scientific minds and were a positive addition to the literature of the subject. The whole matter was eminently worthy of the attention of physicians; even the delusions, if they were such, were phenomena of the human mind, and hence within the domain of that profession whose province included both mind and body.

DR. C. S. MINOT was invited to continue the discussion, and spoke as follows: It has been my good fortune to be connected with the Society for Psychical Research, and to therefore know what is being done in the way of investigating the subjects presented before it. I have been much interested in the paper of Dr. Prince, and in the remarks of those who have preceded me. I have no criticism to make, and I think the subject has been very fairly presented before the meeting. All I can do, therefore, is to tell what the Society is doing, and the results which have been accomplished through its efforts. The English Society has made a large number of experiments in the attempt to discover the source of the phenomena associated with so-called mind-reading. Here in America we have made some thirty thousand such experiments, but thus far have attained no noteworthy results. The efforts of our Society in the direction of thought-transference have not been crowned by any conclusions of value. The theory which was followed was that, if such a thing as thought-transference occurs at all in any person, it must occur to a certain extent in all persons, or in, at least, a great many persons. The observations were distributed by the mathematical calculations of the chances in such cases. The cases were all failures, with one single exception. It has been discovered that the thoughts of all persons follow a definite system in relation to the digits, so that in an experiment consisting of the determination of numbers, it is possible to know the probable system which will unconsciously be adopted by the person making the test, and thus an important aid is obtained to the correct solution of the problem. The tests of so-called investigators have often been rendered quite unreliable by the fact that they were themselves the dupes of their own ideas. The English Society is in that condition. They ask of us a tremendous act of faith, as the foundation of all further action. Nothing so stu-

pendous has ever been known in any scientific investigation which has ever been attempted. We cannot accept the conditions thus imposed upon us, which would operate to restrict both the means and the methods of investigation. We, as good men, may accept the *best* we have, believing that nothing is impossible simply because it has not yet been accomplished, and accepting nothing as positive which has not yet been proved.

The human mind is capable of but limited power of attention, and it is often quite oblivious to phenomena which take place within the perception of the senses, when the attention is powerfully diverted and held by some strong impression. Thus Coleman Sellers requested Professor Leidy to clasp his hands tightly, and to maintain them in this position. The curtain was drawn for a short time, and though Professor Leidy stoutly maintained that he had not moved his hands, yet it was found that his coat had been removed without his knowledge. The explanation of this occurrence is that the attention of the subject has been diverted from what he was endeavoring to accomplish, and the coat had been removed while his attention was held in another direction. The power of attention is a defective power, which the conjurer knows how to control, and he finds his skill in the ability to abstract the attention of the subject. We are very imperfectly acquainted with the power of the senses, which is something truly prodigious. Every one has heard of the hypnotized boy in Paris. This youth, when in the condition of hypnotism, read a page of printed matter from the reflection of the page from the cornea of a person who was looking at the page, the boy being placed in front of the reader, with the back of the book toward him. The picture made upon the surface of the cornea of the reader occupied an area of but one-tenth of a millimeter, yet the sense of sight in the youth was so acute under the condition of hypnotism, that his eye was able to discern the printed matter upon the reflected picture of the page, even under the trying conditions mentioned above.

To further test the power of the senses, a piece of wood was given to the youth, and he was directed to make a drawing of it. The picture which he made was a correct representation of the appearances of the wood, but of microscopic detail. In fact, it was a picture of the microscopic structure of the wood. Such experiments as these were unknown to the English investigators, and their results must not be looked upon as conclusive. We should withhold our ultimate decision until we know much more than we know at present. The phantasms of which so much has been written and said of late, possess little in the way of diversity or novelty. The subjects all tell the same story, subject only to variation of time, and place and persons. The facts are always the same. The subject of folk-lore is another interesting theme of investigation. We have all heard of the witches of olden times. They came here in great numbers, and wrought great mischief among the people. Good people saw them, recognized them, suffered from them, and feared them. The witches all followed a certain programme, and it was always known what they might be expected to do. The present condition of things is that of the survival of small remnants of folk-lore in our time, which are the subject of mystery and fraud.

Brain-waves are hardly capable of explaining the tricks often referred to this source. The brain has

no means of receiving impressions other than by the aid of some one or more of the senses. We know of no other method of communicating impressions to another individual than by means of the recognized channels of sense-perception. If other modes of perception exist, they have not been discovered.

The following letter was read by the Secretary :

HARVARD COLLEGE OBSERVATORY,
CAMBRIDGE, December 5th.

DR. ALBERT N. BLODGETT, 138 Boylston St.

My Dear Sir: I much regret that other engagements will deprive me of the pleasure of accepting your invitation to attend the next meeting of the Section for Clinical Medicine. I have only one suggestion to make regarding the phenomena of muscle-reading. The case is greatly simplified when the transmission takes place through a wire connecting the agent and percipient. In this case it is not probable that any action takes place, except a variation in the tension. Such a variation ought to be capable of detection by mechanical means, of which the simplest would be a spring-balance. For the rare sensitiveness of a professional mind-reader, a substitute could thus be provided which could be used by any experimenter. Since muscle-reading is a purely mechanical phenomenon, it seems to me that its existence ought to be established by mechanical means. I hope that Dr. Prince's paper may get into print, for the benefit of those who, like myself, will be unable to hear it read.

Very truly yours,

EDWARD C. PICKERING.

DR. P. C. KNAPP said that he had listened to the remarks of Dr. Minot, and found in them the explanation of ideas which, in a vague way, had been floating in his own mind. The suggestion made by Professor Royce, that the phenomena observed in the so-called mind-reading may be a rudimentary condition, or a return toward a primitive state of mental development, seemed to Dr. Knapp to be a valuable one. The condition in which the phenomena are observed may be similar to that of hypnotism, and to certain other allied conditions sometimes observed as pathological states of the mind. In England, only a few people are capable of thought-transference, and are often the subjects of morbid mental or moral conditions.

The subjects of hypnotism are classed by psychologists as "*degeneré*." From a purely medical standpoint, there is much interest in the community in this subject. It has long been a source of curiosity to the public. The investigations which have been made show that those persons who possess the power to carry out the features of mind-reading are, without exception, such as would be classed as weak-minded. They thus fall into a similar category to that of the subjects of hypnotism.

DR. PRINCE, in closing the discussion, alluded to the contrary results obtained by English and by American observers, as tending to show that either the English people were more susceptible to the condition, or that the observers were misled. There is a limited susceptibility to morbid states. Thus only one person in twenty can be mesmerized; but in our experiments we have made thirty thousand experiments, with notably few results. The Creery children, who possessed the most remarkable powers while young, lost their power as they approached maturity. Their power was, therefore, either a rudimentary mental condition, or it was deception.

Adjourned at 10.15 o'clock.

— The most effective, as well as most convenient cure for warts is said to be fifteen grains of corrosive sublimate dissolved in an ounce of collodion, the warts to be brushed carefully with the mixture once daily.

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NERVE-STRETCHING.

A work has recently appeared¹ on the important practical subject of nerve-stretching which we can commend to our readers as a model of conscientious criticism. The writer has collected, with the aid of the Index Medicus and other books of reference, all the cases on which he could lay his hands, deliberately omitting, however, those which were not given in sufficient detail to justify a fairly accurate opinion. The whole number of cases summarized is four hundred and fifteen, and a digest of each one is given in the appendix. We will first give an outline of the writer's conclusions, and will then indicate briefly the grounds on which his opinion as to the different points is based.

1. The action of nerve-stretching as a therapeutic measure differs in kind from that of other operations on nerves (neurotomy, neurectomy and compression). Its influence makes itself felt even in the nervous centres, especially the spinal cord, and it is to this that it owes its power of modifying the sensory functions of the nerves, without materially affecting their motor functions.

2. This action of nerve-stretching on the nervous centres may give rise to hæmorrhages and inflammatory changes, both acute and chronic, and often very severe.

3. The operation is therefore to be regarded as an agent of greater therapeutic power than the other operations on the nerves, and also as much more dangerous, and it should not therefore be lightly resorted to.

4. In general terms, it is only suitable for mixed nerves, section or resection being preferable for sensitive nerves. This statement is, however, in need of certain qualifications.

5. Thus, in the treatment of neuralgias of the ophthalmic division of the trigeminal nerve the results of

¹ Valeur Thérapeutique de L'Elongation des Nerfs par Le Dr. Felix Lagrange, Professeur Agrégé à La Faculté de Médecine de Bordeaux. For a reference to earlier observations on this subject, see also this Journal for January 10th, 1884.

resection and stretching are about equal, so far as the frontal and nasal branches are concerned. In case of the nasal, in fact, the operation of stretching, or, better, of complete evulsion, is to be preferred, as being relatively harmless, easy of performance, and in some respects more effective. This measure has proved of some benefit in chronic glaucoma, and of still more benefit in acute glaucoma. It is also of great value in the treatment of acute or chronic ciliary neuralgia.

6. The operation of resection is preferable for the infra-orbital neuralgias and may in case of need be extended so far as to take in Meckel's ganglion. Resection is also the best operation for the dental nerves.

7. The stretching of mixed nerves is justifiable in obstinate cases of neuralgia but the less dangerous method (applicable only to the sciatic), is that in which the stretching is accomplished by forced positions of the limb. As a means of treatment of locomotor ataxia and the different diseases of the spinal cord, nerve-stretching is of so little value as to be unjustifiable.

8. Tetanus can be treated with equal success and more safety by neurotomy, or compression of the nerves than by stretching; and (9) the same is true of torticollis.

10. Stretching is of some value in contractures and spasms of traumatic origin, and in reflex epilepsy.

11. Lepra-anæsthetica is not benefited by nerve-stretching except as regards the pain, and even this effect is not to be counted on; neither can atrophy of the optic nerve be helped in this way.

The first two of these propositions are supported partly by physiological, and partly by clinical arguments. With the former, we will not undertake to deal, except so far as to say that in experiments upon animals in the laboratory, lesions have been found in the spinal cord similar to those observed in men, besides interstitial neuritis of the nerves operated on. We cannot wholly agree with the writer in regarding it as proved that an action on the nervous-centres is the peculiar and essential feature of nerve-stretching, but whether the therapeutic effect of nerve-stretching implies this action or not, the list of cases in which such an action has been produced, to the patient's evident injury, is enough to inspire serious thoughts of caution; and the more so that this list is probably very incomplete, partly because disastrous results are often left unrecorded, and partly because those which only show themselves after the lapse of some time are often unrecognized.

Fourteen cases of serious results are reported, many of them ending in death. Briefly stated, these observations are as follows:

1. Case reported by Hirschfelder; locomotor ataxia; stretching of both sciatics; epileptiform attacks immediately after the operation; two days later somnolence and coma; death on the fourth day. 2. Reported by Cavalry; locomotor ataxia; stretching of the left sciatic; relief from pain for one month; recurrence of pain; two months later acute myelitis; epilepti-

form convulsions; coma and death. 3. Reported by Gussenbauer; death after the end of six weeks; with the symptoms of pyelo-nephritis. 4. Reported by Westphal; stretching of the sciatic nerve; diffused softening of the spinal cord in scattered spots. 5. Same; stretching of the crural nerve on one side; paralysis of both sides including the sphincter; improvement; transverse myelitis; death. 6. Reported by Rumph; locomotor ataxia; stretching of both sciatics; death on the ninth day and hemorrhage into the cord. 7. Reported by Weltrubsky; locomotor ataxia with cystitis; nerve-stretching; increase of the disorders of motion and sensation; death on the thirty-eighth day from purulent nephritis; hemorrhage beneath the membranes of the cord and signs of inflammatory process. 8. Reported by Kulenkamph; locomotor ataxia; stretching of both sciatics with thorough antiseptic precautions; paralysis of the vesical sphincter immediately after the operation; phlegmonous inflammation of the right side; death. Extensive suppuration was found along the sciatic nerve, but no recent lesion of the cord which seemed capable of explaining the paralysis of the sphincters. This result has, however, been several times reported, as for example in a case (10) by Obalinski; locomotor ataxia; stretching of the crural nerves; paralysis of both sphincters; death in two weeks. 11. Reported by Podrez; locomotor ataxia; stretching of both sciatics; ten days later severe trophic disorders; gangrenous eschar; death in six weeks. 12. Reported by Fenger; locomotor ataxia; stretching of both sciatics and both crurals; relief from pain, followed by eschar of the sacrum, pyæmia and death. 13. Reported by Mickulitz; multiple sclerosis of the spinal cord; nerve-stretching; death very shortly afterwards. It is not only where large nerve-trunks are stretched that such results are seen. 14. Oberlinski has reported a case where the patient died rapidly in coma two days after the stretching of the intercostal nerves.

Among lesser accidents may be mentioned neuritis of the nerve stretched. Ulcerative keratitis followed stretching of the inter-orbital nerve in one case, an accident which has never been reported, to say the least, as the result of a resection of this nerve. Six cases are described of permanent paralysis due apparently to injury of the nerve itself; Gillette reports a case of nerve-stretching for sciatica followed by the disappearance of the specific pains, but shortly after, by the onset of neuralgia elsewhere which had previously not been present; and the same author gives us a second case of similar history.

Not even yet is the catalogue of possible mischances complete. Several cases have been reported where the nerve has unexpectedly ruptured, probably because it had become weakened by morbid changes, the extent of which had not been appreciated. Once death occurred from the entrance of air into the veins, and once from pulmonary embolism, resulting from thrombosis of the right femoral vein. Professor Verneuil had one death from rapid phlegmonous erysipelas.

Berger reports a similar result, although the operation had been conducted with full antiseptic precautions, and it is a fair question whether this was not due to an impairment of the vitality of the tissues, caused by injury of the nerve or nerve-centres, since similar accidents (deep suppuration) have been reported also by others.

It is noticeable that in almost all the most serious cases the spinal cord had been previously diseased, and it may be that but for this the nerve-stretching would not have produced disastrous results. It must, however, be borne in mind that we can rarely be sure that we are dealing with a perfectly healthy case, nor can we accurately gauge the degree of irritation that we set up. In the case of the sciatic nerve, the method of stretching by a forced position of the limb ("bloodless-stretching") is considered less dangerous than the operation which was done in the cases above cited; and the writer says that, in fact, this has not been reported as having been followed by any serious lesions of the nervous centres. It has, however, been demonstrated that the traction produced in this way actually displaces the spinal cord, and it is not, therefore, to be looked upon as an operation to be resorted to without hesitation. Furthermore, we have ourselves seen a severe neuritis lighted up in this way in a case of sciatica of several months' standing, and no longer presenting acute symptoms.

The writer next studies the therapeutic value of the operation for the different nerves of the body, with the results stated in the propositions 5, 6, 7, and 10, given above.

Without attempting to follow him at length through the remainder of his argument, we will call attention to one or two points. It is often advised that when the different branches of the fifth pair are operated upon, even if resection is the final intention, stretching should first be employed as an additional precaution. The analysis made by Lagrange renders it probable that we do not in this way materially improve the chances of success, while at the same time we do introduce a new element of danger. It must be, in fairness, acknowledged, however, that, inferences and theoretical considerations apart, the cases actually reported do not show this danger to be great, since out of forty-nine cases of stretching of the different nerves of the face, no more serious accident than suppuration, which was eventually recovered from, is reported, and this only three times, except the single case of ulceration of the cornea mentioned in the text. We have not had the opportunity of referring to the details of a communication to which the writer refers, made by Nicaise to the Société de Chirurgie, in which traction on the cranial nerves is spoken of as especially dangerous, on account of their nearness to important central organs.

The actual showing of the cases of stretching of the superficial mixed nerves, not attended by disease of the spinal cord (see above), is also rather favorable to the operation. Ninety-eight such cases are recorded, of

which sixty-eight were operations on the sciatic. There was only one death (stretching of the intercostal, see above), and a few cases of deep suppuration and temporary paralysis of the sphincters.

The successful results, so far as the cases were followed, were in the great majority; but, unfortunately, few of the patients were under observation long enough to test the question of the recurrences of the pain, and the appearance of secondary disorders of the spinal cord.

In view of the serious results in such a large proportion of the cases of locomotor ataxia, it is urgently desirable that surgeons should furnish us with the means of judging about the final outcome of the operations for neuralgia also. The former cases, it must be remembered, were so much before the public eye, that the results in them were sure to be made known.

For one set of cases, it seems to us that Lagrange distinctly overrates the value of nerve-stretching, and that is the cases of facial spasm. An unprejudiced examination of the final reports, as given by Bernhardt, Keen, and others, makes it plain that stretching of the facial nerve is practically valueless as a means of permanent cure.

It is well known that the attempt has frequently been made, with occasional benefit, to treat clonic torticollis by stretching the external branch of the spinal accessory, and the writer does not bring forward absolute demonstration of his belief that this operation is a dangerous one from its action on the nervous centres. All that we know, however, of the clinical history of these local clonic spasms points to the conclusion that whatever benefit is gained in them by operations upon nerves is due mainly, if not wholly, to an interruption of conduction through the nerve-trunks. The muscles supplied by the external branch of the spinal accessory, fortunately, receive also filaments from other sources, and, therefore, resection of the spinal accessory is not followed by complete paralysis, and is not likely to prove more permanently useful than the stretching, while it also is without the danger which theoretically attends the latter operation.

MEDICAL EXPERT TESTIMONY.

IN a recent editorial (January 20th, 1887,) we made reference to the hardships to which the members of the medical profession were liable to be subjected in suits for malpractice. One of the methods of action proposed as tending towards the alleviation of the unjust position in which medical men find themselves, when defendants in such suits, is the regulation of medical expert testimony. Every medical man who has been obliged to act as an expert in any case in the courts, and how few there are who have not at one time or another been called upon to do so, knows from personal experience in what a false and unfair position the expert is placed. However scrupulously honorable, however desirous of justice and fair play

he may be, and we believe that a very large percentage of all our experts are of this character, the medical expert is, by the very conditions under which he is placed often forced into the position of an ex-parte witness, only differing from the ordinary witness in the nature of the evidence which he is expected to give and in the size of his fee. Called by one party to the suit, consulting more or less frequently with those interested in one side of the case, the expert himself is liable after a time to become unconsciously imbued with their views and his opinions are apt to be involuntarily modified by the surrounding influences; and this is of importance since the subject of his testimony is opinions rather than facts.

Yet this is but a small factor in the injustice of the position. As at present regarded the medical expert is rather expected to make an ex-parte statement. Not long ago at a dinner given in honor of one of the most able and distinguished physicians we know, the following anecdote was related: Two gentlemen were walking down the street in earnest conversation in regard to a suit in which medical expert testimony was required. One of them asked the other, "Shall you summon Dr. — as expert on this suit?" "Oh no," was the reply, "certainly not, you never can tell which way his testimony will go." So long as in the public opinion it is considered just and right to know in which way the expert testimony will go, so long will it be very difficult for medical experts to give their opinions without at least unconscious prejudice.

Again, if experts were permitted in all cases to make a full statement of their views and opinions in regard to the subjects on which they were consulted, the evil of the present system would be much lessened. But this is not so. They are called upon simply to answer carefully-framed questions and skilfully-built hypotheses, and the jury in many cases is in no position to appreciate the force of the answers, while the physician has constantly to be on his guard lest by some remark, but partially understood by the jury, he may convey the opposite impression from that intended.

Medical expert testimony in most of our States has now, in consequence of these things, reached a low level in the public estimation as well as in legal circles. This may be due in a small part to the fault of the profession itself, but the principal cause is the unfortunate, the unfair, and we might almost say, the dishonest position in which the expert is placed by our present system of trial.

To remedy this, various measures have been suggested. The excellent pamphlet of Mr. Clement Herschel, "On the best manner of making use of the services of experts in the conduct of judicial inquiries," has been printed by the direction of the Bar Association of the City of Boston. It is a powerful argument in favor of a change in the system of summoning experts, and it gives a *résumé* of the practice in England and Germany. As a result of their consideration of this subject, the Committee of the Bar Association on

the amendment of the law has already voted to recommend to the Council that action be taken favoring the passage by the Legislature "during the coming session" of the following bill in relation to medical expert testimony:

SECTION 1. In any action, suit or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired by either of the parties, the court or any judge thereof in chambers, or in vacation, in any county may designate one or more proper persons learned in the science of medicine, to be summoned as such expert witness: and the clerk shall thereupon issue a subpoena.

SECT. 2. Such witness shall be paid for his attendance, travel and services, including services in preparation, a reasonable compensation to be allowed by the court and paid out of the treasury of the county.

SECT. 3. In any criminal proceedings the defendant may call and examine other expert witnesses in addition to those hereinbefore provided for, but at his own cost, and in such cases other medical expert witnesses may be called and examined by the Commonwealth.¹

SECT. 4. No medical expert witness shall be admitted to testify before any court or magistrate, except as hereinbefore provided.

We hope that some movement in this direction may prove successful. It should be distinctly understood that the bill above quoted has thus far only been recommended by the Committee to the Council of the Bar Association and has not yet been approved by the Council. We understand, however, that a bill of similar character is now before the Judiciary Committee of the Legislature.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

THE report of the Surgeon-General of the Army for the fiscal year ending June 30, 1886, has just been issued, and contains the usual amount of statistical information and other matters of interest. The recommendation that Congress grant authority, in the purchase of medical and hospital supplies which cost less than \$500, that such purchases be made after due advertisement for bids, without entering into a formal written contract, is a movement in favor of greater simplicity and directness. In many instances a strict compliance with the letter of the law and existing regulations, in preparing the formal executory contracts, *five copies of which are required*, entails an expense to the Government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the laws relating to purchases of Government supplies.

It is proposed to add to the literary work which the medical department of the army has already accomplished, or, at least, it is considered very desirable to do so by the publication of a catalogue of the museum. Such a catalogue, with proper illustrations, will make three large volumes, and will be of great benefit to the medical profession as well as to the museum itself, and it is respectfully recommended that

authority be granted by Congress for printing this work. The preparation of the manuscript of Volume VIII of the Index Catalogue is well advanced, and the first part of it is now going to press.

The publication of the third medical volume, the last of the series composing the Medical and Surgical History of the War, has been delayed by the pressure of current work at the Government Printing-office. The manuscript was ready for the press in February last, but little progress was made in printing during the continuance of the session of Congress. All the plates, diagrams, and other materials for the illustration of the volume are on hand, and page-proofs of the first hundred pages of the work have been filed in the Surgeon-General's office.

The acting Surgeon-General reiterates the necessity for the organization of a hospital corps, by the enlistment of able-bodied and intelligent men, who shall be thoroughly trained and instructed as cooks, nurses, attendants, and litter and stretcher bearers, thus preparing the Medical Department for any emergency of peace, war, or epidemic.

The report is signed by J. H. Baxter, as acting Surgeon-General, U. S. Army.

ANNUAL REPORTS OF THE PRESIDENT AND TREASURER OF HARVARD COLLEGE, 1885-86.

THE portion of this report relating to the Medical School is that which especially concerns us and our readers, and we accordingly turn to it immediately. On the principle of "blessed that country whose annals are few" the Medical School of Harvard University must be regarded as very prosperous. Out of twenty-four pages of the President's report the Medical School gets less than one; a more distinguished treatment, it is true, than that allotted to the Divinity School, but less so than the Law School receives. Moreover, the impression of a sleek prosperity, derived from the meagre annals, is increased, when we learn elsewhere in the President's report that both the Dental School and the Veterinary Department are really dependent upon the gratuitous assistance which they receive from the Medical School for their existence. As for the Medical School itself, apparently all it now needs is "income enough to enable it to make full use of the facilities which its excellent building affords for laboratory investigations connected with medicine." The Law School, on the other hand, though acknowledged to be in a position of great strength, the proof of which is given in detail, it is announced: "needs more teaching and more scholarships. A professional school of high grade ought not to depend on tuition-fees for nearly two-thirds of its annual expenses."

And yet the Law School with an attendance of one hundred and fifty-eight students during the year, and not requiring laboratories, has invested funds amounting to \$176,898, yielding with one-quarter of the Bussey trust an annual income of \$12,851; whilst the

¹ Section 3 is inserted only to meet the possible objection of the unconstitutionality of the bill in its application to criminal cases.

Medical School, with an attendance of two hundred and seventy-two students and the much more expensive machinery required for their education (to say nothing of the aid extended to the Dental and Veterinary Schools), has an invested fund of only \$181,000, yielding an annual income of \$10,333.

To say the truth, whatever the needs of other departments or other schools of the University, we believe there are none which require endowments more seriously than the Medical School, and there are none from which there would revert to the public so immediate and so handsome a return upon its gifts. Moreover, it is in the departments for clinical instruction that such funds are most needed. The branches dependent upon laboratory work and instruction were those most benefitted by the erection of the new and admirable building for the School. We believe the University has no more devoted or self-sacrificing teachers in its whole corps than those connected with the clinical branches of the Medical School. Were it not for this devotion on the part of a large number of men occupying hospital and dispensary positions, some of whom are in no official relation to the School and receive no mention in the reports, the clinical instruction of the School would come practically to a standstill. At the present time the two very important Professorships of Clinical Medicine and Therapeutics are vacant, and during the year 1884-85 one professor filled the two chairs. We do not undervalue the necessity of laboratory training in making good physicians or of laboratory work in advancing the science of medicine, but after all said and done the patient remains as a very large part of the equation to be solved, and he must still be studied, sometimes as a type, but much more often as an individual by and for himself.

Of the whole number of students in attendance during the year (272) 148 had literary or scientific degrees, a very encouraging proportion. There were 70 applicants for the degree of doctor of medicine in the three years' course, of whom 11 were rejected; there were nine applicants for the degree in the four years' course, of whom two were rejected. There were 18 students in the fourth class, only one half, therefore, came up for a degree.

The Medical Faculty have laid before the Academic Council a plan for the abridgement of the college course by those students who go from college directly into one of the professional schools of the University, with a view to avoiding the too advanced age at which graduates of colleges or scientific schools begin the study of medicine, and the consequent unreasonable postponement of entrance into practice, especially if a thorough course of professional study is pursued. We shall revert to this very vital issue at some future time.

— If Queen Victoria does not celebrate her jubilee by a liberal assistance to the London hospitals, it will not be for lack of sufficient reminders from the medical press of England.

COCAINE IN THE INCOERCIBLE VOMITINGS OF PREGNANCY.

COCAINE has lately come into use for the incoercible vomitings of pregnancy, and in several cases reported by Weiss, Engelmann, Holtz and Bois, it seems to have given good results. Weiss prescribes a teaspoonful every half hour of a solution containing fifteen centigrammes of hydrochlorate of cocaine in one hundred and fifty grammes of water. Engelmann and Holtz use a three per cent. solution in ten to thirty drop doses, while Bois applies to the neck of the uterus, night and morning, a pomatum in which one centigramme of cocaine is incorporated with fifty grammes of vaseline. Fraipont prefers the hypodermic method, injecting under the skin a Pravaz syringe full of a four per cent. solution, and claims signal success in other forms of obstinate vomiting, as well as in the vomitings of pregnancy.

MEDICAL NOTES.

NEW YORK.

— Mrs. Cornelius Du Bois has recently started a fund for sending out trained nurses from the school in E. 36th St., to care for the poor in their homes, and Mrs. Cornelius Vanderbilt has contributed \$1,000 towards it.

— The Alumni Association of the Medical Department of the University of the City of New York held its sixteenth annual dinner at Delmonico's on the evening of January 27th, when Dr. F. R. S. Drake presided, and the annual toasts were responded to.

— Small-pox has become increasingly prevalent of late, and, in consequence, six extra sanitary inspectors have been appointed to assist the present force of the Board of Health in arresting its progress. The disease has been rare in New York since 1882, when 708 cases, with 259 deaths, were reported from it. In 1883 there were but 26 cases reported, with 12 deaths, and in 1882 there were but 5 cases, and not a single death. In 1885 there were reported 105 cases, with 26 deaths, and in 1886, 109 cases, with 31 deaths.

— At the last meeting of the Medical Society of the County of New York, a paper on the "Relations of the Board of Health to the Medical Profession in the City of New York," by Dr. John C. Peters, was read by the Secretary. Dr. Peters claimed that the relations between physicians and the Board of Health were always disagreeable from the fact that at the head of the Board, as required by law, was a layman, and not a medical man. He urged that a bill be drawn up making it essential that the head of this department should be a regularly qualified physician. Dr. Peters asserted that the Board persistently refused to inform, as it is required by law to do, the Board of Education of the prevalence in any locality of contagious disease. As to its examination of the nuisances of the Croton River and its tributaries, he said that amounted to nothing, because the State Board of Health was not communicated with, and was consequently powerless to remove the sources of impurities.

Miscellany.

THE OUTBREAK OF CHOLERA IN BUENOS AYRES.

THE weekly abstract of sanitary reports issued by the Marine Hospital Service, and dated January 27th, contains an interesting extract from the dispatches of the United States Minister at Buenos Ayres concerning the outbreak of cholera in that country. It seems that cholera made its first appearance about November 1st, and was imported by the Italian ship "Perseo," plying between Genoa and Buenos Ayres. The ambassador of the Argentine Government in Italy was a passenger on the ship, "and the anxiety to secure him an immediate landing, on the part of the ship's commander, seems to have so far overcome his sense of duty that, by concealed or garbled reports, he managed to turn loose, on Argentine soil, first here, then at Rosario, a great many persons from an infected ship. The testimony of passengers shows conclusively there was nearly a score of burials at sea of those who died of cholera on the voyage."

The disease was most fatal at Rosario, a city of commercial importance 200 miles from Buenos Ayres, where, out of a population of about 50,000, there were at one time from 35 to 50 deaths daily.

The United States Consul at Buenos Ayres, under date of December 10th, states that "while a few cases of cholera are still reported in each day's bulletin, the disease appears to have pretty much run its course at this port. On yesterday, up to ten o'clock, only one new case had occurred in the city proper, and two cases on board a steamer at Boca port. In the interior of the country, however, the disease has made its appearance, and in some places with a marked type. On the 4th instant, there were 13 deaths at Rosario, and 14 new cases, and at Cordoba 2 deaths and 5 new cases. The authorities feel assured that the prompt and rigid measures taken to stamp out the disease will prevent it from becoming epidemic. In all bills of health now issued by me I note the fact that cholera exists in this port, but apparently not in epidemic form."

TRANSMISSION OF HYDROPHOBIA BY THE INTENSIVE METHOD.

IN connection with the charge of M. Peter, before the French Academy, that the death of the man Révillac was very likely due to hydrophobia caused by Pasteur's "intensive inoculations," it is not amiss to quote some of the conclusions arrived at by Professor von Frich, of Vienna, as the result of laboratory experiments with the virus of rabies obtained from M. Pasteur for that purpose. Among other conclusions reached von Frich, states the following: (*Lancet, Vienna Correspondent.*)

1. Animals which have been subjected to hypodermic injections of a series of virus attenuated by desiccation become refractory to the stronger virus by the previous inoculations with the weaker virus if the stronger virus have not been used in too rapid succession. 2. Animals which have been inoculated hypodermically during ten days with virus of progressive virulence (medulla from ten days to one day) have not been refractory to infection with the fresh virus of street rabies, and have only exceptionally escaped after intra-cranial infection. 3. Rabbits and dogs

inoculated by trephining with the virus of street rabies of sixteen days' incubation have always succumbed, notwithstanding the preventive treatment already described. 4. M. Pasteur* attributed to the method of slow vaccinations the unsatisfactory results obtained previously by M. von Frich, and recommended a more intensive mode of treatment. The experiments carried out conformably to M. Pasteur's instructions have given no more favorable result; all the animals died of rabies. 5. The experiments have demonstrated a most important fact—that is, that in the rapid process the weaker preservative medullæ do not confer the same certainty of immunity from the effects of inoculation with the stronger medullæ. Of a series of dogs and rabbits inoculated as a control-experiment to that described in the preceding paragraph, and in which the rapid process was carried out without previous infection, most of the animals died of rabies. 6. Most of the animals which were submitted to the preventive treatment after subcutaneous inoculation with street rabies, died of the disease even when the period of incubation was thirty-four days. These experiments show, says M. von Frich, that Pasteur's method of rendering animals refractory to rabies is not yet either sure or certain. There is not yet a sufficient scientific basis for the application in man of a preventive treatment after the bite of a rabid animal. It is, moreover, quite possible that the preventive treatment, at any rate the intensive method recently recommended by M. Pasteur, may itself transmit the disease.

OBITUARY.

SILAS EMLYN STONE, M.D.

The County of Norfolk loses a valuable citizen, and the medical profession of Massachusetts one of its most useful members, by the death of Dr. S. E. Stone, which occurred January 29, 1887, from uræmia, at Walpole, Mass. He was a model of the well-educated country physician. His nicely-balanced mind, superior judgment and intelligence, strong sense of duty, — his self-respecting and calm, but always pleasant demeanor, and perfect equilibrium, — secured him high and appreciative estimation in a community which had known him from childhood, and among whom he had practised for a quarter of a century.

Dr. Stone was appointed assistant-surgeon of the Twenty-Third Massachusetts Regiment almost immediately after taking his medical degree. He nearly died of a fever contracted in the service, and came back to Walpole to be prostrated shortly afterward by a peri-nephritic abscess which again threatened to destroy his life. From this last-named casualty he never wholly recovered; but in the vacations, which his impaired health every now and then rendered necessary, he acquired much applicable knowledge of men and the thoughtful experience of an extensive and observing traveller which greatly added to his usefulness as a practitioner.

He was always alive to the interests of his native town. His admirable paper on "Charbon," a disease which repeatedly occurred in a hair-factory at Walpole, is well known to the profession. The firm and heroic stand which he took between the operatives and the factory owners at the time of a serious epidemic of that disease, — compelling the latter to thoroughly disinfect the raw material used, regardless of cost; a measure which put an end to the fatality attendant on handling certain kinds of hair, and prevented threatened riot and destruction, — is not so well known as if it had been the act of a less modest individual.

The removal by death of such a physician, in the prime of life, from his circuit of practice in a neighborhood so distinctly rural as that in which he lived, is a calamity to his medical neighbors and to his personal friends at a distance not less than to the locality itself. It is equally a misfortune to the public in general, which can ill afford the loss of professional men whose lives are worthy of the praise due to that of Dr. Stone.

WILLIAM THORNDIKE, M.D.

Dr. William Thorndike, formerly of Beverly, Mass., but for the past twenty-one years a resident of Milwaukee, Wis., died in the latter city on the 29th inst., of double pneumonia, aged fifty-one years, six months. He was the son of Albert Thorn-

dike, of Beverly, formerly president of the Eastern Railroad. In 1854 he was graduated from Harvard College and in 1857 from the Harvard Medical School. Dr. Thorndike began practice in his native town after service at Rainsford's Island and at the Massachusetts General Hospital. In 1862 he was commissioned as assistant surgeon in the Thirty-fourth Massachusetts Volunteers (Col. George D. Wells) and was soon made surgeon of the Thirty-ninth Massachusetts, serving in that capacity until the regiment was mustered out at the close of the war. He leaves three sons, the eldest of whom is pursuing the study of his father's profession.

LUDWIG BANDL.

The death of Professor Ludwig Bandl, who was appointed last summer to succeed Breisky in the Chair of Obstetrics and Gynecology at Prague, took place early in December. He was perhaps mostly widely known to the profession in America in connection with his views regarding the uterine contraction-ring to which his name was given, and as to which, whether it reached the true internal os or not, a vigorous discussion has ever since been maintained. His writings upon the "Mechanism of Rupture of the Uterus," and upon the "Diseases of the

Tubes of the Ligaments of the Pelvic Peritoneum and the Pelvic Cellular Tissue, including Extrauterine Pregnancy," are well known to our readers. He had been *privat-docent* instructor in the Vienna Polyclinic, and Professor Extraordinary of Gynecology in the University of Vienna.

Correspondence.

TRANSLATION REQUESTED.

BOSTON, January 27, 1887.

MR. EDITOR:—The following message was left on my slate, showing the necessity of required Greek.

οἱ ἀναγκᾶσι ἐμὲ χρῆζουσιν δικάδε λέγειν

I have waited a long time to see if the writer would appear. He has not. I wonder how many of the JOURNAL readers can translate. Yours truly, B.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 22, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Diarrhoeal Diseases.	Acute Lung Diseases.	Diph. & Croup.	Measles.
New York	1,439,039	789	335	23.75	1.04	20.67	9.36	8.84
Philadelphia	971,363	418	125	11.04	.72	18.24	5.28	.18
Brooklyn	690,000	310	137	14.72	1.92	23.04	8.96	2.98
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	175	55	9.69	.57	18.24	7.41	.57
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	145	40	10.35	1.38	14.49	4.83	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	128	29	3.12	.78	8.58	1.56	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	82	21	3.69	—	11.07	2.46	—
Pittsburgh	190,000	79	30	29.21	6.08	20.32	5.08	16.51
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	29	11	—	—	24.43	—	—
Charleston	60,145	33	9	9.09	6.06	21.21	—	—
Worcester	68,383	28	9	10.71	—	17.85	7.14	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	19	5	5.26	—	5.26	—	.1
Fall River	56,863	27	12	11.10	—	11.10	7.40	—
Lynn	45,861	14	5	14.28	—	—	14.28	—
Lawrence	38,825	23	6	13.05	—	8.70	—	—
Springfield	37,577	10	3	10.00	10.00	10.00	—	—
New Bedford	33,393	11	5	9.09	—	9.09	9.09	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	1	15.38	—	—	7.69	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	6	1	—	—	16.66	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	9	0	—	—	—	—	—
Brockton	20,783	10	2	40.00	—	—	30.00	—
Newton	19,759	1	0	—	—	—	—	—
Malden	16,407	11	2	9.09	—	9.09	9.09	—
Fitchburg	15,375	4	0	—	—	—	—	—
Waltham	14,609	5	0	—	—	20.20	—	—
Newburyport	13,716	4	1	—	—	—	—	—
Northampton	12,896	6	1	16.66	—	—	16.66	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,291: under five years of age 845; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 377, acute lung diseases 428, consumption 345, diphtheria and croup 165, measles 95, diarrhoeal diseases 24, typhoid fever 24, scarlet fever 22, whooping-cough 13, malarial fever 12, erysipelas seven, small-pox four, puerperal fever two. From typhoid fever, Philadelphia 11, New York four, Baltimore and Pittsburgh three each, Boston, New Orleans and Lawrence one each. From scarlet fever, New York 11, Philadelphia five, Brooklyn, and Pittsburgh two each, Baltimore and Lawrence one each. From whooping-cough, New York six, Baltimore two, Philadelphia, Brooklyn, Pittsburgh, Lawrence and Brockton one each. From malarial fevers, New York eight, Brooklyn three, Charleston one. From cerebro-spinal meningitis, New York six, District of Columbia, Nashville and Worcester one each. From erysipelas, New York two, Philadelphia, Brooklyn, Boston, Cambridge,

and Salem one each. From small-pox, New York and Brooklyn, two each. From puerperal fever, Philadelphia and Fall River one each.

In the 19 cities and greater towns of Massachusetts, with a population of 895,246 (population of the State 1,941,465) the total death-rate for the week was 20.74 against 22.02 and 22.61 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending January 8th the death-rate was 2.65. Deaths reported 4,690: infants under one year of age 890; acute diseases of the respiratory organs (London), 731; measles 235, whooping-cough 81, scarlet fever 63, fever 47, diarrhoea 28, diphtheria 21.

The death-rates ranged from 40.6 in Plymouth to 15.7 in Sunderland; Birmingham 24.4; Blackburn 23.7; Hull 20.4; Leeds 34.0; Liverpool 28.8; London 26.3; Manchester 36.4; Newcastle-on-Tyne 33.2; Nottingham 18.3; Sheffield 21.4.

The meteorological record for the week ending January 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																			
Saturday, Jan. 22, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...16	30.008	19.0	25.0	9.0	80.0	69.0	65.0	71.0	N.W.	W.	W.	6	4	4	F.	C.	C.	—	—
Monday,...17	29.517	30.0	36.0	17.0	100.0	100.0	91.0	97.0	S.E.	N.	N.W.	6	4	14	N.	R.	N.	—	—
Tuesday,...18	29.744	13.0	30.0	18.0	71.0	61.0	74.0	69.0	W.	W.	N.W.	16	29	17	C.	C.	C.	—	—
Wednes... 19	30.083	10.0	19.0	-5.0	91.0	67.0	66.0	75.0	W.	S.W.	W.	8	15	11	O.	O.	C.	—	—
Thursday, 20	29.900	31.0	40.0	15.0	85.0	73.0	68.0	75.0	S.W.	S.	S.W.	4	10	20	O.	O.	O.	—	—
Friday, ...21	30.146	36.0	44.0	25.0	61.0	46.0	55.0	54.0	W.	N.W.	N.	19	25	8	C.	C.	C.	—	—
Saturday...22	30.348	34.0	46.0	16.0	63.0	77.0	88.0	76.0	N.W.	S.	S.W.	4	10	15	O.	O.	O.	24	0.67
Mean, the Week.	29.964	24.7	-	-	-	-	-	74.0	-	-	-	-	-	-	-	-	-	-	-

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; †, rain and melted snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 22, 1887, TO JANUARY 28, 1887.

MORRIS, EDWARD R., assistant surgeon. Granted leave of absence for one month, to take effect about March 10, 1887, with permission to apply for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, February 9th, at 7.45 o'clock. Papers: Dr. H. C. Haven will read a paper on "Infant Feeding," which was postponed from the November meeting. Dr. E. M. Buckingham will open the discussion. Dr. F. W. Stuart will report a case of "Thrombosis of the Left Vertebral Artery with Autopsy." Dr. W. N. Bulard will open the discussion. Dr. J. W. Farlow will present a series of five cases of "Large Visible Pulsating Artery on the Posterior Wall of the Pharynx."

ALBERT N. BLODGETT, M.D., *Secretary.*

F. I. KNIGHT, M.D., *Chairman.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, February 7th, 1887, at eight o'clock. Readers: Dr. F. B. Harrington, "A Case of Osteo-Sarcoma of the Lower Jaw;" Dr. F. C. Shattuck, "Subsequent History of a Patient with an Abdominal Tumor diagnosed as Floating Spleen, in 1877."

CHARLES P. STRONG, M.D., *Secretary.*

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next meeting of the Gynæcological Society of Boston will be held at No. 19 Boylston Place on Thursday, February 10th, 1887, at 4 o'clock, P. M. Communications: Dr. Apostoli's paper, entitled, "A New Method of Treatment of Chronic Metritis — and especially Endometritis — by the Intrauterine Chemical Galvano-caustic," will be read by Dr. Fox, of Lowell. A paper by Horatio R. Bigelow, M.D., of Leipzig, entitled, "The Truths of Nature demanding Similar Truths from Science and Art." Should time permit, the discussion of the subject, "Masturbation in the Female and the Advisability of Battey's Operation in Extreme Cases of Nymphomania," will be resumed; Dr. E. W. Cushing and Dr. W. S. Brown will open the discussion.

H. J. HARRIMAN, M.D., *Secretary.*

A PRIZE ESSAY ON HAY FEVER.

The Chairman of the Committee on Scientific Facts, of the United States Hay-Fever Association, asks leave to submit the following to the members, and to the Medical Fraternity, and to all who are interested, whether as sufferers or students of this increasing malady:

At its last meeting, September, 1886, at Bethlehem, N. H., the Association decided to offer a prize for the best essay from a competent source, preferably a physician, on some question relating to *Estiols*, or Hay-Fever. The amount is necessarily small; but, as the accepted Essay will be published in the Association's report, when the extent of its circulation, and the character of those whom it will reach shall be considered, it is thought that the successful treatise will give to its author a reputation worth the effort.

In order to carry out the above the following is announced officially:

(1) Subject of the Essay, Hay-Fever. (a) Its Pathology. (b) The predisposing, and the aggravating causes. (c) Advice to the sufferer.

(2) The Essay not to exceed *four thousand words*, and to be as practical and non-technical as possible.

(3) The manuscripts to be received at the office of SAMUEL LOCKWOOD, Freehold, New Jersey, not later than April 30, 1887.

(4) Each manuscript to have a Motto under the Title, and to be accompanied with a sealed letter containing said Motto, also the name and address of the author. These letters not to be opened until after the award is decided.

(5) The prize to be \$25. The accepted essay to be published immediately in the Association's annual report, one hundred copies to be given the author.

(6) The Committee of award: Samuel Lockwood, Chairman of Committee on Scientific Facts; Frank B. Fay, President U. S. H. F. A.; Charles C. Dawson, Secretary U. S. H. F. A.

Respectfully yours,

SAMUEL LOCKWOOD,

Chairman of Committee on Scientific Facts.

FREEHOLD, N. J., January 15, 1887.

DEATHS.

Died at Princeton, Mass., January 28, 1887, Joseph Thomas Odiorne West, M.D., M.M.S.S., aged about sixty years.

Died in Walpole, Mass., January 29, 1887, Silas Emlyn Stone, M.D., M.M.S.S., aged forty-eight years.

Died in Lawrence, Mass., January 31, 1886, Anthony Bernard Magee, M.D., M.M.S.S., aged thirty-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the President and Treasurer of Harvard College. 1885-86.

Inebriate Maniacs. By T. D. Crothers, M.D., Superintendent of Walnut Lodge. Hartford, Ct. (Reprint.)

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Original Articles.

"IS THE DANGER FROM POST-PARTUM HÆMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?"¹

BY FORDYCE BARKER, M.D., LL.D., OF NEW YORK.

THE affirmative answer to the question which forms the title of this paper was one of the most effective arguments urged against the use of anæsthetics in midwifery, nearly forty years ago, by men of such obstetrical eminence as Tyler Smith, Robert Barnes and many others. It carried great weight, as it seemed obvious that an agent which paralyzed sensation, and if carried to its full effect, equally paralyzed voluntary motion, must inevitably arrest that muscular contractility which is the essential condition for preventing post-partum hæmorrhage.

The influence of this impression is seen in the fact that nearly all works on obstetrics, even by the most recent authors and many writers in medical journals, refer to the danger of anæsthetics in causing post-partum hæmorrhage. Barnes, for example, speaks of anæsthesia, induced by chloroform or ether, as among the most efficient causes of post-partum hæmorrhage. These warnings work for good in so far as they lead obstetricians to take those precautions, which I believe to be a duty in every case of labor, to prevent this appalling accident; for it is my firm conviction that no woman under the care of a watchful, prudent and competent obstetrician ever ought to die from post-partum hæmorrhage, due solely to uterine inertia or ataxy.

This paper will only refer to hæmorrhage from this cause, as no one will assume that anæsthetics can produce these local lesions which we all know sometimes cause terrific and even fatal hæmorrhage.

No one can doubt that either chloroform or ether may be given to an extent so far beyond anæsthesia as to induce profound narcosis; or that if the uterus be suddenly evacuated while in this condition, there would be a temporary paralysis of the organ, with a loss of power to contract and close the open mouths of the utero-placental vessels.

The real question is whether anæsthetics, properly administered, should be withheld from a woman in labor, when desirable to save her from unnecessary suffering on account of the danger of their causing post-partum hæmorrhage.

I may here say that I have long regarded chloroform as the safest and best anæsthetic in obstetrics, and that since 1850 I have used no other.

My reasons for this preference are briefly these:

First. Its odor is to most persons much more agreeable, and it is much less persistent. When sulphuric ether is used, it frequently at first produces more or less irritation of the fauces and bronchi, and an annoying cough or choking is excited. The effect of this is bad, both on the patient and on the surrounding friends. It excites apprehension which more or less tends to counteract the influence of the agent.

Second. The influence of chloroform is much more rapid, and a much less quantity of this agent is required than of the ether. We are thus saved, in a great majority of cases, the preliminary stage of excitement which the ether produces, and we are able to use the

chloroform for each recurring pain, the patient in the interval being comparatively free from the influence of the anæsthetic. Thus in the aggregate, not only is a much less quantity of the agent required, but the patient is exposed to the danger from the anæsthetic, if any danger there be, for a much shorter period of time.

Third. By chloroform we are able to regulate the degree to which we may desire to carry anæsthesia with a certainty and security that are not possible with the ether.

Fourth. The danger from anæsthesia by ether, where disease of the kidney exists, first pointed out by my friend Dr. Thomas Addis Emmet, and now confirmed by several observers, has not been noted by any one as resulting from the use of chloroform.

We all know that the great security against post-partum hæmorrhage lies in the efficient and permanent contraction of the uterus after delivery.

While we are constantly meeting in obstetrical literature with the statement that the danger of post-partum hæmorrhage is increased by the use of anæsthetics, I have never been able to find any statistical evidence in proof of the assertion. What is termed uterine inertia is often but another name for uterine exhaustion, and this must certainly be much less likely to occur when the nerve force and vital powers have been saved by the use of an anæsthetic.

This uterine exhaustion may be and often is the result of a prolonged labor, and while I am convinced that the effect of chloroform is often to prolong labor, I have not been satisfied that this apparent objection was not more than counterbalanced by the advantages obtained by its use, even where the use of the forceps has been made necessary from this cause.

But in a large majority of patients my experience would lead me to the conviction that the use of chloroform shortens the labor. I am certain that it does in all those cases where the pains are diminished or suspended by extreme sensitiveness and fear of pain—by vivid moral impressions of hysteria—or by pains resulting from the coincidence of some malady, either existing antecedent to, or appearing during labor, such as rheumatism of the uterus or other muscular tissues, or sharp pains in the back or abdomen distinct from the pains from uterine contractions, gripings in the intestines, or the cramps which are occasionally produced by the pressure of the child's head on the sacral nerves, and finally, in all those cases where inefficient uterine action results from loss of sleep and extreme exhaustion from a prolonged first stage, and in many cases where the labor is retarded by rigidity of the os uteri or perineum. Thus on the whole I am obliged to state my conviction that chloroform accelerates labor in a greater proportion of cases than it retards it.

I have attended a number of patients who, in previous labors have had their lives endangered by post-partum hæmorrhages and who were placed under my care for this reason. All these cases I have watched with the greatest anxiety, and have endeavored to see that they were in such a condition as would best prevent the occurrence of this accident after delivery. On questioning them or their intimate friends, or where practicable, their former medical attendant, I have learned that their previous labors have almost invariably been followed by great prostration, and that when labor was completed they were in a state of

¹ Read at the Medical Society of the State of New York, Albany, February 1, 1887.

almost extreme exhaustion. A peculiar idiosyncrasy or a former tendency to hæmorrhage or an extreme feebleness of the patient has been assigned as the reason why chloroform had not been given in former labors; the very reasons why I should consider this anæsthetic, properly and watchfully administered, as especially indicated. Such patients have generally remarked to me, when they have come out from the influence of the anæsthetic, "How different I am from what I ever was before, after confinement." They take nourishment and stimulants, if need be, and I then feel warranted in assuring them that all danger of "flooding" has passed, but I never leave them until I am certain of the fact. When I do leave, I give emphatic directions to the nurse, for close watching and minute instructions as to what she shall do if there be the least threatening of hæmorrhage.

Some years ago this subject came up for discussion incidentally before the American Gynæcological Society,² in which one of my most valued friends, and certainly one of the most able writers on certain obstetrical subjects, expressed great surprise at statements of mine like those just made, for the previous winter I had been called to see a case in consultation with him on account of post-partum hæmorrhage which he regarded as due to the inhalation of chloroform. At the time, from the history then given, it was my conviction that the hæmorrhage was the result of a very inefficient and partial use of the anæsthetic, as the patient, a very nervous, excitable woman, was extremely intolerant of pain, and, in consequence, she never called to her aid the accessory muscles, and after several hours he was obliged to use the forceps. The hæmorrhage which followed was the result of uterine exhaustion, due partly to emotional causes, and partly to the fatigue of a prolonged labor. Three years after, by reason of the death of my friend, I attended this same patient in her second confinement. She was so sensitive to pain which bore no relation to the force of the uterine contractions, that early in the labor I gave her ten drops of Magendie's solution with the effect of quieting her, but regular labor pains did not follow.

She was extremely apprehensive of danger from the inhalation of chloroform. After watching her ineffective labor for some hours, I persuaded her to make only one full inspiration of chloroform to relieve the next pain. She was ready to make two inspirations with the next, and three with the next, and soon came under its full influence during the pains, but was perfectly conscious for a moment or two during the intervals; until with the return of a pain she would very impatiently call for the chloroform. After this the labor went on regularly and rapidly, so that the child was born within one hour after she commenced the inhalation of the chloroform, and the delivery was followed by perfect uterine contractions and no hæmorrhage. Her convalescence was in every respect most satisfactory.

In the discussion before alluded to, my friend expressed the opinion that danger of hæmorrhage did not follow the use of sulphuric ether. I have never seen hæmorrhage follow the use of either agent (I have never used ether in obstetric practice since 1850), but I should reason *à priori*, that an agent which paralyzed the nerves of the uterus, and thus prevented its permanent contraction, would be dangerous in

exact ratio with the continuousness of the effect, and that an agent from which the extent of the anæsthesia is perfectly under the control of the administrator, and the effect of which is intermittent, and which is only used during the time of pain, would be safer.

The danger of post-partum hæmorrhage in patients with cardiac disease is known to all. It seems to be almost accepted as an axiom with both the profession and the public that the inhalation of chloroform is dangerous for any women with "disease of the heart." For more than thirty years I have been convinced that this opinion is quite erroneous, and I have so taught in my lectures and in former writings.

In March, 1853, I was called to see the wife of a physician in this city in her fifth labor. I had seen her once before, the latter part of the previous December, with the late Professor Chandler R. Gilman, to decide as to the propriety of the induction of premature labor, as she was suffering from severe cardiac troubles.

She had been repeatedly examined by Dr. Alonzo Clark, whose diagnosis was, great dilatation of the left ventricle and mitral insufficiency. We were then in full accord that the induction of premature labor would be unsafe. When labor came on, I was sent for, as Dr. Gilman was ill. When I saw her, she had been in the second stage of labor, as her husband said, about one hour. The first stage had been nearly four hours, unattended by any symptoms to cause grave anxiety, but when the expulsive pains began, her condition became rapidly bad. Each pain, which recurred every six minutes, caused faintness, nausea, and slight vomiting, but the pains were much more severe in the chest than in the uterus. Her appearance was appalling, the countenance was extremely pallid, the lips and fingers were cyanosed, the face was covered with large drops of perspiration, and the pulse very weak and irregular. The os was nearly dilated, very soft and yielding, the membranes protruding, but the pains were ineffective. After watching her for a few moments, I regarded her condition as perfectly hopeless, and proposed chloroform, solely in my own mind, with the hope of euthanasia. Her husband would not consent to this, making the objection that she could not bear an anæsthetic, as she had once inhaled ether to have a couple of teeth extracted, with very dangerous results. I then gave her five drops of Magendie's solution of morphine, which was followed for a time by some improvement. But soon after her condition became as bad as before, until I could not bear to witness her suffering any longer, and avowed my intention of leaving, as I could be of no service. Her husband begged me to stay, adding, "Do what you think best, and God help you."

The few moments that we had to wait before the chloroform could be obtained, seemed to me so many hours, which I passed in trying to get her to swallow some brandy and water, to which she had a great aversion, and in explaining to her exactly *how* I wished her to inhale the chloroform. I began by giving her a few whiffs first, as an impending pain was apparent, gradually increasing the amount until she became unconscious during the pains. She was always conscious sometime during the interval after each pain. After a short time, a wonderful change was apparent, her pulse became regular and stronger, while her husband, who frequently counted it, said that it never

² Transactions, Vol. VII, p. 78.

exceeded 96 a minute, while before my arrival it had been 140 in the intervals, but could not be counted during the pains. Her countenance improved in color and assumed a most placid, contented expression.

During the pains there was no voluntary assistance on the part of the patient, and but slight aid from the accessory muscles. After she had been taking the chloroform an hour, the membranes ruptured, and, finding the head low down in the pelvic cavity, the position favorable, and the soft parts yielding, I said to the husband, "What is the use of letting her suffer more fatigue? The forceps can be applied with great ease, and may shorten the labor two or three hours." It was applied without changing her position in the bed, and in a few minutes she was delivered of a living girl weighing six pounds and a half. She made a very good convalescence.

In January, 1856, I again attended this lady in confinement. For the three months previous, I had seen her often and had endeavored to lessen the labor of the heart by improving the character of the blood which it circulates by such medicines as the tincture of the chloride of iron, the chlorate of potassium and digitalis. The labor was short and comparatively easy, under chloroform and delivery by the forceps. She outlived her husband three years, but died in July, 1860, from Bright's disease and her cardiac trouble.

Since this case I have seen several others, in which labor was dangerously complicated with heart troubles and which terminated favorably as I think, solely from the use of chloroform.

As far as I know, these views which I have long taught, had been advocated by no author, until the publication of the valuable work by Dr. Angus Macdonald, of Edinburgh, in 1878. His explanation of how the uterine contractions of the second stage, where heart trouble exists, cause the dangerous symptoms of violent palpitation, dyspnoea, syncope, etc., is most satisfactory to my mind.

I find the following sentences in the most recent work on obstetrics, a most interesting and valuable text-book by Dr. Parvin.³ "Vergely, quoted by Dutertre, states that cardiac diseases do not forbid the use of an anæsthetic in labor and chloroform acts as a sedative in these affections, and may be given prudently. Barr believes that obstetric anæsthesia has a beneficial sedative action upon the heart."

An interesting paper on this subject, by Dr. J. L. Owen, appeared in the *New Orleans Medical and Surgical Journal*, in 1881.

There are so many important papers to be read before the Society that it would be wrong for me to occupy its time longer. I will therefore close with a statement of my personal experience in the use of chloroform in parturition.

During the past thirty-seven years I have rarely attended a woman in confinement without the use of chloroform, never where she has suffered considerable pain. Having thus used it in several thousand cases, I unhesitatingly assert that not in a single case have I ever found cause to regret its use.

In addition to my own experience, I have carefully watched for all that has been published on this subject, and I am fully in accord with an eminent authority on obstetric anæsthesia, Dr. J. C. Reeve, of Day-

ton, Ohio, in his assertion that⁴ "the most rigid scrutiny, inspired by hostility, has failed to show that, when judiciously used, it exerts any injurious influence on the mother or child."

"Chloroform has been used in natural labor many hundred thousands of times, yet but a single case of death is on record when it was administered by a competent medical man, and of this there is lack of post-mortem confirmation." I will add that in this case the death was preceded by a convulsion.

In my private practice I have never had but one case of post-partum hæmorrhage, and in this, no anæsthetic had been used, as the child was born within five minutes after I entered the room, before I had time to make any examination, and a terrific flooding followed.

RECENT PROGRESS IN LEGAL MEDICINE.¹

BY F. W. DRAPER, M.D.

ON DEATH BY HANGING.²

Dr. Pellereau reports his observations on death by hanging and on the anatomical appearances which result therefrom as he has noted them in fifty-six cases, suicidal and judicial, in the course of his official duty as jail-physician at Port Louis in the Mauritius Islands. Judicial executions are managed there as in England, by means of a drop of eight feet through a trap, the knot being placed under the chin of the condemned. When the drop occurs, the criminal makes no articulate sound; there is, at first, absolute immobility of very short duration during which no pulse is felt and no heart-beat is perceptible. Then follows a tetanic rigidity of the whole body, succeeded at once by energetic spasms. Loss of consciousness is evidently instantaneous, because in every case there is a complete dislocation of the atlas upon the axis. The convulsive movements are never wanting and they would be more conspicuous if the elbows and knees were free and not pinioned. Coincidentally with the convulsions, one hears a rattling sound produced by the movements of the tongue and of the respiratory muscles. Saliva in abundance, more or less blood-stained, escapes from the mouth and oozes through the black cap which covers the criminal's head. The bladder and rectum sometimes expel their contents meanwhile. These various phenomena may be divided into three well-marked periods: a period of immobility, one of tetanic rigidity and one of clonic spasms. They last altogether from two to three minutes,—not more than five minutes at the longest. Then everything relapses into the most complete inertia, and it is impossible to provoke the least reflex action. The author does not credit the notion that erotic sensations are experienced.

The position in which the bodies of suspended suicides are found is almost always vertical; often the feet rest on the floor or ground, more rarely the knees are bent so as to take the weight of the body, but the horizontal position has not occurred in the writer's experience. The head is most frequently found bent forward, the chin resting on the breast; the position depends greatly on the place of the knot

¹ Concluded from page 113.

² *Annales d'Hygiène Publique et de Médecine Légale*, August, 1886, page 108.

⁴ Wood's Reference Handbook of the Medical Sciences Anæsthetics page 195.

³ Science and Art of Obstetrics, by Theophilus Parvin, M.D., LL.D., page 232.

and on the number of turns of the cord about the neck. Cadaveric rigidity appears late, develops slowly and continues long. Animal heat is retained to an unusual degree. The countenance is sometimes calm and pale, sometimes swollen and livid with the eyes injected and prominent; the pupils are generally dilated. Ophthalmoscopic examination of the interior of the eye gives no results worthy of note. The tongue is often in its normal position behind the teeth; when it is protruded it is more or less swollen, dry and blackish, with fissures at its edges and tip. The escape of saliva from the mouth is essentially a vital act and is an important sign of death by hanging. The lower extremities are more or less livid and petechial spots are observed which, on section, are found to contain coagulated blood, thus indicating that the suspension was during life. The emission of spermatie fluid is not to be regarded as pathognomonic.

The neck invariably shows a groove made by the cord, and, except in judicial hangings, it is always deepest in front. The color of the furrow is uniformly red or brownish, according to the complexion of the deceased. Generally, there is neither excoriation nor ecchymosis in its course. Its direction is always oblique. Its situation is above the larynx. Its depth is determined by the duration of the suspension after death. Its diameter may be a little less than that of the cord.

Among the internal appearances, the author noted the following: In exceptional instances, one finds a small number of punctate ecchymoses under the skin of the face and neck, in the subcutaneous connective tissue and in the deeper structures; they are most marked in judicial executions. In the writer's experience, subconjunctival ecchymoses and fracture of the laryngeal cartilages were not present. Immediately after the suspension, if the body is cut down at once, the subcutaneous and deep tissues of the neck under the course of the cord are without a trace of depression; later there is a slight groove corresponding with the external furrow. In the author's cases, the intima of the carotids always escaped injury. The blood was generally black and fluid. The larynx often contained froth more or less blood-stained; the presence of morsels of food in the larynx is regarded as an important sign of suspension during life. The lungs were usually increased in volume; they were of a uniform red color and sometimes presented, either on their surface or in their substance, small, dark apoplectic nodules; punctate ecchymoses were not observed; at the base and edges were limited areas of superficial emphysema. The heart was nearly always found firmly contracted on its left side; its right cavities were distended with blood. In rare cases, there were punctate ecchymoses along the coronary veins. The liver sometimes presented hemorrhagic nodules in its substance. The small intestines were always deeply reddened. The stomach was oftenest found pale.

In judicial executions, the tissues in the vicinity of the atlo-axoid articulation were found considerably contused, and almost always, coagula of dark blood lay around the two bones. The ligaments of this articulation were ruptured, thus permitting complete luxation of the atlas upon the axis, and leaving a space between the two vertebræ sufficient to admit the finger. There was no fracture of either bone. The articulation of the atlas with the occiput was unin-

jured. The medulla suffered more or less bruising and tearing by the displacement of the atlas, and sometimes the lesion was so extensive that nothing but *débris* of nerve-elements remained, the organ being reduced to a pulp.

HUMAN FOOT-PRINTS.³

Upon the occasion of a murder, near the body of the victim of which were found, on the floor, seven impressions of a naked and bloody human foot, Dr. Masson made a special study of foot-prints, to settle the question whether the marks discovered were made by one and the same foot, and so by one person only. He found that the same foot would give foot-prints with very different dimensions, according as it was used in standing or walking, corresponding with the two essential functions of the foot, as an organ of locomotion and of support. In walking, there are two clearly-defined motions: The first, in which the weight of the body comes upon the heel, the forward part of the foot acting simply to maintain equilibrium; the second, in which the weight bears wholly upon the toes and the metatarsal articulations. In the second part of the motion of walking, the foot is lengthened from nine to twenty-three millimeters. The height of the plantar arch, while differing in different individuals, varies but slightly in the same foot in different positions; it is lessened a little in the act of walking. An added weight of twenty kilogrammes carried by the subject of the experiment does not modify materially the shape and size of the foot-prints made in walking.

It appears to the author impossible that two human foot-prints should closely resemble each other unless the same foot has made them. The impression made by a foot discloses such clear characteristics; the distinctive marks under differing conditions are so numerous; the foot-prints of the same foot are so alike under dissimilar circumstances, that an attentive expert, having good foot-prints to study, ought to arrive at clear and precise conclusions. The toes, the great toe especially, leave marks that should be examined attentively; these, and the outline of the digito-plantar depression, the line which defines the plantar arch, are the data for a diagnosis.

The author's conclusions are:

- (1) The dimensions and the shape of foot-prints made by the same foot vary with the attitudes taken.
- (2) The two extreme and characteristic types are represented by impressions made by the foot in walking and in standing.
- (3) The expert called to study the matter of foot-prints should always take impressions of the foot of the accused in the act of standing and of walking, and should compare only those which correspond with the same attitude.
- (4) In connection with the measurements made, one should always consider the points which throw light upon the individual characteristics of the foot.

THE MEDICO-LEGAL SIGNIFICANCE OF HÆMATOMA OF THE STERNO-MASTOID IN NEW-BORN CHILDREN.

Küstner⁴ discusses the mode of origin of hæmatomata in the sterno-mastoid muscles of new-born children, and combats the view that they are always due to excessive traction of the neck. He relates a case of labor with breech presentation, no assistance of any kind being

³ *Annales d'Hygiène et de Médecine Légale*, October, 1886, p. 336.

⁴ *Centralblatt f. Gynäkologie*, No. 9, 1886; *Amer. Jour. of Med. Sciences*, July, 1886, p. 292.

afforded; yet a hæmatoma appeared in the left sterno-mastoid, thus suggesting the inference that the accident may attend a perfectly normal labor.

Küstner also records some experiments made on still-born fœtuses, in which a row of pegs was inserted into the sterno-mastoid, and the neck was then stretched and rotated in various directions. He found that neither lateral flexion nor stretching of the neck had much effect upon the sterno-mastoid, the pegs showing no separation; but torsion of the neck had a decided effect on the muscle, especially when the face was twisted toward the side under observation. He believes that a similar movement during labor is a cause of hæmatomata, for torsions of the neck are well known to be of frequent occurrence even in the ordinary mechanism of parturition.

The following conclusions are reached by the author:

(1) Hæmatoma of the sterno-mastoid is caused not by stretching or extension, but by twisting of the neck.

(2) Since the neck may be twisted even in spontaneous delivery, a hæmatoma may arise in simple cases, both of vertex and breech presentations.

(3) The occurrence of a hæmatoma, therefore, does not prove that criminal or instrumental violence has been resorted to.

Clinical Memorandum.

POISONOUS ARSENICAL WALL-PAPERS.¹

BY JAMES R. CHADWICK, M.D.

IN the presence of so many chemical experts and learned general practitioners it would be presumptuous in me to attempt to treat this subject systematically or exhaustively. Moreover, my purpose in opening this discussion is to present, by fresh instances, to the public and profession, the dangers to which every citizen of this Commonwealth is exposed by the manufacture and sale of papers for our walls so charged with arsenic as to produce characteristic symptoms of the poisoning by that mineral in the persons occupying the rooms thus papered. The Legislature of this State last winter failed to pass a bill prohibiting the use of arsenic in the coloring of wall-papers, so that the only means by which we can save ourselves from this poison, is to disseminate so full an appreciation of our danger throughout the community as to cause every individual to protect himself and his family. This end can only be attained by the publication, by every one who has suffered, of the exact circumstances attending his experience, together with the names of the dealers retailing the papers and the chemists who have analyzed them. This I shall aim to do without animosity to any individual, but with the single purpose of making every one feel more keenly than they now appear to do the responsibility for the lives and health of our wives and our children.

In September, 1885, Messrs. J. F. Bumstead & Co. put upon my nursery and one sleeping-room new papers, which they assured me had been analyzed and pronounced free from arsenic. In the nursery slept a boy of four years and a nurse, in the chamber slept a girl of thirteen, in a third room, not then re-papered, slept two other children. All the children passed several hours of every day in the nursery. During

the winter of 1885-86, the boy and nurse remained in good health, the girl of fourteen, however, suffered much, for the first time in her life, from dyspepsia, colicky pains and headaches; the younger of the two girls had many attacks of palpitation of the heart, lost color and strength; the other girl kept in good health. The symptoms in the two affected girls yielded somewhat, but never fully, to treatment. During the summer of 1886 they regained their health and strength at Mt. Desert; within a month of their return to their home many of the old symptoms reappeared. About the first of December the attacks of colicky pains became more severe and frequent in the two affected girls and were attended by vomiting and diarrhoea.

My attention was then aroused and I set about to discover a common cause for all these similar symptoms. Having suffered severely in past years from the poisoning of my family by arsenic, I naturally thought of that possibility and sent samples of the papers most recently put upon the walls (nursery and small chamber) to Prof. E. S. Wood for analysis, and received the following reply:

"BOSTON, December 10, 1886.

"The enclosed paper (from the nursery) is very arsenical. I should advise its removal. The other was all right, non-arsenical.

EDWARD S. WOOD."

I was naturally in a state of great indignation that, despite my care, I should have had put upon the wall of my nursery a paper which contained a dangerous amount of arsenic. I wrote at once to J. F. Bumstead & Co., asking the name of the chemist who had made the analysis for them. The reply was as follows:

"BOSTON, December 13, 1886.

"DR. JAMES R. CHADWICK,
Dear Sir,—The paper about which you enquire was analyzed by Prof. S. P. Sharples and by him pronounced "free from arsenic."

Yours truly,

"J. F. BUMSTEAD & Co., per HENRY."

It happened that a week previous to this correspondence my wife had taken a friend to the store of J. F. Bumstead & Co., where he had purchased several hundred dollars' worth of papers for a newly-erected house in California. On the same evening I questioned my wife closely as to whether she had been careful to select only papers that were free from arsenic. She said she had insisted upon that point with Mr. Bumstead himself, and had been told that only those papers would be shown her which had been analyzed and pronounced to be free from arsenic. I asked if she had inquired who their chemist was, to which she replied that Mr. Bumstead had told her that their chemist was a Professor Hills. As I knew that this could only be Prof. Wm. B. Hills, of the Harvard Medical School, I felt assured that the papers were safe. A week later, however, on discovering that my own paper was arsenical, and feeling responsible for my friend in California, I went to the store of Bumstead & Co., and demanded to see the reports of Professor Hills upon the fourteen papers selected by my friend. I was told to call the next day when they would be shown me. I did so, and then found that all the papers had been (owing to a misunderstanding) sent to Professor Hills for analysis since my visit the previous day. One of them had been pronounced by him to contain "considerable arsenic," and another a "small amount," both being regarded as more or less dangerous to health. The others were all practically free from arsenic. On asking upon

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, January 12th, 1887.

whose certificates the two first mentioned papers had been supplied as "free from arsenic" I was shown the certificates of Prof. S. P. Sharples.

In order to confirm the presence of arsenic in dangerous amount in the three papers about which the reports were conflicting, I have since had each of them analyzed independently by Prof. E. S. Wood, Prof. W. B. Hills, and Dr. Chas. Harrington, all of the Harvard Medical School, with the result of perfect concurrence as to finding arsenic in dangerous amount.

But little comment is needed on this recital of facts. It is, however, but just to Mr. Bumstead to say that I fully exonerate him from any intent to mislead my wife with regard to the analyst of the papers supplied to my friend. His statement that Professor Hills is now his analyst is true, yet I think I am right in pointing out to him that his reply was so framed as to be misleading, because the papers he was offering for sale had many of them, as is manifest, been analyzed in previous years by other chemists.

I may say, in conclusion, that it makes no difference whether the symptoms manifested by two of my children be adjudged by those present as due to arsenic or not; if I demand papers free from arsenic I ought to be able to obtain them. My own belief is that the symptoms are attributable to that cause, and that the exemption of the nurse and two other children, though in two instances more constantly exposed to the influence, was attributable to the fact that they were less susceptible to the poisonous effects of arsenic. I pass around samples of the papers with the arsenical mirrors obtained by the Berzelius-Marsh test.

I should add that the two affected children have had no symptoms since the paper in my nursery was removed a month ago.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JANUARY 12, 1887. The meeting was called to order at 8 o'clock by Dr. F. I. KNIGHT, Chairman. On motion, the reading of the records of the last meeting was omitted. The Chairman announced the subject for the present meeting to be a debate upon the danger to the public from

ARSENICAL WALL-PAPERS,

and called upon Dr. J. R. Chadwick to open the discussion.

Dr. CHADWICK, in response, presented an interesting and vivid account of the occurrence of arsenical poisoning in his own family¹ on several distinct occasions, and spoke of the uncertainty which exists in relation to the presence of arsenic in wall-papers, even when the dealer presents the certificate of a chemist as evidence that the papers are free from this dangerous substance. At the close of his remarks, Dr. Chadwick offered the following resolution:

Resolved, That it is the opinion of this meeting that the clinical evidence already adduced in this and other countries establishes beyond doubt the fact that arseni-

cal wall-papers will, in many instances, produce symptoms of poisoning by arsenic in persons occupying the rooms whose walls are covered by such papers.

The resolution was seconded, and was then declared open for discussion.

The Chairman introduced Mr. N. W. BUMSTEAD, the well-known paper-dealer, who was invited to address the meeting. Mr. Bumstead responded by saying that he did not desire to occupy the time of the members to any great extent. In all large establishments there are many persons employed, and the facts in regard to the purchase of paper by Dr. Chadwick are that Mr. Bumstead did not personally exhibit the papers, but a salesman in the service of the firm was the person who made the transaction. The statement was made to the purchasers that no papers would be shown except such as had been pronounced by chemists of repute to be free from arsenic, and such was the fact.

It is desirable that the position of the paper-dealers should be placed before the profession in a more correct light than is at present the case. The efforts and desires of the dealers are directed toward the elimination of all articles from the colors and other processes of manufacture of wall-papers supposed to be dangerous, and the substitution therefor of equally useful, but unobjectionable methods of manufacture. Personally, the paper-dealers do not place credence in very many of the alarming reports which are, from time to time, circulated in relation to the occurrence of dangerous interference with health from the action of the colors used in wall-papers. It is both a mistake and an injustice to suppose that the dealers do not take pains to have their wares examined in relation to their safety. Messrs. Bumstead & Co. have had four different chemists in their service during the last twelve years. The intention was to exclude objectionable papers from the business. About two or three years ago, an agreement was made between some of the wall-paper manufacturers and Mr. Bumstead that they should take back all arsenical papers. After a trial, the manufacturers declined to continue the arrangement on account of the great frequency of rejected papers; but lately they again consented to receive all papers returned to them which contain more than a trifling amount, called a trace, of arsenic. A portion of the present disturbance in regard to arsenical papers arises from the fact that many of the papers now examined are such as were manufactured some years ago, and some of the papers have been for years on the walls of inhabited rooms, where they have produced no appreciable symptoms of poisoning until the present excitement was inaugurated. The occurrence of arsenic in these accidental ways should not be looked upon as fairly representing the paper manufacture at the present time.

Dr. C. E. STEDMAN said that he had little to offer to the remarks of those who had preceded him. Some years ago he purchased wall-paper from a firm now gone out of trade, and it was put on the walls of his house. For two or three years the occupant of that room was continually ill, the symptoms being a persistent diarrhoea, with colicky pains, etc.; and finally, a severe form of eczema supervened, for which various forms of treatment were ineffectually tried, and at length the patient was placed under the care of Dr. Wigglesworth, of this Society. At a later period, Dr. Stedman for a time occupied the room in question as

¹ See page 129 of the Journal.

a sleeping-room for himself, and soon became ill, suffering from an obscure form of ocular disease, for which he consulted Dr. Wadsworth, of this Society. After some time, Dr. Wadsworth suggested the possibility of arsenical poisoning, and that the wall-paper might be the source of the trouble, when the paper was subjected to chemical analysis, and was found to contain a large amount of arsenic. The paper was at once removed from the walls, and a paper substituted which contained no arsenic, since which time there has been no recurrence of the symptoms of poisoning, or, in fact, any other signs of impairment of health in any member of the family.

PROF. D. G. LYON, of Cambridge, was called upon by the Chairman, and said that on the 19th of January last he caused the publication of a long account of the troubles which had occurred in his house and family, for which, in his mind, there existed no cause, except the arsenical paper on the walls of his house. His family consisted of three members, Mrs. Lyon, himself, and another instructor in the University. They were all affected by a variety of distressing symptoms, one of which was persistent insomnia. It was almost impossible for any member of the family to sleep at all. In addition to this, a common symptom was pain in the head, palpitation, general debility, etc., which proved refractory to all methods of treatment for its relief. Physicians were called, but were not able to alleviate the distressing conditions, which now began to cause serious alarm. Professor Sanger was consulted, and he examined the furnace, sewers, etc., but being unable to locate the trouble in either of these parts of the household apparatus, he at length suggested the possibility of the wall-paper being the agent which had operated so disastrously upon the family. This was immediately submitted to chemical analysis, and yielded a large amount of arsenic.

"I had recently read," continued the speaker, "the admirable paper of Professor Wood on the subject of 'Poisoning from Wall-Papers,' and observed that the symptoms which he there recorded were almost identical with those experienced by the members of my family, from circumstances similar to those surrounding the cases mentioned in the article by Professor Wood.

"Four rooms were covered with paper containing extremely large quantities of arsenic, as determined by chemical analysis. The papers were at once removed, and the walls re-covered with papers which were free from arsenic, and the immediate result was the entire and rapid disappearance of all the symptoms of disease which had so long existed, and which had thus far been quite unaffected by any form of remedial treatment.

"Chemical examination of the wall-papers of different dealers, a year ago, showed that more than fifty per cent. of the papers in the stock of the Boston dealers contained a much larger amount of arsenic than the bill at that time presented before the Legislature asked for. The manufacturers claim that a law which should limit the amount of arsenic contained in wall-papers would seriously affect their trade, and that certain forms of papers cannot be produced without the aid of arsenic, or, at least, without the use of substances in which arsenic may exist. Within a stone's throw of my house in Cambridge are families which have suffered more than my family did. In all parts of this Commonwealth, cases of poisoning from the

use of arsenical papers are known, and the appeal of all these people is only for a law by which they may be protected from a danger which they have no means of recognizing for themselves. Those people who bought wall-papers in Massachusetts, and especially in Boston, a year ago, assumed a serious risk to the health of their families, from the almost universal presence of arsenic in the wall-papers of that time. I could report more than forty families thus affected from this cause."

PROF. E. B. YOUNG said that he has never appeared before the legislature, nor has he ever published anything in the papers in relation to the dangers from arsenic. He has been a long but silent sufferer from the effects of poisoning by arsenic in wall-papers in his house. In his case the symptoms were a palprebral inflammation of both eyes with continual lassitude, weakness, etc. His daughter, formerly strong and robust, became weak, languid and feeble. Professor Young himself was not well. The occurrence of such an amount of sickness in his family without adequate cause made him anxious. He employed men to overhaul the sewers of the house, but the drainage was found in good condition. At this time Professor Lyon suggested the possibility of arsenic as the cause of their discomforts and the papers of the house were at once subjected to analysis. In a light blue paper arsenic was found to the extent of 4.97 grains to the square yard. In some English cretonne used for upholstery, there was discovered 4.00 grains of arsenic to the square yard. This had been in service for some time, and had begun to wear, and, with the destruction of the texture of the fabric, the arsenic had become more readily disseminated. The paper of another room contained $\frac{1}{3}$ grain to the square yard. Professor Young's daughter was much troubled by an affection of the throat, for which she was placed under the care of Dr. Knight, the Chairman of this meeting, and, as she did not improve, she was sent to Dublin, where she began to get better. After a time the urine was examined, and was found to contain arsenic. After the restoration of the house, the daughter's health was again restored, and a letter from her physician who has had the urine again examined, contains the report, "no trace of arsenic in the urine at present." In the dining-room of the house arsenic was discovered in the paper. The result of all this has been to cause a large outlay in money, as well as a great amount of anxiety through a long time; and we feel that we have the right to demand legal protection from this known and recognized source of danger to our families. Nobody claims that arsenic causes *all* the illness in families, but it undoubtedly causes *some* of it. Nobody thinks arsenic does any good in the papers, and it is certainly better out of the way, than to be thus a constant source of possible danger. Another case was that of the daughter of a clergyman of Jamaica Plain, who was ill from an obscure cause, but in whose house the papers were found to contain arsenic. She was quite well soon after the old papers were replaced with non-arsenical ones. Another case was that of an entire family in Cambridge, the name of which would attract attention as belonging to the higher walks of literature, in which there was unmistakable poisoning. Another instance occurred in Milton, where there is a house, one room of which possessed the peculiarity that every person who occupied this particular apartment was certain to

become ill. Each member of the family had in turn occupied this chamber, and each in turn had been similarly affected. The paper from the walls of this dreaded apartment was analyzed and contained a very dangerous quantity of arsenic. An Episcopal clergyman and his wife were both poisoned by arsenical paper not long since. The husband was confined to the bed in the room, and grew worse, while the wife, who was not so ill, but could pass a good portion of the time out of the room, was not so seriously affected. Another well-marked case occurred in Waltham. Perhaps the most amusing fact, however, is that Professor Sanger was himself poisoned last summer at the seashore. He was assigned a room which was papered with highly arsenical paper, and was soon made ill by it. Professor Young then passed specimens of the papers removed from his house, to the members of the Society, remarking that there is absolutely no way in which arsenical papers can be detected excepting by chemical analysis, and that therefore the most careful selection is no protection against this danger.

PROF. WM. B. HILLS, of Harvard University, was then announced, and spoke as follows: It has fallen to me to examine as many papers probably, as to any one in this city, during the past few years, and I now examine for two of the most prominent paper houses in the State. From my experience I am convinced that the present alarm concerning arsenical poisoning from this source is unnecessarily great. The results of analysis during the past few years show this fact conclusively, as the following figures will prove. During the period from 1879 to 1883 the percentage of arsenical papers was from fifty-four to sixty-five per cent. of all papers examined. In 1884 the percentage had fallen to forty-seven per cent. arsenical.

In the first series of figures, those from 1879 to 1883, from thirty-one to thirty-five per cent. of the papers were strongly, or dangerously arsenical. In the second series of figures, the proportion of strongly arsenical papers had fallen to twenty-two per cent. In 1886 there was a large decrease in the arsenical papers, only thirty-three per cent. of all papers examined containing any traces of arsenic. Only thirteen per cent. of these papers contained anything more than a trace of arsenic. These figures are the more startling on account of the extreme delicacy of the Marsh-Berzelius test which was employed in 1886 only; and it appears that the matter is slowly settling itself by the common efforts of the manufacturers and the trade toward satisfying the demand of the public that papers shall be made without the use of dangerous substances. It has been stated in this meeting that all papers are at present still strongly arsenical. This statement is not in accordance with my experience. Most of the papers taken from the walls of rooms are such as were manufactured some years ago, and may naturally be different in chemical composition from the papers made to-day. The fact is that papers now manufactured do not contain a dangerous amount of arsenic. I do not think that it is desirable to appeal to the legislature until we know definitely the present state of the case, and until we know the limit which it is safe to establish in relation to the accidental presence of small amounts of arsenic in the papers. A law to prevent the sale of "Rough on Rats" would save more lives than a law to prohibit the sale of wall-papers containing a trace of arsenic.

DR. H. J. BARNES asked what reason exists for the use of arsenic at all in the manufacture of wall-papers?

PROFESSOR HILLS replied that there is no reason for its use. It is not used intentionally, but exists as an adulteration in some of the pigments employed in the preparation of the paper. It is an impurity in certain of the mineral pigments which have been employed in the manufacture of former papers. Manufacturers are now trying to keep the arsenic out of their colors.

DR. EDWARD WIGGLESWORTH said that he had but little to add to what had been said in relation to the dangers from arsenical papers. He has suffered in his own family of four persons, from this cause. The symptoms were not alike in all, but were clearly traceable to the papers on the walls. A symptom possibly due to the elimination of arsenic from the system and not mentioned by those who had preceded him, was a frequent and violent desire to urinate, with a burning at the neck of the bladder, which ceased as soon as the urine was passed. There was no kidney trouble, no affection of the bladder nor urethra, nor any other condition to account for the distress which was present. His little boy occupied a newly-papered room, and was soon affected with conjunctivitis, coryza, anæmia, anorexia, etc. The paper was analyzed and found to be arsenical. His little girl next showed the same symptoms. Dr. Wigglesworth stated that both he and his wife are still ill from the effects of poisoning, and the papers were found to contain from twenty to forty times the amount of arsenic which has been considered the limit of safety. When the symptoms of poisoning first became evident the cause was not recognized, and a journey to the South was made with the result that all symptoms of disease entirely disappeared. On returning, however, the original disturbances again appeared in their former intensity. The paper was removed, and replaced by non-arsenical paper, and the family is now on the way to recovery.

Dr. Wigglesworth next alluded to cases of eczema which had been found to be due to arsenic. A child had been under the best of care before, and nothing in the shape of attention could have been rendered that had not been most conscientiously carried out. When placed under the care of Dr. Wigglesworth, he at once decided that there must be some unsuspected cause for the disease. He went to the house of the patient, who was a dispensary case, and examined the plumbing with great care, and also inspected the premises in other directions. He at length decided to have the wall-paper examined, and it was found to contain arsenic in large amount. The child was removed to another room, and soon became better, but was not well. Upon removing to another house, however, there was complete recovery from all symptoms of disease. The daughter of a medical friend was seriously ill, with symptoms which would not yield to treatment. The paper on the walls was examined and was found to be loaded with arsenic. In the house of a relative is one room which seems to be a source of disease to all who inhabit the apartment. It has proved nearly fatal to two persons, and many more have been ill from occupying it. The cause was not suspected until the paper was examined and was found to contain a very large amount of arsenic.

DR. J. W. HARLOW, of Woburn, was then called

upon by the chairman, and stated that he would attempt to give a report for the Senate, as this matter was developed last year, at the hearing before that body. He would not attempt to speak upon the subject in any other way in the presence of this distinguished company, and all that he intended to say would be directed toward the legislative side of the question. The percentage which was proposed as the limit of safety in papers, was one-fifth of a grain in the square yard. We supposed that this would be sufficiently liberal for all persons, but the bill was not carried through. It seems to me that the physicians are now beginning at the beginning of the matter, and are working in the proper way to succeed in the proposed attempt to secure legislation on this important subject. At the hearing before the Committee from the legislature there was not that sequence of cause and effect, that close relation of the cause to the effect, which has characterized this meeting, and which physicians can so clearly establish, and which is the greatest element of success in an undertaking of this kind. The revelations which were made at the hearing at the State House, last year, were sometimes of a most unexpected and startling character. Some of the members were made to believe that while in Cambridge, Boston and possibly a few other obscure places, arsenic might occasionally be the cause of poisonous symptoms, when contained in large amounts in wall-papers, yet this same arsenic was not poisonous in New York. One gentleman thought that there was no more truth in the theory of arsenical poisoning from this source than there was in the old Salem witchcraft. The only way, and surely the best way, to succeed in the effort to secure a protection from this danger through any action on the part of the Legislature, is by agitation of the matter. Professor Hills states that there is already a notable decrease in the amount of this substance contained in wall-papers ever since the attempt to secure a law a year ago. There is one point in which there is much misapprehension in this whole matter. The claim is advanced that such legislative action as is asked for will have a tendency to oppress a great manufacturing industry. The fact is, that the manufacture of wall-papers is not an industry of this State. By far the larger part of the wall-papers used in Massachusetts are manufactured in New York. I believe that it is essential that a protective law should be passed in this State, which shall establish the limit to which arsenic may exist in wall-papers without being considered dangerous to health. The bill should specify the amount per square yard which the paper may contain without being considered injurious to the health of occupants of the rooms covered with the papers. The bill as heretofore presented was not broad enough to suit some of the advocates of a bill, and it was afterward extended so as to include toys, textile fabrics, candies, etc., which were claimed to constitute a much more threatening danger than that from wall-papers. The law which is asked for should be so drawn as to include all forms of textile and other fabrics, and all domestic appliances and all articles coming under the head of toys, etc., which are so largely distributed among children, and are a source of constant peril.

MR. C. TENNANT LEE, an analytical chemist, was present by invitation, and spoke as follows: The discussion of the subject of arsenical poisoning from wall-papers, which has been carried on here, is of a very in-

teresting character, and the cases are numerous and interesting, but the matter seems to rest on a very insufficient basis, and must certainly be considered as not proven. The cases so often classed by physicians as arsenical poisoning are most generally deduced from defective or careless observation, and are in reality not due to arsenic at all. I have been surprised to see how often I have been consulted in relation to the sanitary conditions of dwellings, in which some dreadful condition was supposed to exist, and have found a defective drain, a leaky closet, or some other hygienic fault, the remedial treatment of which has removed all symptoms of the threatened danger. It is often the case that a foul tank in connection with the furnace will cause serious and sometimes truly alarming symptoms, but these causes are seldom heard of by the physician or the public. The excitement at present in relation to arsenic is due in great part to the fact that the attention of the public is at present directed to this subject, and every one is thinking of it. When the scare about arsenic has abated, the number of cases supposed to be the result of poisoning from this source will become less, and substantially the same immunity from the trouble will be restored as existed before the people were so much aroused by this imaginary danger. Physicians make the mistake of frequently ascribing to arsenic those conditions which are due to quite another set of causes. The cases of arsenical poisoning thus far reported all end in recovery, and the entire history of the present craze is but two or three years old. It is far too early to be certain that these are cures, or that arsenic will produce such a varied series of clinical conditions. An example of the careless way in which physicians often account for strange symptoms by wrong theories was illustrated by a case in which a girl was sick in a room papered with an arsenical green paper. This was removed, but the girl died. Some sensitive persons are poisoned by simply passing by a bed of poison ivy. In a certain family a new carpet was bought, and from motives of economy, the family decided to sew the carpet themselves. Those engaged in this work soon fell ill, but on relaxing their occupation rapidly recovered. On resuming the carpet-sewing, the old symptoms quickly returned. The carpet was now examined by the physician and was found to be "full of arsenic." The carpet was then analyzed by a chemist, and not a trace of arsenic could be found in it.

Rose-aniline is made by reduction of the substance by means of arsenic. The scarlet shirts and stockings which cause so much irritation of the skin, do not, however, contain arsenic. They are colored by nitrobenzole colors, which are not arsenical. The workers in the manufacture of paris-green are said by their employers not to be injuriously affected by the nature of the substance on which they are employed. The skin of the employees is sometimes made raw, but they are not poisoned by the arsenic. There is one other point in which physicians are greatly in error. The opinion is generally disseminated throughout the profession that the arsenic is liberated as arsenuretted hydrogen. This is a great mistake, as arsenic cannot be liberated in any natural way in this form, and therefore cannot be a source of injury to the public in this form.

DR. CHARLES HARRINGTON asked Mr. Lee if he considered that a foul water-box in the furnace, or the

imagination of the patient, or the presence of sewer-air in the dwelling, can produce arsenic in the urine of the affected individual. Mr. Lee replied that he did not know, and asked in reply how it is that so many other causes are followed by symptoms identical with those of supposed arsenical poisoning?

Dr. Harrington said that much about the cases of poisoning by arsenic is not clear; but given a paper which is found to be arsenical, the patient presenting an array of symptoms which are recognized as accompanying arsenical poisoning, and arsenic being found at the same time in the urine of the patient, it seems fair to connect the symptoms with the arsenic.

PROF. HILL, of Cambridge, said that within the last few months he had seen but few cases of poisoning from arsenic, but formerly he had seen a great many of these cases with Dr. Sanger. The idea of establishing a *limit* to the degree to which arsenic may exist in wall-papers seems faulty, from the fact that there is no reason for the use of arsenic at all in the manufacture of wall-papers. There are occasionally substances used in the papers which may possibly contain a trace, but this is too insignificant to deserve notice. In most cases in which the paper is examined, the amount of arsenic is almost nothing or the amount is quite large. There is no medium grade. It is almost nothing, or the quantity is very great. Colors can now be easily obtained which are free from arsenic as an impurity, and those colors should certainly be employed in all papers.

PROF. E. S. WOOD, of Harvard University, was next called upon by the Chairman. He stated that much had been said about the way in which the arsenic is separated from the body of the paper. He thinks the chief danger to come from the dust which is constantly being given off from the paper, and which is contained in the air of the room, by which it easily comes in contact with the mucous membranes of the eyes; nose, and throat. It is needless to say that no color can be pronounced free from arsenic without a chemical analysis carried out in proper form. There is sometimes a discrepancy in the results obtained by different chemists, owing to the faulty tests often employed. No test can be considered as reliable, which does not insure the destruction of the organic matter in the paper tested, as the first step of the operation. There is no necessity that pigments containing arsenic should be used in the manufacture of wall-papers, and the American Wall-Paper Manufacturing Company now manufacture more papers which are free from arsenic than it did a year ago. This can always be secured by the preliminary analysis of the pigments employed. Even in painted walls arsenic may occur, and may produce the symptoms of poisoning. It seems useless to deny the danger of poisoning from arsenical wall-papers, when a person occupying a certain room is made sick; the person recovers on changing the room, and is at once again prostrated on returning to the former room; finally, on removing the paper from the room, or on removing to another house, the patient becomes free from all symptoms of trouble.

DR. R. STURGIS stated that a case of poisoning was known to him, in which the paper had been upon the walls of the room since the year 1873.

DR. HENRY CARMICHAEL, late of the Faculty of Bowdoin College, was introduced by the Chairman, and said that he had been occupied in the analysis of wall-papers during the last ten years, and that the co-

incident illness, the accompanying symptoms, were present at that time in the same form as they are observed to-day. Some of the papers analyzed in Maine contained no less than two and one-tenth grains of arsenic to the square yard. Since the State of Massachusetts has been agitating the passage of a law to limit the amount of arsenical contents in wall-papers, there has been a notable diminution of this substance in the papers analyzed in the State of Maine. There is no protection without analysis. No eye can discern where the arsenic is deposited, and no other means will adequately detect its presence. There is need of a clearer understanding upon another point. When we say that a paper is free from arsenic, what do we mean? If we mean that the paper does not present the indication of minute traces of arsenic, then it has not been my fortune to have discovered any papers free from arsenic. All papers will present the traces of small amounts of this substance, under any circumstances. Some of the ores used among the mineral pigments which are employed in the manufacture of wall-papers often contain arsenic as an impurity. Such is the ore of iron, which is extensively combined in the colors of wall-papers. In this combination the arsenic is absolutely inert, and is quite harmless. In fact this combination is almost identical with the preparation which is used in medicine as the antidote to arsenic in cases of acute poisoning. Another source of error is found in the fact that we are often inclined to lay the harm to the wall-paper when there are other substances from which the poisonous symptoms might occur with fully as much probability as from the paper on the walls, such as the colored fabrics of dress or the decorations or upholstery of the apartments.

DR. F. W. DRAPER spoke of his researches upon the dangers of arsenic to those employed in its use, or exposed to its influence. He said that he did not consult the employers of the men, or the contractors who did the work, but that he went directly to the men themselves. From them he learned that those men whose duty required them to be in the presence of the arsenic, and to handle it, were often sick, and not infrequently were obliged to suspend their labors. It is difficult to understand the statement made by one of the speakers at this meeting that constant employment in contact with so powerful and injurious a substance as arsenic should be without harmful influence upon those so exposed to it.

The Secretary read a communication from Mr. Gregory, a prominent dealer in wall-papers, regretting that illness prevented him from being present at the meeting.

PROF. WOOD suggested that all physicians who have cases of arsenical poisoning from wall-papers should send a sample of urine from the patient, together with a portion of the harmful paper, so that a quantitative analysis may be made, and at length a positive and accurate opinion be gained of the exact amount of arsenic which is capable of producing the symptoms of poisoning. Prof. Lyon said that he could place in the hands of the Society the proofs, in the form of letters, from thirty or forty families who have suffered from arsenical poisoning by means of wall-papers.

DR. G. E. FRANCIS, of Worcester, was then introduced by the Chairman, and after expressing his thanks for the opportunity of participating in the discussion,

said that he felt like offering a word of caution in relation to the accuracy of the opinion that all the disturbances so frequently ascribed to arsenic are in reality due to this cause. Before any further appeal is made to the Legislature we should be prepared to meet our opponents in every direction. Let us suppose that a paper which has been in service for twenty years has at length caused the appearances of arsenical poisoning. The analysis of the paper proves that it contains two grains of arsenic to the square yard. Now the question which must be answered is this: how much arsenic has been lost by the paper during the many years of service, if it still contains so large an amount at present. If the paper, after so long a time, still contains a large amount of the poison, then certainly it could not have lost much during that time; for the arsenic can be in only one place at a time. We should seek to ascertain how rapidly arsenic is dissipated by exposure to the air, and find out the rate at which it leaves the paper. We shall then certainly not be so liable to erroneous opinions and statements as we are at present.

DR. B. F. DAVENPORT stated that the papers of almost any manufacturers may contain arsenic even if the color is absolutely free from any appreciable amount of the poison. There are two principal questions: First, how much arsenic is really present in honest and well-selected papers? The second question is: What is the minimum quantity of arsenic which may induce the symptoms of poisoning? One undoubted form in which arsenic may be liberated is in the form of arsenuretted-hydrogen, from the presence of arsenious acid in contact with moulding substances, which evolve the hydrogen gas. In a case in which suicide was committed by the aid of "Rough on Rats," there was an evident odor of arsenuretted hydrogen on opening the stomach. The limit to which arsenic may be contained in wall-papers has received the attention of chemists all over the world, and only recently Prof. Pettenkofer has suggested that the safety of the public would not be imperilled if the amount of arsenic did not exceed fifty-five one-hundredths of a grain in each square yard.

DR. E. W. CUSHING asked Prof. Wood if there is any method by which a country physician may make an approximate analysis, or at least ascertain if there is any considerable amount of arsenic in a suspected paper?

PROF. WOOD said that the organic matter may be easily destroyed by the addition of a small amount of sulphuric acid, heating until the paper is thoroughly charred, and extracting the charred mass with water; the liquid can then be filtered and submitted to any of the common tests. If it is desirable to obtain the mirror of arsenic in a tube, it is advisable to employ a square decimeter of the suspected paper: if it is desired to produce the mirror upon a plate, a larger amount of the paper will be necessary, and the amount of arsenic required to form a mirror in this way will roughly be about one-tenth of a milligramme.

DR. CHADWICK, in closing the discussion said that he had but little to add to what had been said. He remarked that he would have replied to some of the observations of Mr. Lee, but as that gentleman had left the hall he would not revert to his remarks in his absence. It seems, however, a little like supererogation to be informed that a physician cannot discriminate between the symptoms of arsenical poisoning and

those occasioned by other diseases. Dr. Chadwick believes in continual agitation of this important matter, and hopes it will not be permitted to rest where it is at the present time. With an awakened public opinion, and a proper appreciation of the dangers attending the use of arsenical papers, it will not be difficult to frame a bill at the proper time, which shall cover the requirements of safety, and which the manufacturers will not oppose.

The Chairman then requested the Secretary to read the resolution offered by Dr. Chadwick, after which the question of adoption of the same was put. The vote was unanimous in favor of adoption of the resolution.

Adjourned at 10.20 o'clock.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING, WEDNESDAY, FEBRUARY 2.

A STATED meeting of the Councillors was held at the Medical Library, Boston, on Wednesday, 2d inst.

The meeting was called to order at 11 A. M., by the President, DR. THOMAS H. GAGE. Sixty Councillors indicated their presence by signing the roll.

APPOINTMENT OF DELEGATES AND COMMITTEES.

On nomination by the Chair, the following delegates to other State Medical Societies were appointed:

Maine: Drs. R. T. Davis, of Fall River; J. A. Douglass, of Amesbury.

New Hampshire: Drs. J. M. Harlow, of Woburn; E. B. Harvey, of Westboro.

Rhode Island: Drs. J. H. Mackie, of New Bedford; Z. B. Adams, of Framingham.

Connecticut: Drs. J. P. Reynolds, of Boston; F. K. Paddock, of Pittsfield.

New Jersey: Drs. J. G. Park, of Worcester; J. Seaverns, of Roxbury.

Committees were appointed:

To Audit the Treasurer's Accounts: Drs. A. L. Mason, A. Wood.

To Examine the By-Laws of District Societies: Drs. S. D. Presbrey, J. C. White, F. W. Chapin.

The Committee on Membership and Finances reported names of Fellows to be allowed to resign, to retire, and also to be dropped for non-payment of dues, and their recommendations were adopted.

The President offered a very appropriate and feeling tribute to the memory of the late Dr. Joseph T. O. West, of Princeton, a Councillor at the time of his decease.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

EIGHTY-FIRST ANNUAL MEETING, HELD AT ALBANY, FEB. 1ST, 2D, AND 3D, 1887.

FIRST DAY.—MORNING SESSION.

The Society was called to order at 10.20 by the President, DR. WILLIAM S. ELY, of Rochester.

THE PRESIDENT'S ADDRESS.

After thanking the Society for the honor conferred upon him in electing him to its highest office, and referring to the benefits to be reaped from attendance upon the meetings, Dr. Ely spoke of certain amend-

ments to the constitution and by-laws which he considered admirable. He recommended that hereafter the President be given discretionary power, when the amount of scientific material permits, to arrange for the formation of two or more sections for which he may appoint chairmen and secretaries. He also recommended that the committee on legislation be instructed to report at the next annual meeting as to the advisability of certain changes in the laws relating to the organization of the State and county medical societies and boards of health. He also recommended the addition of an "In memoriam" to the published transactions. The number of deaths among members, and particularly of eminent men, had been unusually great the past year.

The committee on the President's Address, appointed later, reported in favor of adopting all its recommendations excepting the one alluding to a change in the organization of the State and county medical societies. The committee's report was adopted.

DR. BENDELL rose to read the report of the committee on legislation, but DR. R. F. DRAKE objected, saying that Dr. Bendell had been appointed chairman of the committee by the President to fill the place of Dr. Roosa, who had been elected to the office by the Society but could not serve. The question was referred to the committee on by-laws, which reported later that the action of the President was not in accordance with the by-laws; but it recommended that his action should be supported in this instance, not intending, however, that it should be considered a precedent. The committee's recommendation was adopted, and after the report of the committee on legislation had been read, Dr. Roosa offered the following resolution, which was adopted,

Resolved, That, while the Medical Society of the State of New York approves of the report recommending the codifying of the present laws as regards medical matters, it does not relinquish the conviction, so often expressed, that it is necessary for the interests of the people and the profession that a law creating a Board of Medical Examiners be passed.

DR. W. C. WEY related a case of

SUPPURATION AND DISPLACEMENT OF THE EPIPHYSEAL HEAD OF THE HUMERUS

in a child two weeks old. The rarity of the condition was remarked upon, as well as the fact that nature being allowed the opportunity effected a cure without aid.

ADAPTATION OF DR. CORNING'S METHOD OF PRODUCING LOCAL ANÆSTHESIA TO OPERATIONS ON THE EYELIDS.

DR. DAVID WEBSTER read this paper, in which he described the operation as adapted to the eye, in which class of cases, as well as in others, he had found it very useful. He employed cocaine-anæsthesia in nearly all operations on the eye, excepting enucleation.

DR. J. LEONARD CORNING followed with a paper entitled

MEDICATION OF THE NERVES OF THE SPINAL CORD.

The method of producing anæsthesia alone had been described when the allotted time had expired.

DR. PHELPS made some remarks upon the dangers of cocaine, and thought it should be given in no larger quantity than was really necessary.

DR. ROOSA had seen no ill-effects from cocaine, and thought it should be employed as frequently as desirable, but also in as small quantity as possible.

IS THE DANGER OF POST-PARTUM HÆMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?

DR. FORDYCE BARKER read the paper, and said that his experience with antiseptics in labor had been limited, since 1850, almost exclusively to chloroform, which he regarded as preferable to ether because the odor is less disagreeable; because it is less irritating to the respiratory tract; because it is more quickly effective and in less quantity. It should be used intermittently, only at the time indicated. Dr. Barker employed chloroform to relieve pain in most cases of normal labor, and said that heart disease was not a contra-indication to its use when any anæsthetic was called for. He believed that with proper care no woman should die of post-partum hæmorrhage due solely to uterine inertia. Chloroform hastened much oftener than it retarded labor. It could not be shown to exert any injurious influence on mother or child. The only case on record of death after chloroform in labor, in care of a competent practitioner, was one in which the anæsthetic had been preceded by convulsions and it was not proven that chloroform was the cause of death. Dr. Barker said he had never had post-partum hæmorrhage occur in any of his cases except one, and in that chloroform had not been used.

DR. E. L. PARTRIDGE said that an important advantage in the use of an anæsthetic was the fact that the physician was better able to perform his manipulations, and was less likely to injure the patient in any way, when he knew that she was experiencing no pain. Another reason why an anæsthetic should be used was the fact that when the woman was allowed to suffer unduly, her nervous system seemed to become affected for sometime afterward, this being manifested in the presence of various nervous symptoms. He admired the terse statement of the author that uterine exhaustion was frequently called uterine inertia. A disadvantage in the use of ether was that usually it was called for at night, in a small room, and there was danger of explosion. Notwithstanding the fact that he very commonly employed chloroform, yet he had some fears.

DRS. SHERMAN, HEWLETT and CASTLE employed chloroform in labor.

DR. HEWLETT had had one case of post-partum hæmorrhage due in part, he thought, to the use of chloroform.

DR. MCLAURY had recently given up chloroform for hydrate of chloral.

DR. S. B. WARD still had fears of chloroform, even in labor, and employed ether, the effect of which, he said, was much quicker than many supposed, as a few whiffs from a towel would put the patient beyond pain.

DR. BARKER said his friend Playfair also employed hydrate of chloral, but an *à priori* objection was that its action must be continuous.

CORRECTION OF THE DEFORMITY OF PUG NOSE BY A SIMPLE OPERATION.

DR. JOHN O. ROE said the size of the pug nose would appear to be increased if the end or a portion

causing the pug was removed, leaving the outline regular. The operation which he performed consisted in lifting the end of the nose and dissecting from beneath a sufficient amount to correct the deformity on returning the integument to its place. Too much should not be removed, and the integument should not be cut through, lest a scar be left. Malformation due to deformity of the cartilage could be corrected by incisions through the cartilage and use of internal and external splints. Five patients operated upon in this manner had had their physiognomies greatly improved.

Question of admission of delegates from medical associations of northern New York was raised, and later the Committee on By-laws reported that while in favor of admission of the gentlemen, as delegates, yet the committee could not report before the next annual session whether such action would be lawful. Report of the committee was adopted.

CONCERNING THE INFLUENCE OF SMALL QUANTITIES OF SODIUM, CALCIUM, AND POTASSIUM SALTS UPON THE CARDIAC AND SKELETAL MUSCLES OF THE TORTOISE.

SIDNEY RINGER, of London, sent the paper which was read by Dr. Stoddard. The conclusions from the experiments were, that saline solutions, when circulating through the system in such a way as to come in contact rapidly with muscular protoplasm, induce lessening or loss of contractility, and do so with great rapidity. Their action is exerted alike on cardiac and skeletal muscles. Lime and potassium salts brought into like intimate relation to muscle-protoplasm possess the power of exciting muscular contractility. Lime salt speedily restored contraction when stopped by saline solutions. These facts hold good for the heart muscle of the eel, the frog, and tortoise, and skeletal muscles of tortoise as well.

RESULTS OF MULTIPLE PARACENTESIS OF DRUM MEMBRANE ON THE HEARING IN CHRONIC AURAL CATARRH.

DR. O. D. POMEROY, in performing this operation, guarded against undue injury of the membrane. The operation was usually attended with little pain. Cocaine might be employed. In not a single instance had a considerable amount of inflammation of the membrane resulted, and the hearing in none had been lowered. On careful examination he was compelled to admit that the patient's statement was true regarding much improvement in hearing. Some of the cases had been under observation two years, and no tendency to relapse had been noticed. Twenty-four cases were reported.

IS MODERN MIDWIFERY MEDDLESOME?

DR. DAVID LITTLE showed conflicting views regarding utility of supporting perinæum, of Credé's method, of immediate operation for lacerations, of use of antiseptic injections, etc. His restrictions applied only to cases of normal labor. When all goes well in this physiological process, he said, let well enough alone.

DR. FORDYCE BARKER agreed with the author in most of his statements. He, however, practiced Credé's method. He objected to the fashion of attributing all cases of rise of temperature after delivery to septic poisoning, and gave instances in which anti-malarial treatment had caused its return to normal.

DR. LAWRENCE JOHNSON opposed the use of anesthetics in normal labor, and their use was often rendered unnecessary in other cases by use of forceps, to the better welfare of the patient.

DR. J. S. WHITE then read a paper entitled

A CASE OF DISLOCATION OF HEAD OF LEFT FEMUR UNDER PUBIC ARCH.

It was followed by a paper from DR. EMMET HOLT, A PLEA FOR MORE CAREFUL INVESTIGATION OF URINE IN YOUNG CHILDREN.

Up to the present time little attention had been given to nephritis in infants, except as a complication of infectious diseases. For this reason the urine in other diseases of infants was seldom examined, and it was probable many cases of nephritis were thus overlooked. Within the last few months the author had seen six cases, and a friend had reported two more, making eight cases of renal disease in infants under two years, not complicating any infectious disease. The symptoms were described. Five of the cases proved fatal. Different means for collecting urine were mentioned. The best was the use of the catheter, a napkin, or a condom might be employed.

SOME IMPORTANT POINTS IN THE MANAGEMENT OF DEEP URETHRAL STRICTURE,

was the title of a paper read by DR. F. N. OTIS. Out of a large number of cases of urethral stricture which had come under his observation, less than ten per cent. were situated beyond a point four inches from the meatus. The large majority of strictures were in the penile portion.

In dilating the stricture the sound should not be introduced through the deeper portion when healthy.

FIRST DAY. — EVENING SESSION.

CONCERNING STATE AND PREVENTIVE MEDICINE

was a paper read by DR. MERCER, of Syracuse, only an abstract of which was read. It contained an outline of sanitation from ancient to modern times. He suggested the founding of a sanitary organization, which should be composed of all interested in such matters throughout the State.

DR. DAVID LITTLE exhibited a modified Barnes's dilator for use as a "dinner-pad" in the application of the plaster-of-Paris jacket.

ON THE INTOXICANT HABIT.

DR. H. R. HOPKINS, of Buffalo, in considering this subject, referred not alone to the use of alcohol, but also of cocaine, morphine, etc. He believed the medical profession was in a great degree responsible for the increase and existence of the intoxicant habit in all its varieties, but the alcoholic least.

DR. WEX, of Elmira, discussed the paper, confining his remarks to the alcoholic habit, which, he thought, was best treated in inebriate asylums, where the patient's appetite could be restrained. The State, he thought, could not rightly limit the sale of alcohol through a high license, as it was taking from citizens the equal right to engage in business.

REMARKS ON INTRA-UTERINE MEDICATION

were made by DR. T. A. EMMET, who, inasmuch as he was opposed to such medication, went back some years, tracing the development of his present convictions on the subject. He even opposed the use of hot

water. In reply to some remarks by Dr. Gill Wylie, he said that if there was a definite pathological lesion in the uterus, as the presence of a polypus, he would treat it. He no more introduced the uterine sound, or made applications to the endometrium. His patients left his hospital cured in a much shorter time now than formerly, when he employed intra-uterine medication. His views upon cellulitis were incidentally referred to.

ON THE NECESSITY FOR COMPLETE REMOVAL OF THE UTERINE APPENDAGES WHENEVER OPERATION IS CALLED FOR.

DR. ALBERT VAN DER VEER, of Albany, related six cases, and in his remarks said that he was deeply impressed that many so-called nervous cases subjected to this operation, are cases which ought to be relieved by some medication, and he desired to state that in the cases reported such treatment had been faithfully tried without avail. Several of the patients were not permanently cured after removal of the uterine appendages.

A paper on this subject was sent by MR. LAWSON TAIT, read by DR. S. B. WARD, entitled

THE RESULTS OF UNILATERAL REMOVAL OF THE UTERINE APPENDAGES.

MR. TAIT asked the question, would it not be better to advise complete removal of the uterine appendages in any case where the operation is demanded by the presence of disease, even if limited to one side?

This was his first contribution toward the solution of this question, and it contained an analysis of his first thousand cases of laparotomy, prior to 1884, twenty-six of which had a bearing on the question. One of these was useless, as the patient had died. In conclusion, he said that though the number of cases was small, he was yet becoming more convinced that, when the patient's sufferings were sufficient to justify laparotomy, it was better to remove the entire uterine appendages, although there was disease upon but one side. He preferred the term, "uterine appendages." It was absurd to name an operation after an operator.

DR. T. A. EMMET said that Battley's operation, in his opinion, should rarely be performed. He thought removal of the uterine appendages was done far too frequently in this country. He seldom saw a case in which the operation was indicated, yet he saw many cases called by some authors salpingitis, and he cured them too.

DR. GILL WYLIE had removed the appendages on one side only in four cases, at least. Two had since borne children. In one, neuralgia developed in the other ovary, which was then removed, and the patient is now well.

SECOND DAY.—MORNING SESSION.

DR. PARKER offered the following preamble and resolution, which were adopted:

Whereas, It is in the knowledge of this Society that in one or more counties of this State a vote has been carried by a majority to disband or dissolve the County Medical Society; and *whereas*, the minority in such societies are not informed as to their rights and duties in such circumstances, therefore, it is hereby *resolved*, that the Committee on Legislation is instructed to consider the matter, and formulate such directions as may be wise for the instruction of those desiring to

rehabilitate such societies, and to obtain possession of the records, moneys, libraries, or other property in possession of the old society at the time of its dissolution, such committee to report at the next meeting of this Society.

REPORT OF THE COMMITTEE ON HYGIENE.

DR. STODDARD read the report, which showed an improvement in the sanitary condition of public institutions throughout the State generally, but it was evident there still remained much work to be done by the members of the Society individually. The facilities for bathing had been much improved. In connection with this report, a bill before the Legislature, providing for the establishment of a hospital for contagious and infectious diseases, pertaining to King's County, was read.

DR. A. G. GERSTER then read a paper on

ANTISEPTICS IN PRIVATE PRACTICE AND EMERGENCIES,

and presented a bag for antiseptic surgery, containing the following:

One bottle, two ounces, in wood box, with corrosive sublimate; box marked, "Corrosive sublimate, 1; alcohol, 10; one teaspoonful to a quart of water; strength, 1 to 1500." One bottle, four ounces, in wood box, carbolic acid, pure; marked, "Four teaspoonfuls to a quart of hot water; shake well; strength, three per cent." One bottle, two ounces, in corrugated tin box, chloroform. One bottle, four ounces, for catgut ligature, in corrugated tin box, with glass reels. One dusting box, hard rubber (Gerster's), for iodoform. One tin can, with one-half pound of ether. One long glass jar, with rubber cork and metal screw top, for rubber drainage tubing, with five parts carbolic solution to one hundred parts water. One long glass jar, like above, for compressed carbolic sponges. One large broad-blade scissors, stout, for cutting gauze. One stout ring-handle dressing forceps, for drawing forward tongue in anaesthesia. One razor, one teaspoon, one piece of wax. One Ormsby's Ether Inhaler, and one Esmarch's Chloroform Mask, both enclosed in rubber-cloth bag. One large-size fountain syringe, with three glass points and rubber tubing; also in rubber-cloth bag. One hypodermic syringe, in metal case, with screw cap to prevent evaporation, for probatory puncture. One stiff nail-brush, solid wood back. One dozen large and small safety-pins. One white linen pouch, for the reception of instruments. One nest, six tin cups, block-tin, six inches in diameter. One nest, six large, square tin basins. The valise has loops inside for holding the bottles and the various articles; an inside pocket for small articles, and an outside pocket for dressings. The valise is placed in the nest of tin basins, and is fastened to the same by two leather straps. Size of valise, eighteen inches long by eight and one-half inches wide.

ON THE MANAGEMENT OF SOME FORMS OF VARO-EQUINUS.

DR. PHELPS demonstrated his manner of treating certain cases of varo-equinus. He first divided the contracted soft parts, and if this did not overcome the deformity, the bones being at fault, he cut this, and, if necessary, took out a V-shaped piece. Further resistance was overcome by an apparatus into which he placed the foot after applying a water-glass and a plaster-of-Paris dressing. The foot having been forcibly brought into a correct position while the patient was under the anæsthetic, it was left in the apparatus until the dressings hardened.

DR. LUCIEN HOWE, of Buffalo, read a paper on

THE COMPARATIVE VALUE OF ANTISEPTICS.

He first defined the terms antiseptic, disinfectant, and germicide. He showed the unreliability of the clinical test as to antiseptics, etc., and showed that the safest test was by using the agents for destroying the germs after having obtained pure culture specimens. The object of the paper was to demonstrate

the fact that these experiments or tests could be carried out with comparative ease and without a great deal of expense. A simple method for photographing microscopical specimens was exhibited, the object sought was to show what solution in what strength would stop the growth of the germs.

THE TREATMENT OF REDUCIBLE AND IRREDUCIBLE HERNIA, BY HEATON'S METHOD.

DR. R. F. WEIR first described Heaton's method of operating, and then spoke of certain details of the operation which he had altered, he thought, for the better. First, he used a somewhat longer and thicker needle; he introduced by a boring motion; when it entered the canal it was indicated by a sensation as if a slight obstacle, as a piece of writing paper, had been passed. He and his colleague, Dr. Abbe, had operated upon about seventy cases, the percentage of cures being a little over twenty-nine. Dr. De Garmo, he said, had reported a number of cases, claiming as the percentage of cures about forty-five. For cases in which Heaton's method was not practicable, he resorted to the radical operation, which he also described, and said that the relapses under this mode of treatment, as shown by statistics, was thirty-nine per cent., while the mortality had been a little less than three per cent.

DR. ROSWELL PARK, of Buffalo, had performed only Czerny's operation, and he had been very well satisfied with it. He had operated in between twenty and thirty cases, and none had returned with a relapse. He fixed a portion of the omentum in the wound, and thought it went to prevent a relapse.

DR. GILL WYLIE spoke of the prevention of hernia after laparotomy, the important point being to bring like tissues in contact when closing the abdominal wound.

DR. DE GARMO and DR. WEIR spoke emphatically against leaving a part of the omentum in the wound in the radical method.

TOBACCO AMBLYOPIA.

DR. HERMAN BENDELL, of Albany, read a paper on this subject, in which he took the ground that analogy would indicate the possibility of tobacco amblyopia, and his clinical observation went to support this view. Time did not permit of his reciting cases. He thought it occurred most commonly in those who used strong tobacco. The prognosis was not favorable, but in any case he thought the patient should absolutely abstain from the use of tobacco.

DR. ROOSA said that out of a large number of patients seen at institutions, he had not been able to trace one case of amblyopia directly to the use of tobacco. Facts were wanted in discussing this subject, and not theory.

PAROXYSMAL CARDIAC DYSPNŒA.

DR. A. L. LOOMIS read the paper. In very many valvular diseases of the heart, when accompanied by hypertrophy and secondary dilation, dyspnœa was a prominent symptom, but the dyspnœa was of gradual development. In the paroxysmal cardiac dyspnœa to which he referred, the symptom was due entirely to the state of the heart and the consequent arrest of pulmonary circulation, more or less complete, and not to any organic lesion in the lungs obstructing the entrance of the air to the air cells. Under whatever

diseased condition this form of dyspnœa arose, it had this one essential cause, namely, temporary or permanent arrest of blood in the heart or pulmonary arteries, and consequently it must either be paroxysmal, or suddenly terminate in death. The cause of the symptom was, in most cases, a thinning and consequent weakening of the cardiac muscle. There might be other lesions, but the frequent absence of signs of valvular lesions was what led to the patient's danger. He had found defibrinated blood entwined about the valves and in the heart cavities. If the right side of the heart was principally affected, the blood-supply would be shut off from the lungs, leaving them bloodless, and the other internal organs engorged. If the obstruction existed in the left side of the heart, the blood-current would be arrested in its passage to the aorta, the lungs would be found intensely congested, while the other internal organs had less than their normal amount of blood. The time when the paroxysm was most likely to come was in the early morning. When it came on, the patient constantly changed his position, hoping for relief. The pulse is feeble, irregular, intermittent. Frequently there is prolonged absence of the radial pulse. The return of the pulse precedes instead of follows the subsidence of the dyspnœa. The mind remains clear. If death took place, the final act was one of persistent muscular contraction. The treatment to be encouraged should be instituted in patients threatened with paroxysmal cardiac dyspnœa, instead of after the attacks had begun.

THE CLINICAL SIGNIFICANCE OF ENDOCARDIAL MURMURS.

DR. W. M. CARPENTER read the paper, the object of which was to further impress upon the minds of the medical profession certain facts well known to some, stated as follows: First, that endocardial murmurs and chronic valvular disease of the heart are not synonymous terms. Second, that the existence of a persistent endocardial murmur is not inconsistent with long life and the enjoyment of a fair degree of health. Third, that the knowledge, on the part of the patient, of the presence of an endocardial murmur, should guard him against exposure to all influences that may give rise to any of the diseases which are liable to have cardiac disease as the sequel, or that will cause increased cardiac action.

DEMONSTRATION BY DR. O'DWYER, OF NEW YORK, OF HIS METHOD OF INTUBATION OF THE LARYNX.

DR. O'DWYER traced the gradual improvement of the instrument used in this operation since he first began his experiments on the cadaver, about six years ago. Within a year he had practiced intubation of the larynx in about fifty-seven cases, refusing to do the operation on none, it mattered not how near death's door they had come. Out of this number fourteen lives had been saved.

(To be continued.)

— At a recent meeting of the Paris Société Thérapeutique, M. Blachez reported the administration of gaseous injections of sulphuretted hydrogen in three cases of chronic pulmonary disease, in two of which positive benefit was experienced. In the third case there was no satisfactory improvement of the lung symptoms, and some gastro-intestinal irritation was induced.

Recent Literature.

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicine, including those recognized in the Pharmacopœias of the United States, Great Britain and Germany, with Numerous References to the French Codex. By ALFRED STILLE, M.D., and JOHN M. MAISCH, Phar. D. Fourth Edition. Revised and Improved. Philadelphia: Henry C. Lea's Son & Co. 1886. xvi, 1781.

This, the most comprehensive of the several commentaries upon the Pharmacopœia of the United States, Great Britain and Germany, which has yet appeared, has by this last revision been brought fully up to the existing knowledge upon the subject treated. Its references to the British Pharmacopœia have been amended for the late and much-changed new edition of that work; an "addenda" of twenty-five pages has been appended, treating of some twenty-four of the latest and more important additions to the materia medica, among the most noteworthy of which are Antipyrine, Cocaine Hydrochlorate, Iodol, Lanolin, Thalline, and Urethane. This work should be in the hands of every physician and pharmacist.

Handbook of Practical Medicine. Vol. III. By DR. HERMANN EICHHORST. 157 wood engravings. 8vo. pp. viii. 390. New York: Wm. Wood & Co. 1886.

This third volume of the translation of Eichhorst's great work, the October number of Wood's Library, contains the sections on the diseases of the nerves, muscles and skin. The first striking feature is that nowhere, either in this volume or the others, does the author discuss the diseases of the oculo-motor nerves and their nuclei. With this exception, however, the author gives a reasonably full account of the diseases of the nervous system. This portion of the work, however, seems to us hardly equal to the other volumes. In ætiology and minute pathology it is superior to any work of the size with which we are familiar, but its description of the symptomatology of disease, although full of valuable points, lacks that systematic arrangement and clearness which might make it suitable for the student. Portions of it, too, notably the chapters on neuritis, alcoholic paralysis, and Thomsen's disease, have been rendered of less value by the great additions to our knowledge made since their original publication. The chapters on the skin contain a good though a brief account of its diseases. Although not the best manual for the student, this volume is of great value as a work of reference, and we are glad that it is now accessible to the English reader. We cannot speak highly, however, of the work of the translator. The style is harsh and follows the German idiom too closely, and in the paragraphs on treatment the parentheses and abbreviations cause needless obscurity. On page 13 the misplacement of the word "only" causes the author to make the astounding statement that the third branch of the fifth "contains only motor-fibres," which is a fact known only to the translator. The mechanical execution of the book is cheap, and the illustrations, except in the chapters on skin diseases, are wretched in execution, and many of them are so obscure as to aid but little in explaining the text.

Paralyses. Cerebral, Bulbar, and Spinal: A Manual of Diagnosis. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. 8vo. pp. xi, 671. New York: D. Appleton & Co. 1886.

This work is more than a manual of diagnosis of paralysis; it might well be called a manual of topical diagnosis of diseases of the central nervous system, and, although not always in accord with our present views, it is a clear and admirable work, and will be of much value to every one who wishes to be able to localize the lesion in cases of structural nervous disease.

The first half of the book is devoted to paralyses of encephalic origin, and takes up, first the pathological conditions that may cause paralysis, and the clinical indications of these several conditions. Then it considers the individual symptoms with regard to their significance in topical diagnosis, and finally the indications of disease in the various regions of the brain. The arrangement is comprehensive and satisfactory, the descriptions are clearly written, and the occasional tables for diagnosis are admirable. The author maintains his former view that the centres in the central convolutions are really "sensory centres of a kinæsthetic type," "cerebral termini for impressions from muscles," more or less closely interlaced. The author is disposed to agree with Charcot's old theory that it is doubtful whether a cortical lesion can cause hemianopsia, and he still clings to the hypotheses of a centre for monocular vision in the angular gyrus and of a double decussation of the optic tracts; hypotheses which Seguin's recent work has disproved. He omits any mention of paralytic attacks in general paralysis and of paresis of the trunk muscles in hemiplegia, and the section on secondary degeneration neglects the recent work of Pitres, Sherrington and others.

Paralyses from diseases of the medulla are treated very satisfactorily on the same plan, and then a chapter is given to the motor and sensory paralyses of the cranial nerves, which is a fairly full and accurate account of the symptoms. It would have been better if some account had been given of the changes in the field of vision in the early stages of optic atrophy, which is at times of great value in diagnosis.

The final part, on paralyses of spinal origin, seems to us hardly equal to the rest. Adamkiewicz's investigations have been overlooked in dealing with the vascular supply of the spinal cord, and the discussion of the reflexes is rather unsatisfactory. The author maintains that a non-inflammatory softening of the cord is the ordinary lesion in "acute myelitis," and that a true inflammation is rare. He classes alcoholic paralysis among the functional diseases of the cord, where we also find "paraplegia from idea" and hysterical paraplegia, — a rather peculiar classification in the light of our present knowledge. He also makes the remarkable statement that in hysterical paraplegia he has seen absence of the patellar reflex. His whole classification of spinal diseases is rather vague, for he arranges them according to the acuteness of their onset, and his classes necessarily overlap. The book contains one hundred and thirty-six illustrations, most of which are old friends, but we are sorry to add that the reproduction of the illustrations is poor.

— The mortality in labor in China is said by a contemporary to amount to eight per cent., or about four hundred thousand deaths annually.

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 283 WASHINGTON STREET, BOSTON, MASS.

ARSENICAL WALL-PAPERS.

PUBLIC attention has again been called to the subject of arsenical wall-papers by a paper read by Dr. J. R. Chadwick at the meeting of the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, January 12, 1887. The discussion which followed the reading of the paper was broad in its scope and interesting in its character. Dr. Chadwick demonstrated conclusively the unreliability of many of the guarantees which have been hitherto presented by the paper-dealers regarding the freedom of their papers from arsenic, and thus emphasized forcibly the necessity of a uniform method of analysis, and such a method as will detect with certainty at least the minimum amount of arsenic likely to be injurious. We have good authority for the statement that papers containing the equivalent of two grains of arsenious oxide to the square yard have been pronounced by chemists, in Boston, free from arsenic, presumably as a result of objectionable methods of analysis. Whatever differences of opinion may exist regarding the final test employed, we fail to see how any exception can be taken to the statement made by Prof. E. S. Wood, in the course of the discussion, that no test can be considered reliable which does not secure the destruction of the organic matter of the paper as the first step in the operation; yet this step as a preliminary to Marsh's test is, we have reason to believe, frequently omitted in the analysis of wall-paper.

The clinical aspects of the subject were well illustrated by a series of cases in which recognized symptoms of arsenical poisoning were finally traced beyond reasonable doubt to wall-paper. The fact of arsenical poisoning from wall-papers is so well established, that we do not consider it necessary at this time to place before our readers the evidence which can be adduced to substantiate it.

We have, however, a word or two of comment to make upon the remarks of a chemist, Mr. C. Tennant Lee, who claimed that poisoning from arsenical papers rests on a very insufficient basis and must be considered

as not proven. Mr. Lee's remarks were characterized by a surprising degree of ignorance, not only of the matter under discussion, but of matters purely chemical. He argued that most of the cases which have been attributed to arsenical poisoning are in reality due to defective plumbing, or to some other fault in the sanitary condition of dwellings—more particularly, however, to foul water-boxes in furnaces—and he very impertinently intimated that the physician cannot discriminate between symptoms of arsenical poisoning and those caused by other diseases.

The whole question of poisoning from arsenical papers is apparently new to Mr. Lee; so we judge from his remark that its entire history is but two or three years old. We do not propose to argue the matter with Mr. Lee. We believe it would be useless. It may not be amiss, however, to call his attention to the fact that, in a majority of the most authentic cases, the possibility of arsenical poisoning has been the last one thought of, and the paper has been submitted for analysis only after every other cause for the symptoms has been eliminated. Mr. Lee's ignorance on matters purely chemical is well illustrated by his remarks on the nature of the process which takes place in the manufacture of rosaniline, and by his statement that arsenic cannot be liberated in any natural way in the form of arseniuretted hydrogen.

Dr. J. M. Harlow made a brief statement of some of the reasons, as they appeared to him, for the failure of the bill presented to the last Massachusetts Legislature to become a law. Dr. Harlow was chairman of the Committee on Public Health of that Legislature, and his opinions on the legislative side of the question are entitled to careful consideration. While agreeing with him that any law which is asked for should include certain other domestic articles which frequently contain arsenic—such as children's toys, kindergarten papers, etc., and fabrics colored with Paris green—we do not believe it is advisable to include fabrics as a class. For, in the case of many fabrics we are not able to establish that close relation between cause and effect which we often are with wall-papers, and which the speaker rightly characterized as the greatest element of success in an undertaking of this kind. Fabrics contain other substances besides arsenic, which, there is reason to believe, may be a source of injury; for example, compounds of chromium and antimony, which are used as mordants. We are not as yet in a position to say that many of the colors themselves are not injurious, especially when they are brought into contact with the skin. We cannot, therefore, in the present state of our knowledge, say, when we find arsenic in a fabric which has caused poisoning, that the arsenic and the symptoms observed certainly stand in the relation to each other of cause and effect, unless arsenic should be detected in the urine. The introduction of fabrics, as a class, into any bill would, we believe, arouse additional opposition sufficient to endanger its passage.

Dr. Harlow believes that a law should establish a

limit to which arsenic may exist in wall-papers without being considered dangerous to health. Prof. H. B. Hill, on the contrary, believed a limit unwise, because there is no reason for the use of arsenic at all in the manufacture of wall-papers. We think Dr. Harlow takes the right view of this matter. By reason of its wide distribution minute traces of arsenic are very common, and we believe it is the uniform experience of chemists who employ the Berzelius-Marsh test in the analysis of wall-papers, that a large proportion of such papers contain traces of arsenic which may be regarded as unavoidable or of no account whatever. If chemists will agree upon some amount of arsenic which can fairly be considered unavoidable, and will further agree to report all papers containing less than that amount "free from arsenic"—meaning thereby free for all practical purposes—there may be a justification for the position taken by Prof. Hill. So long, however, as chemists employ the Berzelius-Marsh test, and report as arsenical, papers containing one, two, or three milligrammes of arsenic to the square meter, a limit is necessary.

There is, however, another reason why a limit is desirable. The manufacturers and dealers appear to be better disposed now than they were a few years ago, when it was impossible to convince them that papers contain any arsenic at all. The paper-dealers were represented in this discussion by Mr. N. W. Bumstead, of the firm of J. F. Bumstead & Co. The dealers do not believe in the possibility of poisoning by wall-papers. But they do acknowledge at the present time that a certain number of papers contain arsenic; though they claim to use every effort to obtain papers free from arsenic. The most prominent dealers in Boston have for a number of years secured analyses of their papers, and at the present time they have an agreement with the manufacturers whereby all papers containing more than a trace of arsenic are returned. The result is well shown in some figures given by Dr. Hills, from which it appears that, while a few years ago over thirty per cent. of all the papers examined by him were strongly arsenical, at the present time only thirteen per cent. contain anything over a trace of arsenic; and in most of these the quantity is comparatively small. The experience of other chemists who have occasion to examine large numbers of papers, is, we believe, similar.

As the matter now stands, we are not sure that it is impossible to fix a limit which shall satisfy the requirements of safety and which will be acceptable to the manufacturers and dealers. If so, the chief opposition to legislation will disappear. We believe that the opposition of the dealers at the present time arises, almost entirely, from a fear that they will not be fairly treated by the chemists, and we feel that the question of limit is to be an important one in future attempts to obtain legislation. What that limit should be, we are not now prepared to suggest. We would not place it as high as is suggested by Petenkoffer (fifty-five one-hundredths of a grain per square yard),

but it is well to consider, before going to the legislature again, whether the limit asked for a year ago was not somewhat too low for practical purposes.

The undue importance attached to the arseniuretted theory may also be mentioned as one of the factors which, in our opinion, contributed to the defeat of legislation last winter. There is no doubt that this gas, or some other volatile compound of arsenic, may be evolved when compounds of arsenic are left in contact with fermenting and decomposing organic matters. There are reasons for believing too that this fact explains in certain cases the evil effects resulting from arsenical wall-paper; but after a careful consideration of the experimental evidence, we are forced to acknowledge that our information on this point is far from satisfactory. It is a subject calling for careful investigation. At the same time we should not lose sight of the fact, that most of the cases of poisoning from arsenical papers are undoubtedly due to the introduction of the arsenic into the system in the form of dust; and in future attempts at legislation we should carefully refrain from attaching any more importance to the arseniuretted hydrogen theory than the facts known will warrant.

Prof. E. S. Wood suggested that all physicians who have cases of arsenical poisoning from wall-paper should send a sample of the patient's urine, together with a piece of the paper, so that a quantitative analysis may be made, and at length a positive and accurate opinion be gained of the exact amount of arsenic which is capable of producing symptoms. A general compliance with this suggestion can hardly fail to furnish useful information.

Dr. G. E. Francis thought we should seek to ascertain if paper loses any arsenic while on the wall, and if so, the rate at which the arsenic leaves the paper. Dr. Francis's idea, if we understand him correctly, is to estimate the amount of arsenic in the paper after it has been on the wall a certain number of years, and compare this amount with that contained in the paper which has never been upon the wall. We do not believe any trustworthy information can be gained by this method of investigation. Given a loss in the amount of arsenic after a certain number of years, we can never be certain that a portion or all of such loss has not been caused by the friction to which the paper has been subjected in applying it to the wall or in removing it. That arsenic is lost in many cases has already been satisfactorily demonstrated by its detection in the dust of the room.

Dr. W. B. Hills expressed a belief that the matter might settle itself in a year or two, basing this belief on the fact that the proportion of arsenical papers had already diminished very materially, owing to the efforts of the manufacturers and dealers to meet the demands of the public. We should not, however, lose sight of the fact that any immunity we may possess at the present time, or hereafter, has been obtained only under the pressure of public opinion, and that, if this is removed, we may in a few years become again ex-

posed to as great dangers as we have been heretofore. Whether, therefore, a law is to be again demanded or not, the matter should not be allowed to rest where it is at the present time. It should, we think, be referred to a committee of physicians and chemists for careful consideration. Should it be decided to go before the legislature again, such a committee could, in our opinion, present the evidence much more satisfactorily than it was presented a year ago.

REDUCING SUBSTANCES IN THE URINE.

BOEDECKER, in 1861, was the first to call attention to the possible presence in the urine of a peculiar reducing substance, called by him alkapton, which reacts chemically in some respects like grape sugar, and which may therefore in rare instances be mistaken for the latter. In 1875, Fürbringer reported a second case in which the urine contained the same or a similar body.

Urine containing the so-called alkapton reduces strongly the salts of copper, and upon addition of potassic hydrate (Moore's or Heller's test) becomes dark from above downward, owing to the absorption of a large amount of oxygen. It does not (in the absence of sugar) reduce the subnitrate of bismuth, neither does it respond to the fermentation test. With indigo-carmin the same play of colors is produced as with urine containing sugar, but upon afterwards shaking with air, the reverse change does not take place, as is the case with urine containing sugar.

Similar cases have been observed by Ebstein and Müller, Dr. Armstrong, of Dublin, and still more recently by Dr. Robert Kirk and Dr. Frank Donaldson. Ebstein and Müller concluded, from their investigations, that the so-called alkapton is identical with *brenzcatechin* (pyrocatechin, oxyphenic acid) which, according to Baumann, is a very frequent, though not constant ingredient of human urine, and is always present in the urine of horses, occurring partly in the free state, partly in combination with sulphuric acid. The urine in Dr. Armstrong's case was examined by Dr. W. G. Smith, whose investigations led him to believe that the substance in question was *protocatechuic acid*; while Dr. Kirk, after a careful comparison of the reactions of the urine reported by him and of the peculiar body isolated from it, with those of *pyrocatechin* and *protocatechuic acid*, concluded that in his case the substance was different from either of these, and he proposed for it the name *urhodonic acid*.

The case reported by Dr. Donaldson is of peculiar interest, from the fact that the person by whom the urine was passed had been repeatedly rejected by life insurance companies because of the presence of sugar in his urine. There was, however, no clinical evidence of diabetes; the patient was in apparently perfect health, and in the past three years had gained in weight and girth. The specific gravity of the urine was normal. Dr. Tyson was finally called in consul-

tation, and, upon examination of the urine, concluded that the reducing substance was not sugar, an opinion in which Professor Wormley coincided. Dr. T. Barton Brune¹ and Dr. John Marshall have, entirely independently of each other, made a careful study of the urine in this case, and have described in detail the reactions of the urine and of the reducing substance isolated from it. Dr. Marshall believes the substance to be a hitherto unrecognized acid, and he proposes for it provisionally the name *glycosuric acid*. Dr. Brune says that it is not *protocatechuic acid*, although closely resembling it, and that it is apparently identical with Kirk's "*urhodonic acid*."

While we are not at present able to say positively that the peculiar reducing substances in the cases thus far observed are identical, we are inclined to believe that such is the case. It has not yet been shown that this substance, whatever it may be, has any pathological significance. It is perhaps worth mentioning that a majority of the cases have been in children. In one case only, we believe, was sugar present. It is, therefore, very important to bear in mind the fact, not generally understood apparently, that the reduction of the alkaline copper solution should not be relied upon as evidence of the presence of sugar, especially in cases where the clinical evidence does not point to diabetes mellitus, but should be supplemented by other tests.

The danger of relying entirely upon the indications furnished by the copper test is further emphasized by the fact that other accidental reducing substances, derived from the ingesta, are occasionally found in human urine. For example, *chloroform* is eliminated with the urine, and such a urine reduces the copper solution. Dr. Sherwin, in a recent number of this *JOURNAL*, calls attention to the fact that the urine of patients taking *chloral* will reduce the copper solution. This observation is not, however, a new one, though perhaps not generally known. From the researches of Vetlesen, published in 1882, it appears that during the internal use of oil of turpentine the urine contains a substance which reduces both the salts of bismuth and those of copper. According to Fleischer, the urine of persons taking *salicylic acid*, or its sodium salt, frequently has all the characteristics of urine containing Boedecker's alkapton.

There are, very likely, several other substances the administration of which may occasionally become sources of error if reliance is placed on the copper test alone. Those mentioned are, we believe, sufficient to show that caution is necessary in making a diagnosis of diabetes mellitus upon an insufficient examination.

OIL OF TURPENTINE IN CHRONIC CATARRHAL AFFECTIONS.

THE attention of the profession is again called to the great remedial value of oil of turpentine in chronic affections of the lungs and bowels, this time by Dr.

¹ *Journal*, December 30th, 1886, January 27th, 1887.

James B. Walker.¹ Turpentine taken internally, he thinks, is capable of impressing almost the entire mucous surface of the body; the exceptions are the uterus and vagina. Its first effects are upon the gastro-intestinal tracts before absorption; and being eliminated by the kidneys and lungs, it physiologically stimulates, and in pathological states, it may favorably modify these emunctories.

Limiting his observations to chronic catarrhal affections of the alimentary and pulmonary tracts, Dr. Walker finds that in hæmorrhages from these surfaces it possesses peculiar powers. This is especially true of the stomach, in ulcers of whose mucous coat it stands preëminent. In hæmorrhage of the intestines, it is only a little less valuable, and even here it ranks with any other styptic and outranks most of them. It is applicable to hæmorrhages of the earlier, as well as the latter, stages of typhoid fever.

In sub-acute and chronic diarrhœas, this remedy, Dr. Walker says, is used to a much less extent than its efficacy deserves. He has seen diarrhœas checked by it, which had for months resisted bismuth, opium, nitrate of silver, sulphate of copper, the mineral acids and other astringents. In chronic diarrhœas, he does not regard bismuth as so serviceable as in acute disease, its value in fact being in inverse proportion to the chronicity. Opium, in these cases, by lessening peristalsis, will arrest the diarrhœa, only to be followed, on its cessation, with an aggravation of the trouble. Lead and silver salts serve to arrest the catarrhal conditions and favor repair, but their influence must be slight in the small quantities which can be safely administered, and in view of the extensive surface upon which they must be distributed to be of any avail. Besides, in most of these cases the diseased areas are more or less protected by a tenacious environment of mucus. Turpentine may be given in considerable quantities without fear of irritation, and its volatile nature enables it to diffuse itself throughout the bowel, into all the intestines thereof, and to permeate even the mucous environment of the diseased glands, and directly impress these structures.

The best time for giving turpentine is between meals, and at bedtime. If, however, when taken on an empty stomach, there is much regurgitation, it should be administered about an hour after a meal. The oil may be given in gelatine capsule, each capsule inclosing from five to ten drops. In this form the drug is not tasted unless regurgitated; and if taken an hour after meals, will be so quickly passed into the intestines as to interfere little if at all with gastric digestion. Where the patient cannot swallow the capsules, the turpentine may be given in some sweetened emulsion, well flavored with anise or wintergreen.

In chronic bronchial affections, oil of turpentine has been found equally serviceable, and Dr. Walker states the proposition that in proportion to the chronicity of the bronchial catarrh, ammonia becomes of *less*, and turpentine of *more* value. He has used the turpentine

with signal success, not only in catarrhal conditions secondary to acute disease, but in primary catarrhal diseases which linger and threaten to involve the alveoli, or have already involved the alveoli and become entitled to classification as incipient phthisis. In the dry forms the drug has not seemed desirable, but in the form characterized by decided or abundant expectoration its best effects are obtained.

The method of administration may be varied. Ter-e-bene is an exceedingly good preparation, which may be less offensive to some patients than the crude oil. Dose, five to ten drops, on sugar, in emulsion, or in capsules. Or the oil of turpentine may be given in the same way. In bronchial catarrh turpentine is sometimes given in the form of tar (by inhalations or by mouth) and the following is a favorite formula of Dr. Walker:

R	Ammon. Chlorid.	. . .	3 iss.
	Vin. picis liquid.	. . .	3 ss.
	Syr. Tolu.	. . .	f 3 i.
	Aquæ.	. . .	f 3 iiss.

M. Sig. A desert spoonful every four hours.

Bedford Brown, in the Journal of the American Medical Association (September 25th, 1886), advocates the use of turpentine in the management of the more painful affections of the alimentary canal in infants and young children. According to his experience, the oil of turpentine fills a place which no other remedies can fill. He believes the therapeutic effect of turpentine to be of multiform character. "It is eminently soothing to the irritated and inflamed mucous membrane, and seems to promptly arrest the rapid exfoliation of epithelium. It is antifermentative, deodorant and antiseptic." He lauds the beneficial action of turpentine in gastralgia, intestinal catarrh, enteritis, and a number of unclassified painful affections of a functional kind. He prescribes turpentine according to the following formula:

R	Mucilag. acacia.	. . .	f 3 iss.
	Sodæ bicarb.	. . .	gr. x.
	Chloroform.	. . .	gtt. x.
	Ol. terebinth.	. . .	3 ss.

M. Sig. A teaspoonful every two or three hours to an infant of six months.

THE REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE.

IN the operations of this Service our government approaches the paternal more nearly than in any of its branches, unless, perhaps, in the care of such of its wards, the original inhabitants of the soil, as it has ceased to treat as foreigners.

It used to be a matter of ever-recurring surprise that fishermen were not eligible to the benefits of the Marine Hospital Service. The matter was simple enough; only those were entitled to relief from the Marine Hospital fund who had contributed to it. The Service is now supported from the tonnage tax, rather than from individual assessments; and as fishing-vessels pay tonnage tax, by a decision of the Treasury Department, "seamen employed on vessels licensed

¹ Medical and Surgical Reporter, January 8, 1887.

for the fisheries are entitled to the benefit of this Service." Previous to this decision, even those engaged in whaling were ruled out of the marine hospitals.

This department still needs what has been so repeatedly asked for, a national refuge for decrepid seamen, and those suffering from incurable affections. The Surgeon-General suggests that if such a "snug harbor" were established in the District of Columbia, it could also serve as the general headquarters of the Bureau, and for the laboratory, purveying division, etc. Better accommodations would add greatly to the efficiency of the purveying department.

A large portion of the report is occupied with the quarantine service, and the reports of the medical officers engaged in it. It is believed that no case of small-pox was admitted into the United States across the northern border during the time of the quarantine established to prevent such an invasion.

Stubborn resistance to vaccination was occasionally offered by a car of immigrants, or by a few passengers in the parlor-cars. At many towns in Canada, certificates of vaccination were sold by physicians, or persons claiming to be physicians, to persons who had not been vaccinated, to enable them to pass the United States sanitary inspectors. Out of one party of forty immigrants provided with certificates of vaccination, examination showed that but seven had ever been vaccinated. This party had purchased their certificates for twenty-five cents apiece. The compulsory vaccination of passengers by the United States was a material aid to the Canadian authorities in carrying out sanitary regulations in the Provinces.

The report contains the usual statistical tables, and many valuable reports of cases and autopsies, and, in addition, a *résumé* of the conclusions adopted, and of the propositions rejected by the Technical Commission of the International Sanitary Conference of Rome (1885).

MEDICAL NOTES.

— From the report of the City Registrar of Providence, R. I., it appears that there were 2,355 deaths in Providence during the year 1886. This number was 191 more than in the previous year, and calling the population of the city 120,000, the rate of mortality was 19.62 in each 1,000 of the population. The number of deaths, in 1886, was greater than was ever before reported in Providence for a single year.

— To the suggestion of the *Medical and Surgical Reporter* that each of the eighty thousand physicians in the country ought to contribute fifty cents towards a memorial to Dr. Rush, the *American Lancet* replies that more than half that number had better use their fifty cents to pay their debts, provide for their families, or secure much-needed aids and appliances for the practice of their profession. It considers the majority of doctors ought to scrutinize even so small a

coin as a half-dollar before applying it to so sentimental a purpose as a memorial.

— The *London Medical Record* quotes Dr. Labric to the effect that repeated painting of the throat with a five per cent. solution of cocaine has caused an immediate lessening in the number of attacks of whooping-cough, children having fifteen or twenty attacks in the twenty-four hours only having five to ten attacks after the application. As the topical effect of the drug is of short duration, it is necessary to repeat it fairly often, but no tolerance is established, as with other drugs. Improvement took place in the general health, probably due to the diminution in the cough.

— The death of Lord Iddesleigh, better known by the name Sir Stafford Northcote, under which he gained his high political reputation, was traced to his great labors, and possibly, disappointments in public affairs, with the late hours incidental to Parliamentary business. In 1882 he was obliged to cease work, on account of evidence of cardiac mischief; evidence which had presented itself in a less pronounced form many years before when he was quite a young man, and on account of which he was advised to abstain from a parliamentary career. His sudden death occurred in Downing Street, in the presence of Lord Salisbury, whither he had gone to turn over the affairs of the foreign office to his successor. There was disease of both the mitral and aortic valves, but the failure of the latter was the immediate cause of death.

— Cases have been reported in which syphilis has been communicated through the Jewish ritual of circumcision from mucous plaques in the mouth of the operator. A Vienna correspondent of the *New York Medical Journal* refers to an epidemic of tuberculosis of the inguinal glands, originated among Israelitish children by a Jewish rabbi who had a tuberculous ulcer of the tongue. These cases were communicated by Professor Bergmann to the last Congress of Surgeons at Berlin. As a supplement to these cases, Professor Hofmokl presented to the Society of Physicians a child eight months old, who had been under his treatment six months before. The child had been circumcised, as usual, on the eighth day, and bleeding had been stopped by the operator taking the penis into his mouth. The wound did not heal, and seven weeks afterwards, a small gray ulcer was seen on the dorsum penis and remnant of the prepuce, accompanied by swelling of the glands in both groins. There were no manifestations of disease in other parts. The administration of iodide of potassium and of mercury in various forms, together with the application of iodoform locally, had been of no avail. The inguinal glands continued to swell, and some of them suppurated. The ulcer on the penis grew larger. No tubercle bacilli had been found in the pus, and there were no signs of syphilis. On the day after he was shown to the Society the child was put under chloroform, and

thirty glands, which had undergone partly caseous and partly suppurative changes were removed from the groins. Paquelin's cautery was applied to the ulcer. The removed glands proved to be tuberculous, and tubercle bacilli were found in them by Professor Weichselbaum. The mother of the child and its nurse were healthy.

BOSTON.

— A bill has been introduced in the Massachusetts Legislature to restrict the sale of "Rough on Rats."

— A female school-teacher in Taunton, Mass., punished a seven-year old pupil for whittling his desk by "whittling his finger," deliberately cutting the thumb with a knife till she drew blood.

— Through the admirable activity of Dr. Henry I. Bowditch, the Boston Relief Committee have voted to appropriate \$5,000 to the restoration of the Medical School and the Roper Hospital of Charleston, S. C.

— The remarkable history of the poisoning by Mrs. Sarah Jane Robinson, of Somerville, of her children and others, in whose death she had a personal and pecuniary interest, has already been referred to in these columns, and is fresh in the minds of our readers. A seventh probable victim has now been discovered. The body of Oliver Sleeper, of Cambridge, which was recently exhumed from Mount Auburn Cemetery, owing to suspicions that he was another victim of Mrs. Robinson, has developed the existence of arsenic. The quantity found was about the same as discovered in the other cases. It is presumed that the investigation will now go back still farther, and that the body of her brother-in-law, Mr. Field, of Chelsea, with whom Mrs. Robinson lived at one time, will be the next to come under examination. It is reported that the physician who attended Mr. Field has said that his symptoms were those of arsenical poisoning.

— A series of suits for damages was recently decided in the fourth session of the Superior Civil Court, Boston, before Judge Pitman. The cases are of great interest to physicians, as well as to landlords and tenants. The suits were brought to recover damages for sickness and costs of medical attendance, caused by alleged defective drainage. The plaintiff, Charles A. Cutter, leased a house of the defendant at No. 60 Allen Street, Boston, with the representation that the drainage was in good condition. Mr. Cutter set forth that, owing to the bad drainage, he and other members of his family had diphtheria, one child dying thereby. The defendant denied his liability, and, in defence, claimed that the drainage was good. The suits were in the names of five members of the Cutter family, and ended in substantial verdicts for the plaintiffs, the amounts being, respectively, \$1,600, \$700, \$300 and \$250 each in the last two cases, making a total verdict of \$3,100.

NEW YORK.

— Mr. Ernest Crosby, son of the Rev. Dr. Howard Crosby, has introduced into the Legislature a bill re-

organizing the City Board of Health, which has been drawn up by Mr. James Gallatine, who has paid much attention to the workings of the Department. It abolishes the commission which now manages the affairs of the Board, and substitutes therefor a single Commissioner of Health, who shall hold office for six years, receive a salary of \$8,000, and be appointed by the Mayor, the latter being authorized to remove him also "for reasons to be stated in writing and published in the *City Record*." Except as otherwise provided in the act the powers, authority, and duties of the commissioner shall be the same as those of the present Board. He shall appoint a Deputy, at a salary of \$5,000, who may act as Commissioner for a period not exceeding three months. All the duties of the present Secretary of the Board are conferred upon this officer. The bill abolishes the office of Attorney and Counsel to the Health Board, and authorizes the Corporation Counsel to assign an Attorney to the Department. The clerks and other employées of this attorney shall also be appointed by the Corporation Counsel. For the payment of the salaries of the Attorney and his employées a sufficient amount of the appropriation for the Health Department for the year 1887 shall be transferred to the credit of the Law Department.

Correspondence.

MILKY TUMORS OF THE AXILLA.

LONDON, 6 Nottingham Terrace,
YORK GATE, N. W., January 21, 1887.

MR. EDITOR,—Your correspondent, Dr. Edward T. Williams, writes on December 16th, 1886, in your JOURNAL, on the above subject, that Dr. Champney is mistaken in supposing that he was the first to describe certain lumps in the axillæ of lying-in women.

In proof of this he refers to the Sydenham Society's Translation of Velpeau's "Diseases of the Breast," pp. 233-235, where Velpeau "cites five cases by Scarpa, Siebold, Moor, Lee and Stanley (with references), which seem to have been quite similar to those described by Drs. Champney, Johnson, and Sinclair. Siebold's case, in particular, appears to have been the exact counterpart of Johnson's."

I think that Dr. Williams cannot have read Dr. Champney's paper, and compared the cases described by him with the originals of those quoted by Velpeau.

The majority of Dr. Champney's cases of "axillary lumps" having fallen under my personal observation, I may state that the characters which they presented by no means tally with the original descriptions of the five cases quoted by Velpeau.

(1) *Scarpa's* case was simply a case of large galactocoele, and has nothing to do with Dr. Champney's "axillary lumps."

(2) *Siebold's* case¹ presents some points of resemblance to Dr. Champney's cases, but there is no exact note either as to the precise situation of the tumor or as to the places from which the milk exuded (in Dr. Champney's cases the lump was invariably situated at the apex of the axilla and in the portion of skin covered by hair, and, though not necessarily commensurate with it, never extending beyond it, and the milk exuded on pressure from the roots of the hairs all over the lump). Moreover, the pendulous state

¹ Berl. Med. Zeitung, No. 6, 1838.

which the lumps eventually assumed, "hanging down an inch," is unlike any of those described by him.

This case may possibly have been of the same nature, but from Siebold's description it cannot be proved.

(3) "Moore's case" is a plain case of right axillary mamma with several nipples.

(4) Lee's case is one of bilateral axillary mammae with nipples.

(5) Stanley's case is very imperfectly reported, but appears to be one of axillary mammae with pores or ducts.

So far for Dr. Williams's "quite similar cases."

No one ever supposed that Dr. Champney claimed to be the first to describe "milky tumors of the axilla," but it has yet to be proved that the lumps which he has described have been noticed as such before his paper appeared.

Very truly yours, ROBERT BOXALL, M.D.

² W. H. Moore. *Lancet*, February 24, 1838, p. 786.

³ Dr. Robert Lee. *Med. Chirur. Trans.* for 1838, p. 266.

⁴ *Lancet*, 1838, p. 642.

THE DOCTOR'S MESSAGE TRANSLATED.

SALEM, February 4th, 1887.

MR. EDITOR, — B's Greek is, *en anglais*, "My folks want me to go home." S. F. Q.

MR. EDITOR, — B's patient desired to tell his physician that his family wanted him to go home (*oi awaykatoi, necessarii*, those who are necessary to one, that is his kinsfolk). If the writer was a college student there would seem to be a peculiar fitness in his use of the word, the *necessarii* being the ones who furnish the *necessaria*.

Yours truly, Z.

MR. EDITOR, — The slight remains of my classical education would have led me to believe that the patient meant to say "necessity calls me home." Y.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 29, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	735	306	22.82	25.20	1.68	8.54	7.28
Philadelphia	993,801	420	118	8.64	12.72	1.20	3.36	.24
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,220	141	48	4.97	11.36	—	2.13	.71
Boston	400,000	204	61	8.33	19.11	2.45	3.04	—
New Orleans	242,750	88	21	10.26	18.24	2.28	3.42	—
District of Columbia	210,000	79	26	5.08	3.81	—	1.27	—
Pittsburgh	210,000	82	37	31.98	19.68	1.23	13.53	9.84
Providence	121,500	—	—	—	—	—	—	—
Charleston	60,145	22	3	—	13.65	—	—	—
Nashville	60,000	21	10	33.32	14.28	14.28	9.52	—
Worcester	68,383	24	12	4.16	20.80	—	4.16	—
Lowell	64,051	30	12	26.66	13.33	—	6.66	6.66
Cambridge	59,660	24	5	4.16	24.64	—	4.16	—
Fall River	56,863	25	7	8.00	16.00	—	4.00	—
Lynn	45,861	15	3	6.66	13.33	—	—	—
Lawrence	38,825	14	5	—	21.42	—	—	—
Springfield	37,577	14	3	21.42	—	7.14	7.14	—
New Bedford	33,393	10	5	—	30.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	—	—	27.27	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	3	16.66	16.66	—	16.66	—
Taunton	23,674	8	3	—	25.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	—	—	—	—	—	—
Brockton	20,783	10	2	30.00	10.00	—	30.00	—
Newton	19,759	3	1	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	6	2	—	—	—	—	—
Waltham	14,609	8	4	—	50.00	—	—	—
Newburyport	13,716	8	2	—	—	—	—	—
Northampton	12,896	1	0	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,022: under five years of age 699; principal infectious diseases (small-pox, measles, diphtheria and croup, erysipelas, fevers and diarrhœal diseases) 299, acute lung diseases 377, consumption 293, diphtheria and croup 120, measles 64, diarrhœal diseases 20, typhoid fever 21, scarlet fever 25, malarial fever 14, whooping-cough nine, erysipelas six, cerebro-spinal meningitis seven, small-pox (New York) three. From scarlet fever, New York 16, Philadelphia five, Boston two, District of Columbia and Lynn one each. From malarial fevers, New York four, Baltimore, New Orleans and Lowell three each. From whooping-cough, New York three, Philadelphia and Pittsburgh two each, District of Columbia and Nashville one each. From erysipelas, Boston three, New York two, Salem one. From cerebro-spinal meningitis, New York five, Fall River and Taunton one each.

In the 21 cities and greater towns of Massachusetts, with a

population of 989,182 (population of the State 1,941,465) the total death-rate for the week was 22.46 against 20.74 and 22.02 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending January 15th the death-rate was 24.1. Deaths reported 4,262: infants under one year of age 866; acute diseases of the respiratory organs (London), 591; measles 195, whooping-cough 95, scarlet fever 82, fever 48, diarrhœa 34, diphtheria 31.

The death-rates ranged from 17.4 in Portsmouth to — in Wolverhampton; Birmingham 22.8; Bradford 30.8; Huddersfield 23.8; Hull 22.8; Leeds 28.6; Liverpool 28.2; London 23.0; Manchester 31.0; Newcastle-on-Tyne 27.9; Nottingham 20.9; Sheffield 22.4.

In Edinburgh 20.8; Glasgow 31.0; Dublin 36.2.

The meteorological record for the week ending January 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Jan. 29, 1887.																			
Sunday, ... 23	29.965	48.7	56.0	43.0	84.0	75.0	82.0	80.3	S.	S.W.	S.	19	24	12	C.	O.	O.	—	—
Monday, ... 24	29.426	44.4	53.0	32.0	93.0	93.0	84.0	90.0	S.	W.	W.	12	19	28	O.	R.	N.	—	—
Tuesday, ... 25	30.518	35.6	44.0	24.0	57.0	49.0	63.0	56.3	W.	S.	S.W.	15	16	18	C.	O.	C.	—	—
Wednesday, ... 26	29.886	30.5	45.0	16.0	68.0	100.0	67.0	78.3	S.W.	N.	N.W.	6	15	18	F.	N.	O.	—	—
Thursday, ... 27	30.518	13.3	21.0	2.0	63.0	48.0	58.0	56.3	N.W.	W.	S.W.	10	10	10	C.	C.	C.	—	—
Friday, ... 28	30.297	39.3	49.0	14.0	88.0	76.0	73.0	79.0	S.	S.	S.	4	27	20	O.	O.	O.	—	—
Saturday, ... 29	29.882	47.8	56.0	37.0	93.0	87.0	94.0	91.3	S.	W.	N.	20	12	8	O.	R.	R.	32	2.06
Mean, the Week.	30.070	37.1	46.6	21.1				75.9											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; †, rain and melted snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 29, 1887, TO FEBRUARY 4, 1887.

POWELL, JUNIUS L., captain and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

CLENDENIN, PAUL, first lieutenant and assistant surgeon. Ordered for duty as post-surgeon at Camp Pena Colorado, Tex. S. O. 14, Department of Texas, January 26, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDING JANUARY 29, 1887.

WYMAN, WALTER, surgeon. Granted leave of absence for three days, January 14, 1887.

WHEELER, W. A., passed assistant surgeon. To proceed to Erie, Penn., as inspector, January 12, 1887.

SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION.—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, February 16th, at 7.45 o'clock. Communications: Dr. H. O. Marcy, "The Perineum: Its Functions and Restoration. Illustrated by Stereoscopic Projections." Dr. J. B. Swift, "A Case of Alexander's Operation."

JAMES R. CHADWICK, M.D., *Chairman.*

ROBERT B. DIXON, M.D., *Secretary.*

OBITUARY.

CRIDLAND CROCKER FIELD, M.D.

Dr. Cridland Crocker Field, of Eastern Pennsylvania, died at his home the last of November, aged nearly seventy, of neuralgia of the heart. He was widely known in his neighborhood and even outside his State as a surgeon, and had been in active practice nearly fifty years. Among the operations which gave him a reputation were the removal of a cervical tumor, with ligation and excision of a considerable part of the jugular vein; excision of the entire femur; excision of the entire radius; extirpation of the parotid gland, which difficult operation he has performed several times. His favorite region for operating was the neck, from which he has time and again removed tumors, which had entirely encompassed the carotid artery. He enjoyed a large consultation practice and came of a medical family both his father and grandfather having been in the profession, the former a member of the Royal College of Physicians of London.

DR. JOSEPH T. O. WEST.

The President of the Massachusetts Medical Society, Dr. Thomas H. Gage, at the recent meeting of its Councilors, announced the death of Dr. J. T. O. West in the following just and appreciative words: Dr. Joseph T. O. West, of Princeton, died after a brief illness on the 28th of January. A severe and distressing attack of laryngitis, with which he was seized on the 9th, was followed by pneumonia, nephritis, uræmic coma, and death.

The deceased was born in Barnstead, N. H., on the 21st of June, 1823. He was fitted for college at the high school in Lowell, and graduated from Dartmouth in the class of 1845. His professional studies were pursued under the direction of Dr. Nathan Allen, of Lowell, and he received his medical degree from Harvard in 1848. Subsequently, he practiced for a time, successively, in Holden, New York City and Lowell, removing from the latter place to Princeton in the autumn of 1854. There he remained, the sole medical occupant of the field, to the time of his death.

Dr. West's was a rare and beautiful character, and one that might properly receive a more extended notice than I can give it here.

To great natural abilities, trained, disciplined, and educated in the schools, he added high professional attainments, and the richer graces of a pure and consistent Christian life. And such natural endowments and acquirements, an intelligent and discerning people were not slow to recognize and appreciate. Thus it came about that early in his life, and to the end, he was respected, trusted, honored, and beloved, as it falls to the lot of very few to be. Both profession and laity gave him, without reserve, their confidence and regard.

As a physician he was remarkably modest and unpretending, yet judicious and skilful, and equal to any emergency. High professional attainments and skill, and the wisdom gained by experience, he held as sacred trusts, to be administered under a sense of great accountability, and he was faithful to the solemn charge.

In his death, the community he had served so long, faithfully and well, and the transient summer visitors that throng the Princeton Hills, have sustained a great and irreparable loss. He was for more than thirty years their trusted medical adviser, their wise counsellor in times of trouble, and their friend; and it was a touching scene as the stricken people, yesterday, moving in mournful procession, and in grief and tears, laid him under the shadows of the great mountain, tenderly at rest.

DR. LUTHER MARTIN KNIGHT.

Dr. Luther Martin Knight, of Franklin Falls, N. H., died of chronic hepatitis, February 4th (?), aged seventy-seven years. He was born in Franconia, N. H., graduated from the Dartmouth Medical College, practised in Thornton for ten years and in Franklin forty-two years. He was surgeon of the Fifth New Hampshire Regiment in the Rebellion, afterwards chief of the medical staff of the Second Army Corps under General Hancock. He represented Franklin in the Legislature in 1854 and 1856, and has been president of the New Hampshire Medical Society. He leaves a widow and four children.

BOOKS AND PAMPHLETS RECEIVED.

Twelfth Report of the Salem Hospital. Salem, 1887.

President's Address. Tenth Annual Meeting of the Detroit Medical and Library Association. By C. J. Lundy, A.M., M.D. 1886.

Transactions of the Association for American Physicians. First Session. Washington, D.C., June 17 and 18, 1886. Philadelphia, 1886.

The Medals, Jetons and Tokens illustrative of Obstetrics and Gynæcology. By Horatio R. Storer, A.M., M.D., Newport, R.I., 1887. (Reprint.)

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac, for the Biennial Period ending September 30, 1886. Lansing. 1886.

Lecture.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.¹

BY M. ALLEN STARR, M.D., PH.D.,
Professor of Nervous Diseases, New York Polyclinic.

AN etiological classification of the cases of multiple neuritis appears to be the one most useful to the clinical observer, and as the forms vary considerably in their symptoms, we shall perhaps arrive at a more definite knowledge of the disease if we consider each of the classes separately. It is possible to distinguish

I. Toxic cases, due to poisoning by alcohol, arsenic, lead, and bisulphide of carbon.

II. Infectious cases, due to the direct action upon the nervous system of the infectious agents, producing diphtheria, variola, typhoid and typhus fevers, severe malarial fevers, and tuberculosis, to which must be added the agent causing the epidemic form of neuritis known as kakke or beriberi.

III. Spontaneous cases, due to uncertain causes, among which cold and exposure to damp and wet, and to over-exertion, may find a place.

I. TOXIC CASES.

(a) *Multiple neuritis, due to poisoning by alcohol.* While alcoholic paralysis has been universally recognized for many years, it is only within a short time that the symptoms and pathology have been brought into a logical connection.

All observers have emphasized the fact, already noted by Jackson, that the disease is especially frequent among females. Males are not, of course, exempt from alcoholic paralysis, but, in them, the poison seems more liable to manifest itself by acute cerebral symptoms than by those of disease of the peripheral nerves. It is especially frequent among those persons in the higher classes whose nervous organism is highly developed, and who lead a comparatively inactive life. It seems not at all improbable that sedentary habits predispose an alcoholic drinker to this disease, and hence active workers, male or female, though taking an equally large amount of liquor as the luxurious drinker, escape. All alcoholic drinks are not equally prone to produce paralysis. It is the spirituous liquors—brandy, whiskey, gin, and rum, and the liqueurs, absinthe, vermouth, etc.—which are dangerous. And it is only after these drinks have been consumed in large amounts, and for a considerable length of time, that neuritis develops. Its onset, though often apparently very sudden, is usually gradual. For months the patient has suffered from chronic gastritis, insomnia, general neuralgic pains, or severe pains in the joints or limbs, and from tremor and a certain feebleness in movement, when all at once her legs give way beneath her, and after the sudden fall she finds herself unable to rise. Thus a patient of my own, after a year of such premonitory symptoms, was seized with paralysis quite unexpectedly when getting out of bed in the night. This paralysis soon becomes complete in the feet and legs below the knees, and may advance up the thigh. It next attacks the hands and forearms, and while in all extremities, it is often greater in the extensors than in the flexors;

in some cases both groups of muscles become entirely helpless. This has been the case in three patients under my care. The paralyzed muscles are flabby and soon become atrophied, they have no excitability to mechanical irritation, and the tendon reflexes are lost. They fail to react to a faradic current in the majority of cases, though occasionally a very strong current may produce a response. When galvanism is applied, the reaction of degeneration is found to be present. No stimulus can be given to the muscle by sending a current through its nerve, and the positive pole produces more marked contractions with an equal current than the negative pole when placed on the muscle, and then it is only a slow or vermiform movement, not the quick jerk of health. It is also found that strong galvanic currents have to be used to produce any contraction at all. The paralysis of the muscles may advance rapidly in severe cases, involving the motor cranial nerves, the muscles of the trunk, and lastly, the diaphragm, thus causing death. More frequently, however, it is arrested when only the distal parts of the extremities are involved, and then it gradually subsides until recovery is complete. The position assumed by the paralyzed limbs has been thought to be almost characteristic. There is dropped wrist, quite similar to that seen in lead-palsy, and also dropped foot, due to the falling forward of the foot from its own weight, since the anterior tibial muscles are weak. This deformity is increased by the fact that the patients lie in a recumbent posture, with the feet extended; and when the flexors of the toes are but slightly affected, as sometimes is the case, their unopposed contraction serves to exaggerate the malposition. If there is entire paraplegia, the legs and thighs may both be extremely flexed, so that the heels touch the buttocks, but this is exceptional. While the dropped wrist is the usual deformity of the hands, cases are recorded in which the paralysis was limited to single muscles, and to muscles supplied by single nerves.

To the physician, these motor symptoms, and the œdema, occasional lividity, profuse sweating, and glossy skin, so often associated with them, are very noticeable. But the patient suffers far more from the disturbances of sensation. In the description of Jackson, the pains were graphically portrayed. They are the cause of terrible agony, sufficient to produce insomnia, and wearing seriously upon the endurance of the sufferer.

In addition to pain, hyperæsthesia is not infrequently observed. It is usually quite extensive in the legs, though in cases of poisoning by absinthe it has been limited to the soles of the feet. The muscles, as well as the skin, are sensitive to handling and to pressure, and marked tenderness in the course of the nerves is always elicited by examination. In one of my cases, soon after the onset, the patient could not bear to be touched or moved, though perfectly unable to help herself. Charcot goes so far as to say that muscular sensitiveness, associated with flaccid paralysis, is pathognomonic of alcoholism.

Paræsthesiæ are always complained of. Numbness, tingling, and formication are frequent. In one of my patients the sensation was as if heavy bracelets were around the wrists, and as if very tight drawers were on the legs. At other times she felt as if the limbs were swollen, and as if the skin were about to burst. Such sensations may cease as the case increases in

¹ Lecture II of the Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, Jan. 28, 1887. For Lecture I, see page 101 of the Journal.

severity, and gives place to a total lack of sensation in the parts. They return, however, with advancing recovery, and are among the last symptoms disappear.

Abolition of tactile sense, and, to some degree, of muscular sense, is the rule after the paralysis is developed. Temperature-sense and the perception of pain are never wholly lost, but may be delayed in transmission. The anæsthesia may be limited to irregular areas, and may be only in the cutaneous distribution of one nerve, but is usually found over the entire distal part of the paralyzed limb. Usually the cutaneous reflexes are preserved. The loss of muscular sense is, in some cases, so marked a symptom, and one of such early occurrence, that Dreschfeld distinguishes a class of cases which he terms ataxic, rather than paralytic. And this distinction is perfectly justifiable, for in many cases it is the incoördination which attracts the attention of both the patient and the physician. It is this class of alcoholic cases which may be mistaken for locomotor ataxia, and which has been named by French writers pseudo-tabes alcoolique. But ataxia is not exclusively limited to this class of cases. Nor are the cases of ataxia, on the other hand, free from paralysis.

And this fact is proven by the observations of Westphal and Charcot. There may be in both patients some tottering and swaying when standing with the eyes closed; the so-called Romberg symptom is common to both locomotor ataxia and alcoholic neuritis.

The special senses are occasionally affected in cases of alcoholic paralysis. Amblyopia has been observed, and also defected vision from central scotoma. The field of color-vision is often contracted, even when sight is preserved. There may develop a true optic neuritis, evident to the ophthalmoscope, and this may go on to optic nerve atrophy.² Inequality of the pupils is frequently seen, as is also a moderate contraction of the pupil. All these eye symptoms, occurring as they may in a case of the ataxic variety, make a differential diagnosis from locomotor ataxia difficult. The Argyle-Robertson pupil (which contracts in accommodation but not to light) has not been seen in in alcoholic cases, while it is an early symptom of tabes.

One feature of alcoholic paralysis remains to be noticed, namely, the cerebral symptoms. These are hardly ever wanting. There is at first the excitement rising to the degree of active delirium, with illusions and hallucinations of the various senses; there is the insomnia, which so soon exhausts the patient if it is not remedied; there is the loss of memory, especially of recent occurrences; and the lack of power of attention or concentration, which prevents intelligent conversation. The indifference to bodily wants may be so great as to lead to uncleanness, and since paralysis of the sphincter is the rare exception, incontinence is usually to be ascribed to the mental state. It is useless to attempt to get any reliable history of their illness from these patients. Their statements are unintelligible or unreliable. And here it may be well to notice a symptom first remarked by Strümpell. These patients will relate occurrences as having happened recently, with much elaboration of detail, when, as a fact, the story is entirely a product of their imagination. Thus, one patient of my own, who has

been confined to bed for many days, told me one afternoon that she had been out to see an eminent gynecologist during the morning; had gone to his office and waited for him several hours; had seen other patients there, and finally had been told by the doctor's brother that he would not return in time to see her, so she had come home again. And this was all related in apparent good faith, so that I have no doubt that she believed that what she said had occurred. With the possibility of such delusions in view, it is evident that the statements of these patients cannot be accepted regarding anything, especially as to their own history.

One patient, who was admitted to Bellevue Hospital during my service there, told me a different history of her case, every day for a week; and it was only by interviewing her friends that the correct account was obtained.

The course of alcoholic neuritis is quite uniform. After a sudden onset the symptoms rapidly advance to a high degree, which is reached in a week or two from the beginning of the paralysis or ataxia. Then they may increase further, and cause death by respiratory paralysis. Usually they remain stationary for a time, and then gradually subside, the entire duration being from two months to a year. Individual muscles regain their power, tone, firmness, and electrical reaction slowly, and during recovery the tingling and numbness in hands and feet may be severe. In a few cases the muscles become contracted, and permanent deformities, only to be overcome by long-continued massage, or by operative measures, develop. When the fact is considered that those who recover rapidly, rarely fail to resort again at once to the use of stimulants, and thus expose themselves to the danger of a relapse, the ultimate fate of the chronic cases is hardly more serious than that of those who get well.

Examples of the paralytic form were cited.

(b) *Multiple neuritis due to poisoning by arsenic.* It has long been known that an occasional result of arsenical poisoning is the development of paralysis, but it is only within the past four years that the fact has been determined that the symptoms in these cases are due to an affection of the peripheral nerves. Had the fact of the peripheral origin of alcoholic paralysis not been already proven, it is probable that the theory so long in vogue, that arsenical nervous symptoms were due to spinal lesions, would still prevail. But there is such a similarity between the two sets of cases, that it is impossible to ascribe them to other than the same pathological condition. Autopsies in support of the position that the peripheral nerves are involved, are few in number, but in several cases the lesion has been found. The observations on record of spinal lesions are, it is true, more numerous; but when these are compared it is found that different lesions have been discovered in different cases, so that there is no single pathological change in the spinal cord which is constantly produced by arsenic. Further, some of the changes described in experimental cases in animals (namely, vacuolization of cells) are due to imperfect hardening of the specimens. It must, therefore, be admitted that multiple neuritis may be due to arsenical poisoning.

The changes produced in the nerves are so exactly similar to those already described, that there is no need of a recital of the pathological process.

The nervous symptoms produced by arsenic have

²Brissaud, Des Paralysies toxiques, p. 31. Paris, 1886.

been thought to vary somewhat, according as the ingestion of the poison has been a sudden or a gradual one. Brissaud claims that if there is slow poisoning, as for example, by the long-continued use of Fowler's solution, paralysis is rather the exception, and is not severe—it is diffuse and transient; while other symptoms, such as gastro-enteritis, trembling, delirium, and aphasia attract the chief notice. If there is acute poisoning from an overdose of arsenic, he holds, on the other hand, that paralysis ensues either during the period of active symptoms of poisoning, or soon after. The observations of other equally careful authors do not entirely support this view of Brissaud; for in two cases of Dana, one of acute, the other of chronic poisoning, very similar symptoms of paralysis and ataxia developed.

The description which has been given of alcoholic paralysis might almost be repeated for arsenical paralysis. There is the same limitation of the affection to the muscles of the distal parts of the extremities, the extensors being chiefly affected, and the weak muscles are flaccid, soft, and atrophied. There is a partial reaction of degeneration. The tendon reflexes are abolished; skin reflexes are preserved. There is often a marked tremor. The paralysis may begin either in the feet or in the hands, is usually bilateral, but has been in four cases of the hemiplegic type. The same dropped wrist and dropped foot are seen as in alcoholic cases. Disturbances of sensibility are prominent symptoms; burning, tearing, shooting pains; formication, tingling, muscular, and arthritic pains and tenderness are associated with hyperæsthesia, and this may be followed by irregular patches of anæsthesia. The muscular sense is usually impaired, and so much so in some cases that an attempt has been made to establish a distinct class of cases as arsenical ataxia, or pseudo-tabes arsenicale. In these cases the incoordination of hands and feet—Romberg's symptom—and an awkward gait are very noticeable, so that tabes may be suspected until the history makes the causation evident.

(c) *Multiple neuritis due to poisoning by lead.*—It is not my purpose to enter upon any description of the various forms of lead palsy, which are familiar to every practitioner. Nor is this the proper place for a discussion regarding the various theories of the pathology of the disease. It is only necessary to call attention to the fact that there are now on record a number of autopsies in cases of lead paralysis in which the lesion has been found in the peripheral nerves. In a recently published case of Schultze there was found a very marked atrophy and disappearance of nerve-fibres in the trunk of the musculo-spiral nerve, below the point where the branch to the supinator longus was given off. This decreased in intensity centrally, so that at the brachial plexus no anomaly was found. It increased in intensity toward the termination of the nerve in the muscles. The spinal cord was normal. This is simply a type of a number of recently published cases. On the other hand, there are numerous cases of this disease in which decided spinal lesions have been found—so numerous that many writers ascribe the disease always to destruction of certain groups of cells in the anterior cornua of the spinal cord. It must be admitted, therefore, that in lead we have a poison which, under certain circumstances, affects the spinal cord, and under other circumstances produces neuritis.

II. MULTIPLE NEURITIS CONSEQUENT UPON INFECTIOUS DISEASES.

There are a number of infectious diseases which are especially liable to be followed by the development of nervous symptoms. These are diphtheria, variola, typhoid, typhus, and scarlet fever, malarial fever and tuberculosis. The nervous affection usually appears shortly after the period of convalescence in the acute fever. The disease may consist of a simple paralysis of the muscles in the region of distribution of a single nerve. It may affect several nerves on both sides of the body symmetrically. It may even paralyze two or more limbs. It occasionally produces sensory as well as motor symptoms in a single nerve-trunk. It may even cause a general sensory and motor paralysis of as widespread and complex a kind as that produced by chronic alcoholism. Sometimes the symptoms are chiefly of a sensory kind, and consist exclusively of pains, numbness and anæsthesia, or hyperæsthesia, in the legs, or of a loss of the muscular sense, in which case a true ataxia is the most noticeable symptom. Thus it is evident that the poison of an infectious disease may act as powerfully upon the nervous system as any other form of poison known.

It is only since the clinical pictures presented by multiple neuritis have been recognized that a question has arisen as to the part of the nervous system affected in these cases. Formerly all such phenomena were referred to central lesions; and undoubtedly in many cases this was justified, since autopsies are not wanting to prove that anterior poliomyelitis, diffuse myelitis, and hemorrhages into the cord and brain may follow the acute fevers. There are, however, many conditions which do not correspond to the types of disease produced by central lesions, and which recover with a rapidity impossible were the brain or spinal cord involved. It was these cases which raised the question of some possible affection of the peripheral nerves. And careful investigation has been rewarded by the actual discovery of lesions in them.

(a) *Diphtheritic paralysis* is probably more common than any other of these forms of neuritis. As is well known, it is usually the soft palate to which the paralysis is limited, and, as a result, difficulty in swallowing and in speech are the most prominent symptoms. Bernhardt has found that in the large majority of cases of this kind there is a loss of the patella tendon reflex, but whether this indicates any general affection of the peripheral nerve he does not venture to state. The limitation of the paralysis to the palate has been explained by supposing that the poison of the disease has a direct action upon the terminal filaments of the nerves, which, in this position are, as it were, dipped constantly in the poison. This theory is supported by a case in which paralysis of the abdominal muscles was associated with diphtheritic inflammation of the navel in a new-born child. But the more serious cases prove that through the blood the poison may be carried to nerves far removed from the seat of the diphtheritic inflammation.

The prognosis in cases of diphtheritic paralysis is usually very good, the fatal cases here cited being rarities. The treatment consists in general tonic medicines, and the application of electricity to the limbs in the same manner as in other cases of neuritis.

(b) *Neuritis following variola* is a rare complication, and but one, the following case, is the only one

on record in which an autopsy proved the seat of the lesion.

Observation XVII.—A young man had varioloid in November, 1881, and while convalescing, six weeks later, began to suffer from severe pains in his four extremities, especially in the joints of his arms, which were diagnosticated as rheumatic, although there was no fever. Soon after there followed a true paresis, with progressive atrophy of the muscles of forearms and legs. The muscles at the same time became very tender to touch or pressure. The tendon reflexes were much diminished. Reaction of degeneration developed in all the paretic muscles. The pains in the joints and limbs continued, but were less severe than at the outset. The sensibility of the skin was about normal. The nerve-trunks were tender to pressure. Profuse, offensive perspiration in all four extremities was a distressing symptom. There was no tendency to bed-sores, but an extensive pemphigus developed in the legs, and then the pains became more severe. The patient died in July, 1882, of pneumonia.

Autopsy showed the brain œdematous, and the cord in a state of 'hypostatic congestion.' The pathological changes of importance were found in the nerves and muscles. The majority of the nerves of all the extremities were found in a state of degeneration and atrophy. There was marked degenerative atrophy and fatty degeneration of the muscles.

(c) It is still somewhat a matter of conjecture whether cases of paralysis following typhoid, typhus, and malarial fevers, are due to an affection of the peripheral nerves or of the spinal cord. The researches of Pitres and Vaillard³ have shown that extensive degeneration of peripheral nerves is to be found in the bodies of patients who have died of typhoid fever, and they have also demonstrated that these fevers are often followed by local neuritis as a sequel. Cases of multiple neuritis with autopsies have not as yet been reported after typhoid or typhus; but Buzzard has recently recorded⁴ two cases, following malarial fever, in which all the symptoms pointed to an affection of the peripheral nerves. In this country Gibney has described several cases of paralysis of the extremities, of sudden onset, rapid course, and prompt recovery under large doses of quinine, which he considered malarial.

(d) We come, lastly, to those cases of multiple neuritis which occur in tubercular patients, or in those who have had syphilis. If a review of the cases of multiple neuritis already cited be made, it will be found that quite a number of the patients died of phthisis. This was true of the cases of Joffroy, Eisenlohr, Strümpell, Webber and Müller. Oppenheim has reported cases of multiple neuritis in tubercular patients, which went on to recovery.

Although syphilis has been described as a cause of neuritis, I cannot find that the lesion in the few cases examined has had the peculiar characteristics of syphilitic lesions elsewhere in the body, and therefore it seems to me doubtful whether we are justified in describing a syphilitic multiple neuritis. Further facts are needed to establish its existence.

(e) It only remains to consider briefly the epidemic form of multiple neuritis, and our study of the infectious cases will be complete.

In 1882, Professor Scheube, of Tokio, Japan,

called the attention of European physicians to the existence of a peculiar affection prevailing among the Japanese. It was called kakke; from two Chinese words, kiakke, meaning legs, and ke, meaning disease. It had been known among the Chinese for centuries, being mentioned by name in Chinese medical books written two hundred years before the birth of Christ, and fully discussed by an eminent author in 640 A.D. It ceased, however, to prevail in China about two hundred years ago, and its ravages are now confined, according to Scheube, to Japan. There its importance is considerable, since it is so prevalent that in 1877, fourteen per cent., and in 1878, thirty-eight per cent., of the men serving in the army, suffered from it. It is considered a miasmatic infectious disease by Scheube, although an eminent Japanese authority considers it due in some way to the diet of rice. That diet has something to do with its occurrence is proven by the fact, communicated to me by Dr. Wallace Taylor, that since wheat has been substituted for rice in the diet of some of the barracks and prisons in Japan, the disease has been less common. It occurs in epidemics, but is always endemic in Japan. It does not attack Europeans. It affects females rarely, only nine per cent. of the cases being in women; and it is the youth of the land, between the ages of sixteen and twenty-five, who are attacked. Exposure to damp and cold in crowded dwellings, such as barracks, increases the liability to the affection. The majority of the cases occur during the hot months, but some are always under observation. This disease is not, however, confined to Japan. It has been observed for many years in the islands of the Pacific Ocean, in India, Ceylon, on the west coast of the Red Sea, in Borneo and New Guinea, in Brazil and Cuba, and its prevalence in the Dutch possessions in the China Sea has made it familiar to physicians from Holland who have visited these colonies. It is there known under the name of beriberi. It is endemic in these regions, but occasionally occurs as an epidemic. An interesting account of such an epidemic, occurring in 1882-83, in Manila, the chief city of one of the Philippine Islands, has been given by Dr. Koeniger. It appears that in the fall of 1882 an epidemic of cholera occurred in Manila, of such severity, that twenty thousand persons, in a population of four hundred thousand were affected. As a precaution against this disease, the native population lived for several months almost exclusively upon rice, refusing to eat fruit or fish, which are their other chief articles of diet. As the epidemic was subsiding, a terrible cyclone devastated the city, destroying the light wooden houses, and leaving sixty thousand families homeless; and these poor people were exposed for several weeks to the inclemency of the weather, which at this time of the year is rainy. A few days after the cyclone, the epidemic of beriberi began, and as the disease had never before appeared in Manila, the unknown affection excited great alarm. This was increased by its fearful mortality, sixty per cent. of the early cases proving fatal. Europeans were exempt, with two exceptions, and the Chinese population did not suffer greatly, but among the natives the epidemic was widespread. Thus, in one suburb of Manila, of twenty-five thousand inhabitants, three hundred died in the course of eight weeks. Men and women were equally affected, and persons of all ages, except young children, were attacked. The disease terminated fatally in from ten

³ Rev. de Méd., 1884, p. 986. Des Névrites périphériques.

⁴ Paralysis from Peripheral Neuritis, p. 104.

days to five weeks after its onset; but as time went on the proportion of recoveries increased, and by the end of March, 1883, it had almost disappeared. The months from October to March are the dry, cool season in the Philippine Islands, although the climate is tropical. Exposure to heat could hardly be considered a cause of this epidemic, but whether the exposure to cold and damp, or the diet of rice, or the transportation of some infectious agent by the cyclone was the cause, gave rise to much discussion, and could not be determined.

Sporadic cases of beriberi, or kakke, occasionally appear in our hospitals, usually on the persons of Chinese or Malay sailors, or on the persons of travellers from tropical climates, who have been exposed to the infection in the place from which they came. Three such cases have recently been reported by Dr. Seguin, of this city, in patients who came from the West Indies, and a case observed in Bellevue Hospital, by Dr. J. West Roosevelt, was discussed in the Academy of Medicine recently. In 1881, a Brazilian naval vessel entered San Francisco with a large number of the crew affected by the disease. They were sent to the United States Marine Hospital, and attended by Dr. Hebersmith, who gave an interesting account of the circumstances leading to the development of the disease, in the United States Marine Hospital Report.

Only last year a commission was appointed by the Dutch Government to investigate the subject of its nature, and the recently-published report contains the following statements: The disease is caused by a microorganism resembling the bacillus of splenic fever, though somewhat smaller, which color with fuchsin and gentian-violet, and can be seen with a power of 560°. These bacilli are found in the blood, lungs, heart, brain, cord, and nerves of the patients, and can be cultivated outside of the body. The germs infect wooden dwellings chiefly. They may be conveyed by articles of clothing, and probably enter the body by the lungs. Direct contagion has not been observed. A potent predisposing cause to their reception in the body and to the development of the disease, is lack of nutrition consequent upon exposure to damp and to cold, and upon insufficient or bad food. It must, however, be added that a most thorough examination in Dr. Roosevelt's case, by Dr. Prudden, failed to reveal the presence of such bacilli.

In the light of these recent investigations, a new view is taken of an epidemic of a peculiar kind which occurred in France in 1828. Buzzard has found an account of this, prepared by Graves, in which the symptoms are so fully detailed as to leave no doubt that it was an epidemic of multiple neuritis.

The cases of beriberi are divided into two general classes, according to their severity.

There are, first, slight cases, in which the onset is gradual, being usually preceded by a little fever, coryza, and conjunctivitis, which cease when the actual symptoms commence. The patient first notices a weak and heavy feeling in his legs, and finds that he tires so easily that he cannot walk as much as usual. The tired feeling is soon associated with numbness and pain in the legs, and with a slight oedematous swelling. Then, if not before, palpitation of the heart, oppression and weight in the epigastrium, loss of appetite, and general malaise are felt, and the patient finds it necessary to apply for treatment. An examination

then shows some diminution of power in the feet and legs, and also in the hands, with loss of tendon reflexes, and much tenderness in the muscles, which show a diminished electric excitability. There is never any ataxia, though the patient sways when his eyes are closed. There is discovered a slight degree of anæsthesia, of irregular distribution, chiefly in the legs and in the radial-nerve region on the forearms. Though the patients look pale, it is usually impossible to find anæmia by examination of the blood. The circulation in the extremities is sluggish. The heart is irregular and rather rapid, and the œdema of the extremities indicates a failure of its power. Dr. Wallace Taylor finds that a sphymographic tracing is characterized by a sudden high upstroke in ventricular systole, by a precipitous descent from the apex of the percussion wave, and by dirotism. Beyond this point, these cases, which make up the majority, do not advance. They usually recover in a few days, or, at most, a month, although a few become chronic, and require several months before the cure is complete. There are, secondly, severe cases. These may present three different types: There is the atrophic or dry type, in which, after an onset similar in nature to that in the slight cases, but much more rapid, the weakness develops into a true paralysis, associated with marked wasting of the muscles and reaction of degeneration, with great diminution of galvanic excitability. Within a week the patient has to go to bed, and then the paralysis soon spreads from the legs to the arms, and may involve the trunk, and even the face. The entire muscular system wastes away, till the patient is a mere skeleton. In addition to the motor symptoms, there is great sensory disturbance. The suffering from pain, paræsthesiæ, and general muscular tenderness, is extreme, and the patient lies totally helpless and unable to tolerate the lightest touch. The skin may be glossy. There is usually some anæsthesia, but it is never complete, although it may involve the entire body. The temperature-sense is seldom affected. Pain may be delayed in transmission. There are no gastric symptoms, and no œdema. Some cases prove fatal from general exhaustion or intercurrent disease, but the majority recover after a convalescence which lasts a year or more, during which the muscular system is rebuilt.

There is, secondly, the hydropic or wet type. In these heart-failure appears early, and is associated with a marked decrease of arterial tension and much œdema of the entire body, effusion into the cavities being added to that beneath the integument.

The swelling of the oedematous parts conceals the atrophy which is going on in the muscles, but this is indicated by the paralysis, which is as severe as in the preceding form, and it becomes evident during recovery, when the œdema has subsided.

There is, thirdly, the acute, pernicious type. In this all the symptoms of the two former types appear in rapid succession, and, in addition, gastro-intestinal symptoms and a suppression of urine combine to make the condition an alarming one. Effusions into the pleura and pericardium appear early. The pulse becomes small and irregular, and cyanosis indicates the heart-failure which precedes death.

In this form, the disease may run its course in two weeks to a fatal termination. This was the form which chiefly prevailed in Manila, the cases of the atrophic form being the ones which recovered.

The severity differs much in different epidemics, the mortality varying from two per cent. in Japan to sixty per cent. in Manila. It is usually not above three per cent. In all the forms there is some danger of a sudden heart-failure, and this is usually the cause of death.

The morbid anatomy of this disease is, primarily, a multiple peripheral neuritis, with, secondarily, numerous organic changes in various organs, none of which, however, are essential to the disease.

While we cannot join in the wish expressed by an enthusiastic German author, that the disease may soon become a familiar one to those outside of Japan, we cannot pass it by without a brief reference, especially as it resembles in so many of its features, as well as in its pathological basis, the condition which has occupied our attention at present. And it may not be unprofitable to obtain a clinical picture which differs somewhat from that already viewed, in connection with the forms more familiar to us, in order to detect sporadic cases of the disease, if such should appear among us. As to its treatment, it may be mentioned that quinine failed to influence its course, and that heart stimulants to combat the dangerous complications, hypnotics to counteract the pain and insomnia, and general tonic treatment have proved of the greatest service. Change of climate often is attended by recovery. In the stage of recovery, electricity and massage have been employed with advantage.

(To be continued.)

Original Articles.

PERSONAL EXPERIENCE IN THE TREATMENT OF CANCER.¹

BY J. COLLINS WARREN, M.D.,

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I HAVE chosen this title for my paper this evening, not with the intention of bringing before the Society any new or original mode of dealing with this disease, nor of presenting any carefully-tabulated series of cases, but simply for the purpose of recording a few of the conclusions which I have arrived at, in the hope that they may not be without interest to others.

I regret to say that I have no data which throw any light on the etiology of this disease. It may not be out of place, however, to notice a few facts bearing upon this point which the literature of this subject affords. The influence of locality seems to be not without its effect upon individuals. A notable example of this has been observed in the cobalt mines of Schneeberg, where all the men, who work a certain number of years in the mines, die of lympho-sarcoma of the lungs, but none of the persons employed in the neighborhood are affected with this disease.

It has been said that in tropical climates cancer is much less frequent than in the temperate zone, but I have not had an opportunity of studying any statistics bearing upon this point. It is stated that Dr. Haviland has found from statistics that, while high and dry lands are free from cancer, the courses of large rivers subject to seasonal overflow are hot-beds of cancer, the inference being drawn that the organisms of cancer

thrive only or chiefly in moist districts, or in the tissues of those who reside in moist river districts.² So far as I am aware, no such geographical distribution of cancer has been observed in New England.

It would exceed the scope of this paper to endeavor to accumulate evidence upon the origin of cancer from injury or inflammation. Examples of cancer following a continual irritation are sufficiently numerous, as in the lip, to justify the assumption that there may be some relation between the local irritation and the new growth. One of the most malignant forms of cancer of the breast that I have seen, dated its development from a blow. The patient was a healthy and finely-developed Irish servant-girl, under thirty years of age. She received a severe blow from a base-ball, and the inflammation thus produced left a hardness, which did not disappear. So rapid was the growth, that an exploratory incision was needed to confirm the diagnosis of cancer.

A chronic balanitis, with thickening of the prepuce, due to an attempt on the part of a patient to cure a phymosis with a razor, was followed by an epithelial ulcer in the sulcus, below the corona. Excision of the ulcer in this case had not been followed by a return of the disease when the patient was seen a year or two later.

On the other hand, there may be a chronic inflammation of an organ, frequently attacked by cancer, which may continue for a long time without the development of any malignant growth. More than one case of chronic mastitis, with inversion of the nipple and a gland in the axilla, have been sent to me for a diagnosis, which have terminated either in resolution or suppuration. In two cases at present under observation, the inflammation appears to have been caused by the malformation of the nipple which had always existed.

We hear less of the influence of heredity in cancer to-day than did the students of twenty years ago; an example given by Sir James Paget is, however, sufficiently striking to quote: A lady died with cancer of the stomach; one of her daughters died with cancer of the stomach, another with cancer of the breast; of her grandchildren, two died of cancer of the breast, two of cancer of the uterus, one of cancer of the axillary glands, and one of cancer of the rectum. An almost equally marked example is furnished in the case of Miss B., reported below. I have, however, little faith in hereditary tendency, at least, so far as cancer is concerned.

CANCER OF THE FACE.

It has been the fashion, particularly in England, to divide cancer of this region into two varieties, namely, cancer of the lip and rodent ulcer.

The great variety of growths placed in the latter category present essential differences, both in development and outward appearance. In many the ulcerating type is absent. They all present a mild type of malignancy, although there may be great variations in this respect within certain limits.

It has been stated that these growths occupy the region of the face situated above the line of the mouth, and this is undoubtedly the case, as a rule. I have, however, at present under treatment a case of epithelioma of the rodent type upon the chin, and have observed them even upon the neck, behind the ear.

¹ Read before the Boston Society for Medical Improvement, January 24, 1887.

² H. T. Butlin, *International Encyclopedia of Surgery*, Vol. IV.

That variety which is usually developed from the epithelial layers of the skin, and frequently accompanied by that condition of the skin of the face and hands known as *keratosis senilis*, is apt to be multiple, and some of these growths may become quite voluminous. Both this variety and that which springs from the sebaceous glands may, at times, assume the ulcer type, though this form does not seem to belong essentially to either.

I am inclined to agree with Mr. Hutchinson's view, that locality has a strong influence upon type. The ulcerating form is most frequently seen near the nose and eyelids; the papillary or tuberosus form more frequently on the cheeks and temples. The crateriform ulcer recently described by this author is an example of an active-cell growth, with consequent central degeneration. It is one of the most exuberant and active types of the so-called rodent ulcer family. A very perfect example of this disease I had the opportunity of watching from its early stages recently. At first a nodular mass was seen on the right temple, about the size of a small nipple. The centre was slightly umbilicated. A sudden increase in the rapidity of growth, with corresponding increase in the size of the central depression, developed its crater-like appearance, and necessitated active surgical interference.

Examples of the multiple growths are not uncommon. Mr. J. B. M., a gentleman sixty odd years of age, has been under my observation for ten years, during which time a very large number of epithelial growths have been removed from the face and hands, some of considerable size. During this period he has also been under Dr. White's care for a very striking form of *keratosis*. One of those curious freaks of which many diseases are capable has occurred within the past year. Last summer he had a small growth removed from the eyebrow. A larger growth of epithelium was beginning to form on one ear, and a fresh outbreak of the disease appeared imminent. A sudden and marked improvement began about three months ago, and his face and hands appear to be entirely free from *keratosis*. He attributes this change to the persistent use of vaseline at night.

I have had but little experience with the use of caustics, as I find little difficulty in persuading patients to resort to more radical measures. Very small growths may be destroyed by an application of nitric acid, or boring with a pencil of nitrate of silver.

When not of minute size the question of deformity becomes the most important one in determining between excision or the curette and cautery. Small epithelial growths or ulcers may be neatly removed by excision. A linear wound, held together by two or three stitches, needs no dressing and unites by first intention. If the sutures are removed early the scar will soon be difficult to find. The cautery will be much more likely to leave a visible scar in the shape of a smooth and white and slightly depressed cicatrix. If, however, the disease is situated in some sharp angle of the face, as in the neighborhood of the nose, it is difficult to be as economical of tissues with the knife as with the cautery, and the use of sutures is liable to bring the edges of the wound together in a way which will produce more deformity than when nature herself is allowed to borrow skin from all directions. A prominent ridge near the nose or eye may be avoided by allowing the wound to heal by granulation.

When larger wounds are necessary, an attempt at healing by first intention will cause some constitutional disturbance which may not be desirable in old and feeble individuals. The cautery leaves an open wound protected by an eschar, and subsequent pain and fever are rarely observed. Ordinarily these wounds need no dressing for the first few days, and when of considerable size may heal by scabbing. Occasionally there may be a secondary hemorrhage, which is usually a slight affair and easily checked, but it is likely to alarm the patient and necessitate an uncomfortable bandage. In extensive disease or irregular-shaped growth of the face, however, it causes far less deformity than the knife. The curette should always be used with the cautery, as the soft superficial masses of epithelium are readily removed in this way; the finger-like projection of epithelium into the subjacent fibrous stroma can be readily attacked by the hot platinum. The curette should never be used alone even in the smallest growths, for there is almost in every case a projecting off-shoot of the disease penetrating the denser tissues which will escape the instrument. The stick of nitrate of silver may be substituted for the cautery in such cases.

A striking instance of the advantages of the cautery (Paquelin) has recently occurred to me. The disease had involved the integuments of one side of the nose and an adjacent portion of the cheek, and had begun to invade the opposite side. One ala was entirely destroyed, and the part above the inner canthus of the eye, a dangerous locality from a prognostic point of view, was on the point of being invaded. A thorough use of Paquelin's cautery, under ether, completely removed the growths at one operation and the nose is now covered with a clean and smooth cicatrix. No pain or constitutional disturbance was experienced at any time by the patient, who was seventy-five years of age. For several days the eschar served as an excellent dressing, and no other was used until later.

Since the introduction of cocaine I have used it in several cases with satisfactory results. An ulcer on the chin, about the size of a half-dollar, was cauterized without pain, although the epithelial masses penetrated quite deeply. No other assistance was given than that of the patient himself, who worked the bulb vigorously while the cautery was applied. It was necessary to use the subcutaneous injection of a few drops of a twenty per cent. solution at several points in the periphery of the ulcer. Alarming symptoms have been reported as following the use of three drops of a solution of this strength under the mucous membrane of the mouth. I have noticed on two occasions in this patient, symptoms of faintness and distress apparently due solely to the cocaine, but these have followed also the injection of a ten per cent. solution in the same individual. The anaesthesia has not been complete in this case, except after the use of the twenty per cent. solution. Where there is an ulcerated surface it can be painted over with one of the weaker solutions with good effect. It promises to replace ether in a certain number of cases.

The care of the skin is an important feature of these cases. The epidermis must be kept in a soft and pliable condition, and not allowed to accumulate. Various substances, as salicylic acid or zinc in vaseline as a vehicle, may be applied after washing with appropriate soap. The liability to recurrence varies, of course, with the progress the disease has made, but

some cases recur with obstinacy even when removed at an early stage. An example of this characteristic is shown in the case of Mrs. P., aged about sixty, from whom I removed a nodule on the bridge of the nose, in 1872. A suspicious scab was removed shortly after, but the microscope failed to detect any cancerous cells in it. The disease returned in about eighteen months, and before she could make up her mind to another operation, had involved the integuments of the whole bridge of the nose. It was thoroughly cauterized under ether, but in a year or two it broke out again; treatment was continued until 1883, but as I was unable to promise a radical cure the patient finally abandoned treatment. She is, I think, still living with a well-developed rodent ulcer on this region.

As a contrast to this case, that of Mr. S., eighty-two years of age, may be mentioned. He was operated upon in May, 1882, for an extensive ulcer at the outer canthus of the right eye, involving the conjunctive and some of the tissues of the orbit. Although the sight of the eye has been destroyed there has been no return of the disease. He has consulted me since for several small nodules near the lid of the left eye.

CANCER OF THE BREAST.

The favorable results which have attended a more radical operative treatment of this affection have given encouragement to surgeons to hope for cure in many cases which formerly were thought suitable only for palliative measures.

The rule has been laid down by some authors that in all cases there should be a thorough dissection of the axilla, whether glands are felt there or not; and some, notably Dr. S. W. Gross, of Philadelphia, recommend a more extensive removal of the tissues of the breast, leaving often a wound which can only be healed by grafting.

The anticipation of glandular disease of the axilla, seems to me a very important step forward in the surgery of the breast. The lymphatic vessels and glands, which are the routes through which the disease travels, are destroyed, and isolation of the disease is more effectively produced in this way than in any other. Small glands may, moreover, already exist, which cannot be detected by the touch of the finger through the integument. It has been my experience to dissect out the pyramidal mass of fat which fills this region, and to find one or two nodules enclosed in its centre, which could not be felt before the operation.

The ordinary duration of this disease if left untreated is said to vary from six months to three years, taking the average of cases. With this period as a standard it will be seen that life is not prolonged in many cases by the operation. But a careful inquiry into the future history of hospital patients would, I think, bring out replies which would prove encouraging.

The following cases are selected as fair samples of what may be accomplished by the present more radical operation.

Eighteen months' immunity. Mrs. B., Amesbury, Mass., about sixty years of age. Disease had existed two months. A hard and voluminous cancer of the breast, with large glands in the axilla, extending as high as the clavicle. The breast was amputated and the axilla carefully dissected out, all glands having

apparently been removed. The case was not promising, and one which in former times I should have declined to operate upon. The operation was performed July 9th, 1885, and Dr. H. G. Leslie writes me at present date that there is no evidence of a return of the disease.

Nearly two years' immunity. J. D., about forty-five years of age, was operated upon at the Hospital, March 29th, 1884; she had had a tumor nine months, at the time of the operation it was the size of an orange. The records state that no axillary glands were removed, although the cicatrix was seen to extend two or three inches beyond the edge of the pectoralis major when she was examined on her return to the hospital last week, for the removal of a small nodule in the cicatrix, at the axillary end, about the size of a coat button. No glands are felt in the axilla. The microscopic examination by Dr. Whitney showed the original tumor to be a medullary cancer.

Two years' immunity. Miss B., about forty years of age, was operated upon in December, 1884. Had first noticed a tumor in breast the previous winter, but had noticed an eczema of the nipple in 1883. A careful dissection of the axilla was made in this case, although no glands were felt. On opening the mass of fat removed, one small cancerous nodule was found in its centre. Inquiry of her physician, Dr. C. P. Putnam, last December, elicited the fact that no return of the disease had been reported at that date.

An interesting feature of her history was the prevalence of the disease in her family. Her maternal grandmother died of cancer of both breasts at the age of thirty. A maternal aunt died of cancer of the breast. A cousin on mother's side died of cancer of the rectum. Aunt on father's side was operated upon at the Hospital in 1883, for a cancer of the breast.

Two and a half years' immunity. Miss J., Haverhill, Mass., was operated upon in June, 1884. The breast was very voluminous and the cancerous nodule was small and situated near the sternal boundary. Nevertheless, the incision was carried into the axilla and a portion of the axillary fat removed. I have seen the patient quite recently; her health is excellent and she is able to attend to all her duties, which are quite onerous.

Three years' immunity. Grace M., forty-five years old, was operated upon at the Hospital in July, 1883, for a scirrhus of three years' standing, which had not involved the axilla. The tumor had slowly increased in size during this time and the nipple was extracted. She was seen last Spring and carefully examined, the parts being found in a perfectly healthy condition. Her health is good, and she has been in active service since the operation.

Two other localities which are occasionally the seat of cancer may be briefly mentioned in this paper.

CANCER OF THE RECTUM,

would not appear to me to be of so frequent occurrence in this country as in England or the continent of Europe, comparing my own experience with the statistics of foreign writers. The worst form of this disease which I have met with has been in the cases of two young women.

The first case was a woman twenty-three years of age. The symptoms were of one year's standing, when she entered the hospital. The patient suffered

great pain in defecation, but the anus was not involved, the disease being wholly within the rectum, which it nearly filled with a very dense mass of tissue. An incision through the disease and sphincter was performed with but temporary relief, and a few weeks later lumbar colotomy was performed, which gave considerable relief, which continued until her death about nine months later.

The second case was a lady about thirty-five years old, with a voluminous growth springing from the anterior wall of the rectum, and filling out the perineum. The pain in this case seemed to be due largely to the growth of the mass, and was largely in the hip. There was also tenesmus and frequent desire to defecate although no obstruction. An active application of the actual cautery was made, as it was feared that colotomy would not relieve the symptoms in this case. The operation freed her from pain, but she sank and died apparently from no special inflammatory process, about three weeks later.

Attempts at extirpation have been quite unsatisfactory, and I am inclined to advise as little interference with the disease locally as possible, unless it be seen at a very early stage. But such a case has never presented itself to me. Indeed, I have never seen one where it seemed mechanically possible to remove the whole growth.

Colotomy is a palliative operation in certain cases, but not by any means in all; for those near the anus it may relieve the acute local pain; for those higher up it is only indicated in case of marked obstruction which, however, does not always occur.

CANCER OF THE ŒSOPHAGUS.

My experience with dilatation of the stricture produced by the disease in this locality has not been encouraging. The painful nature of the treatment and the rapidity with which obstruction occurs on its discontinuance, make this a method unsatisfactory to both surgeon and patient. On one occasion, an attempt to pass the ivory probang in a very old lady with cancerous stricture, although made with great care and gentleness, was followed by death of the patient three days later. In another case, the persistent and most careful use of the bougie, although it kept the stricture from closing entirely, did not prevent great irritation of the œsophagus from obstruction. Considerable inflammation occurred around the locality of the disease, tracheotomy was performed, and at the autopsy, some weeks later, perforation of the œsophagus was found, with the production of which, of course, I had the privilege of being accredited. In a case which has been under treatment during my present service at the hospital, I have accordingly tried the operation of gastrostomy. Until the termination of the case it will not be possible to express an opinion on its merits and disadvantages. The management of the fistula requires an amount of intelligence which the average hospital cannot always be depended upon to possess.

The use of a flexible tube permanently retained in the œsophagus offers certain advantages over either of the other methods, which would incline me to give it a trial.

In regard to the efficacy of drugs in the treatment of cancer, I have had no positive results.

Arsenic has been tried repeatedly in cases of lympho-sarcoma, without the slightest success. In a

recent case of this disease an exploratory incision was made, and since the wound thus made has healed, the tumor has slightly decreased in size. This result may have been due to severing some of the vascular connections of the tumor. I have used chian turpentine also in several cases, without any effect, in cancer of the breast, of the œsophagus and rectum.

The recent publication by Mr. Clay, of cases of successful treatment of cancer of the lip, tongue and uterus, has again called attention to this drug, and the mode of administering it is accordingly given here. Mr. Clay maintains that physicians are too easily discouraged, and that its administration should be continued through the period of at least three months, in order to obtain favorable results.

The mixture which Mr. Clay recently recommended was the following:

Chian Turpentine	. . .	3 iss
Flor. Sulph.	. . .	3 i.

Divide into thirty pills.

Magnesia should not be used as an excipient, and they should not be coated.

Two pills should be taken three times a day for three weeks; then three pills three times a day, or twenty-seven grains of chian turpentine daily. They should be taken about one-half hour after eating; after being taken for three months, they should be discontinued for three days in every fortnight. Messrs. Metcalf & Co. write me, "The mixture he had made contained five grains of the chian turpentine and two grains of sulphur to the teaspoonful, made up with mucilage of tragacanth. The pills have been much used, but the mixture being rather unsightly and not agreeable to the palate, has fallen out of use." The "Southall" mixture, which he has recently advised, contains resorcine instead of sulphur, but its composition I have not been able to ascertain. I have myself used the following combination:

R.	Chian Turpentine.	
	Resorcine	. . . aa 3 ii.
	Muellag. Gum Acac.	. . . 3 ii.
	Aq. Cinnam.	. . . 3 i.

Sig. Teaspoonful three times a day.

If carefully prepared it is not a disagreeable mixture, but most patients prefer the pills.

I am one of those who are hopeful that a bacterial study of this affection may further our knowledge of its etiology, and pave the way to a more intelligent treatment. It may be that, like the treatment of traumatic infective diseases, this may be prophylactic rather than curative. But it hardly seems possible that with so rapid advances in surgical knowledge in other directions, we should still continue to remain nearly helpless to aid humanity affected with so terrible a disease.

THE SO-CALLED PHYSIOLOGICAL LOSS IN INFANTS.

BY CHARLES W. TOWNSEND, M.D.

It has been found that every infant loses weight during the first few days of life. To what is this loss due? Is it physiological or pathological? Can it be prevented, or, in other words, can this handicap of the infant in the race of life be removed? These are the chief questions that present themselves, and their solution has been aided by studies during my service as house-physician in the Boston Lying-in Hospital,

through the courtesy of the visiting physicians, and by statistics obtained from the records.

In this hospital there are records of the daily weight of each infant from May 1st, 1885. As the birth-weight is taken before the baby is washed and dried, it is evident that a portion of the loss in these, as in probably some other statistics, is accounted for by casix, liquor, mucus, and blood, with which the baby is more or less bedaubed at birth.

To determine this factor, four infants were weighed at birth, and again when washed and dried; in none of these cases was meconium or urine passed before the second weighing. The average loss was an ounce and a half, *avoirdupois* (47.5 grammes), the least being a little less than an ounce (25 grammes), the greatest about three and a half ounces (100 grammes). Another factor in this decrease of weight is, of course, due to the loss of other extraneous matter present at birth, that is, the meconium and urine; these, in a still-born child, were found to amount to an ounce and a half (45 grammes), but as fully half as much again was lost during delivery, the total amount is probably between two and three ounces. Bouchaud¹ gives the weight of meconium in a still-born child as 60 to 70 grammes. From the so-called physiological loss, then, must be deducted that due to removal of casix, meconium, etc., or three to five ounces, and the remainder will be the true loss of fluids and solids of the body over and above the gain by assimilation of breast-milk.

Leaving out the partly and wholly bottle-fed infants, the premature, and those who died or left the hospital within a few days, and those whose mothers had acute diseases, there were at the Boston Lying-in Hospital, between May 1st, 1885, and July 1st, 1886, 231 infants entirely breast-fed from birth till discharge from the hospital, generally on the fourteenth day; of these, 140 were from primiparous mothers, and 91 from multiparous mothers. It is the custom at the hospital to put the child to the breast generally at the end of from six to twelve hours. The breast is given regularly every two hours, and but once, and in some cases not at all, between 10 P. M., and 6 A. M. The following table is an analysis of these 231 cases:

	Infants of Primiparæ.	Infants of Multiparæ.
Average Loss	10.47 oz. (296 gms.)	8.90 oz. (253 gms.)
Day Weight was Less	Bet'w'n 4th and 5th day	4th day.
Per cent., who Reached or Surpassed Birth-Weight on 14th Day	60%	63%
Average Gain on 14th Day	-0.06 oz.	+0.20 oz.
Average Gain in those who Surpassed Birth-Weight on 14th Day	5.74 oz. (163 gms.)	6.06 oz. (172 gms.)
Average Loss on 14th Day in those who Failed to Reach Birth-Weight on that Day	7.61 oz. (218 gms.)	7.15 oz. (202 gms.)

Deducting one and a half ounces as the average loss from removal of casix as estimated above, the physiological loss is reduced to 8.97 ounces (247 grammes) in the infants of primiparæ, and 7.40 ounces (205.5 grammes) in those of multiparæ. It is seen by reference to the table that the loss is greater in the former than in the latter class, and that the former began to

gain weight a little later than the latter. The gain on the fourteenth day was, however, practically the same in both, as well as the proportion who equalled or surpassed the birth-weight. The fact that the flow of milk is generally later in primiparæ than in multiparæ, and also the fact that primiparæ are not so skilful in nursing, will explain the difference in the initial losses. That at the end of two weeks, however, this slight difference is done away with is interesting, and corresponds with the general idea that first-born children are, as a rule, as strong and healthy as those coming later.

Bouchaud² found that out of 54 cases, five did not lose — three of these being first-born children — and that the average loss in 21 normal infants was 100 grammes for the first two days, after which they gained, reaching the birth-weight on the fifth to the seventh day.

Odier³ gives a chart of an infant weighing 3,130 grammes at birth, sinking on the second day to 3,000 grammes — "*depression normales*" — which he attributes to loss of meconium, urine, and cutaneous evaporation, and reaching on the third day birth-weight — "*ligne de terre*."

Winckel⁴ states the average loss as 284 grammes. Henoch⁵ gives 200 grammes as the loss during the first three or four days. According to Hoffman, quoted by Evetzký,⁶ the return to birth-weight is on the fifth to the sixth day; and according to Bouchut, on the seventh day.

Schütz⁷ finds that the average loss of 27 males for two days was 188 grammes, and for 36 females 170 grammes, and that children of multiparæ lose less, and more quickly return to birth-weight than do the children of primiparæ.

Russow⁸ states the loss to go on for three days, and the original weight regained on the tenth day, and thinks that a loss always occurs. According to Siebold,⁹ quoted by the same author, the loss is 140 to 280 grammes; and according to Haake,¹⁰ the loss in the first twenty-four hours is one-twenty-fourth of the original weight.

Gregory¹¹ found that infants invariably lose; that of 45 breast-fed infants, 88% began to gain on the second or third day, and 12% after the third day, and that the loss in these two days averaged 203 grammes; that boys began to gain sooner than girls, and that a nourishing diet in the mother shortened the period of the loss. The average infant reached its birth-weight on the seventh or eighth day.

This loss is due, first, to the fact that for the first three or four days, milk is not secreted in sufficient quantity, or of proper quality, to nourish the child; and secondly, to the fact that the infant is not urged by nature to obtain more than a small quantity of this food, and, if not disturbed, spends most of the time in sleeping. In fact, it seems to me that this physiological loss must be greater in cases outside of the hospital, where the infant is not so systematically forced to take the breast, and actually shaken to keep it awake long enough to nurse.

² Loc. cit.

³ Recherchez sur la loi d'accroissement des Nouveau-nés, 1868.

⁴ Monatsschrift f. Geburtsk., Vol. XV., p. 337.

⁵ Vorlesungen über Kinderkrankheiten.

⁶ N. Y. Med. Jour., xxxiii., p. 172.

⁷ Schmidt's Jahrbuch der Med., Vol. 194, p. 219.

⁸ Jahrb. f. Kinderh., 1880-81, N. F., xvi., 1886.

⁹ Vide also Siebold. Monatsschrift f. Geburtsk., xv., p. 339.

¹⁰ Vide also Haake. Monatsschrift f. Geburtsk., xix., p. 337.

¹¹ Über die Gervichtsverhältnisse der Neugeborenen.

¹ De la mort par inanition et études Exper. sur la Nutrit. Chez les Nouveau-nés, Paris, 1861.

The colostrum, which serves a useful purpose at first as a gentle laxative — a fact denied by Bouchaud¹² — becomes detrimental if it continues in the milk beyond the normal time. To determine this fact in relation to the physiological loss, the milk of 20 women was examined under the microscope daily, or every other day for a week or more, and it was found that the colostrum-corpuscles disappeared, as a rule, on the fifth or sixth day. In one case, a multipara, in whose milk no colostrum was found on the third day, the infant's loss was only eight ounces. In another multiparous case, the colostrum was present till the ninth day, and the infant's loss was sixteen ounces. In the milk of a primipara, a good many colostrum-corpuscles could still be found on the thirteenth day; and the baby, who was entirely breast-fed, lost fourteen ounces. The mother appeared healthy, and had a good supply of breast-milk.

The average physiological loss in five children of multiparae, where the colostrum-corpuscles were absent from the milk by the fifth or sixth days, was ten ounces. These cases are, of course, too few to be of much value, but are, at least, interesting and suggestive.

J. Lewis Smith¹³ speaks of an infant six weeks old, who, after the first week, had never thriven, had vomited frequently, and was much emaciated. The mother's milk, which was apparently suitable in quality and quantity, showed, under the microscope, colostrum-corpuscles. A change to a wet-nurse was followed by rapid recovery.

That this initial loss always occurs with the rarest exceptions, notwithstanding the health and vigor of both mother and child, shows that it is physiological at least in the present state of civilization. Whether it occurs among savages I do not know, but the observations of Kehrer¹⁴ on the lower animals are extremely interesting. He weighed once or twice daily, from birth, some 10 puppies, 28 kittens, and 17 rabbits. All of these gained from the first with two exceptions, one, a litter of four puppies whose mother was poorly nourished owing to partial starvation before delivery, and secondly a litter of six rabbits, whose mother took but little interest in them. How often do these two causes operate in the human species? In these cases there occurred a slight initial loss which was certainly not physiological. Kehrer thinks that the loss in the human young is due first to the tardy secretion of milk in their mothers, and this in turn is dependent on the slight amount of nourishment the mothers receive before and during the lying-in period. The lower animals feed as usual before labor, and immediately after it develop a lively appetite, and the milk flow is plentiful from the first. A second cause lies, he thinks, in the condition of the new-born itself, helpless, unable to move from place to place and often unable to nurse properly for three or four days, while the lower animals immediately after birth, often even when attached to the navel string suck vigorously. He, therefore, urges that the infant should be placed to the breast as soon as possible, and that an early and copious secretion of milk be obtained by a nourishing diet for the mother previous to and during the lying-in state.

Is it worth while to try to improve on nature, and, by a partial artificial feeding during the first few days

of life, prevent if possible this loss? This is what is attempted by the sugar teats, the milk and water and the pap with which the infants of the ignorant classes are often stuffed, and generally with disastrous results.

To answer this question the effect on the initial loss was observed when the infant was given additional food, which was done only in children of primiparae. In thirteen infants half an ounce of milk and an ounce of water were given four times daily for the first five or six days in addition to the regular nursing. In ten cases half a drachm of cane sugar in an ounce of water was given in a similar way. In fifteen cases half a drachm of a granulated extract of malt in an ounce of water was given; and in five other cases the infant for the first three to five days was put to nurse at the breast of a woman whose milk-flow was already established, alternately with the breast of its mother, the nursings coming every two hours. The following table shows the results obtained:

	Breast and milk.	Breast and sugar.	Breast and malt.	Mother's breast and another's.	Average 43 cases.
Average Loss.	9.38 oz. (265 gms.)	10.70 oz. (303 gms.)	8.80 oz. (249 gms.)	7.40 oz. (209 gms.)	9.25 oz. (262 gms.)
Day Weight was Least.	5th day.	4 to 5	3d to 4th.	3d to 4th.	4th day.
Per cent. who reached or surpassed birth-weight on 14th day.	83	80	64	80	77 %
Average gain on 14th day.	1.45 oz.	2.66 oz.	0.92 oz.	1.20 oz.	1.51 oz. (43 gms.)

On comparison with the previous table of entirely breast-fed infants, it is seen that there is a slight reduction in the initial loss, most marked in infants fed also from another breast, and a slight increase in the gain over the birth-weight on the fourteenth day, greatest in those fed additionally with sugar, where, curiously enough, the loss is also greatest. The infants also began to gain sooner, and a greater proportion reached or surpassed the birth-weight on the fourteenth day.

The practical objections, however, to this artificial feeding more than counterbalance, it seems to me, the slight benefits to be derived, and unless the greatest care is used, such as can be obtained from trained nurses in a hospital, the results would probably be unfavorable — such results as are seen in the lower class already referred to. The objections, — besides the great one of its being unnatural, — are that in a considerable proportion of cases the presence of artificial food causes vomiting, and in a smaller number diarrhoea, thus at the very start of life interfering with that most important function of digestion and assimilation. Another objection is that infants take the additional food either with great difficulty, or more often so readily that the breast is afterwards refused. In fact after once giving them a taste of artificial food obtained so easily from a nursing bottle, it often requires the greatest patience and persistence to induce them to nurse their mothers. Many mothers under these circumstances would prefer to put them entirely on the bottle and let their milk dry up rather than continue the struggle, or, what is more probable, the milk would dry up notwithstanding their efforts, owing

¹² Loc. cit.

¹³ "Diseases of Children," 5th Ed., p.36.

¹⁴ F. A. Kehrer. Archiv. für Gynæk., I. 124.

to the refusal on the part of the infant to take the breast.

The objection to feeding from another's breast in addition to the mother's would simply be its impracticability. The fact that it is impossible to prevent the loss even by this method of a plentiful supply of milk, owing to the difficulty in making the baby nurse sufficiently, shows apparently the normal character of this loss.

Bouchard¹⁵ says that infants placed at once on the breast of another in whom the milk-flow is established lose but little or no weight. Schutz¹⁶ and Krüger quoted by Russow,¹⁷ find that infants under these conditions begin to gain quicker.

Another practical point in relation to the initial loss is the matter of early or late ligation of the umbilical cord. According to Zweifel¹⁸ late ligation of the cord by allowing more blood to enter the infant's circulation than in early ligation, renders the infant more vigorous and diminishes the physiological loss. By weighing the blood remaining in the placenta, he estimates that the child receives 100 grammes more blood if the cord is not cut till the placenta is expelled by Credé's method. In eleven infants thus treated he found the average physiological loss to be 156.7 grammes, while in twenty-five where the cord was cut at once, the average loss was 211. grammes.

Meyer¹⁹ thinks that these results are impossible as 100 grammes is equal to one-third of the whole quantity of blood in an average infant weighing 3,300 grammes at birth, and finds that the average gain by waiting till the expulsion of the placenta is only sixteen grammes. Budin²⁰ and Schücking²¹ found a gain of two or three ounces by waiting till the cessation of the placental circulation before tying the cord. I found that the average loss in ten infants,—including two infants of multiparæ and five additionally-fed infants, whose cords were cut at once on account of asphyxia, so that hot and cold water plunges, etc., might be used, was 13.2 ounces. In five cases not asphyxiated, three infants of primiparæ and two of multiparæ, where the cords were cut at once the average loss was 10.8 ounces. In all the other cases it was the custom at the hospital to wait till the cord had ceased or nearly ceased pulsating, before it was tied, but in the cases tabulated always before the expulsion of the placenta. By comparison with the first table it will be seen that in these cases early ligation has little or no effect on the initial loss of weight as compared with late ligation, except in those cases where asphyxia was a factor: here the loss is somewhat larger.

By way of summary it may be said :

First. That in the human infant a loss of weight occurs as a rule during the first few days of life, and is therefore physiological in the present state of civilization, although it does not occur in the lower animals.

Second. That this loss is somewhat greater in infants of primiparous than of multiparous mothers.

Third. That it is due first to the tardy secretion of milk, and in some cases is increased by the abnormally long continuance of colostrum in the milk,

and secondly to the feeble condition of the infant at birth.

Fourth. That the use of additional artificial food or another woman's milk diminishes but does not do away with this loss, and that the practice is for many reasons objectionable.

Hospital Practice.

BOSTON CITY HOSPITAL.

A CASE OF RECURRING INTESTINAL OBSTRUCTION; RIGHT LUMBAR COLOTOMY; RECOVERY.

SERVICE OF E. H. BRADFORD, M.D.

REPORTED BY OLIVER H. HOWE, M.D., formerly House-Surgeon.

KATE McD., thirty-five years of age, single, and a domestic, entered the Hospital (service of Dr. Gay), March 12th. She said that about five weeks previous she had no movement of the bowels for a week, and had more or less vomiting during that time. This attack was followed, a few days later, by a similar one of the same duration. Following this she felt perfectly well, her bowels moving at least every second day (but generally after medicine), the dejections being small in amount.

Eight days ago she had a scanty movement, since which time she has had no movement, although she has taken large doses of various cathartics. She left off work a week ago, and for the last four days has had frequent vomiting, with constant pain and rolling of her bowels. Says she has been unable to sleep, and has lost considerable flesh.

Said she had always had good health, and that previous to the attack first mentioned her bowels had always been regular. Her father died of cancer of the stomach; otherwise her family history is negative.

Patient is somewhat thin and spare, but does not seem to be much emaciated. Countenance has a rather anxious expression; tongue shows a light, whitish coat. Abdomen is moderately and uniformly distended; tympanitic throughout. Pain mostly at left of umbilicus. Some tenderness in epigastrium and left iliac fossa; gurgling in the latter locality. No tumor to be felt. No hernia nor history of any. Rectum empty, and shows no stricture. Temperature 99.6°, pulse 72.

She was given milk and lime-water to drink, and laudanum fomentations were applied to the abdomen. The next day the distension was slightly less, and she was given calomel, gr. $\frac{1}{4}$, and bismuth, grs. v, every four hours; also nutritive enemata.

The following day (two days after entrance) she had a small dejection. The next day two good dejections, followed by much diminution of the abdominal distension and relief of all her symptoms. After remaining a week longer, and having daily movements with the aid of occasional laxatives, she went home.

Six days later she returned to the Hospital, having had no movement during that time. The attack was precisely similar to the one preceding, and was relieved in the Hospital by the same means in the same time. The matters vomited consisted, as before, entirely of food, and were stercoraceous. Patient remained in Hospital two weeks, during part of which time cathartics had to be used.

Ten days later she reentered the Hospital (this time

¹⁵ Loc. cit.

¹⁶ Loc. cit.

¹⁷ Loc. cit.

¹⁸ Centralbl. f. Gynæk., No. 1, 1878.

¹⁹ Centralbl. f. Gynæk., No. 10, 1872.

²⁰ Public du Progrès Médical, 1876.

²¹ Berlin Klin. Woch., 1 and 2, 1877.

on the medical side, in the service of Dr. Mason) having had no movement for eleven days. Symptoms the same as before, but more intense. She was given various cathartics and high enemata. The latter brought away only a few granules of faecal matter. A rectal tube was passed up a distance of eighteen inches, without meeting any obstruction or bringing away anything. After having been in the Hospital two weeks, and having had no movement for twenty-five days, the patient was transferred to the surgical side (service of Dr. Bradford), to receive more radical treatment, if necessary. At this time the abdomen was tightly distended and tympanitic, no tumor being felt at any point, even on deep pressure. Four days later a scanty movement of the bowels occurred. The pain and distress of the patient being constantly greater, the emaciation being more marked, and cathartics having been used in good variety and combination, with the exception of one scanty movement, the obstruction now having lasted thirty days, operative measures were determined upon.

Dr. Bradford decided to do right lumbar colotomy. He was led to this decision by the belief that laparotomy would be fatal in the present condition of the patient, especially as the bowels were so distended. An objection to the operation of colotomy was that, the seat of the obstruction being unknown, it might be above the part of the colon selected, so that the operation might fail to give relief. Had this event been encountered, it was Dr. Bradford's purpose, on perceiving that the colon was not distended, to go to one side of the latter, and, entering the peritoneal cavity, to pull out and open the first distended bowel that could be found.

The patient being etherized, an incision five inches long, and parallel to the crest of the ilium, was made in the right lumbar region. This was carried down through the muscles, until the distended ascending colon was found. The latter was sewed to the edges of the wound, and then carefully opened. Gas and feces freely escaped, and the distension of the abdomen was soon much diminished.

The ends of the wound were sewed up, and a large oakum dressing applied. The next day the abdominal distension was wholly gone, and the symptoms entirely relieved. No tumor could be felt in the abdomen, even on deep pressure. General condition of patient rapidly improved. The liquid faecal discharge was profuse for a day or two, but later became somewhat periodical. The dressing was reduced to a small pad over the opening, which patient cared for herself. She was in no way offensive to those about her, except occasionally from wind. She left the Hospital two months later, the extremity of the incision having entirely healed, leaving a round opening, which just admitted the finger. Reported a month later, and was in the same condition, with no further trouble.

Patient reported again four months later (seven months after the operation). She was found to have improved greatly in strength and general appearance, and to have gained in weight. The opening made by the operation had contracted in size, so as to barely admit the little finger, which it tightly grasps with a somewhat sphincter-like action. Prolapse of half an inch of the bowel through the opening occurs at times. She wears over the opening three or four thicknesses of cotton cloth, kept on by a swathe.

The cloths require changing from one to five times

a day. She lives largely upon milk and white bread, in order to keep the feces from being too liquid. The feces have never been "formed." She says the odor and flatus are somewhat troublesome, and that she cannot go to church or to other gatherings of people. She has been employed as a domestic, and thinks she has not been especially offensive to others while at work in that capacity. Three weeks ago she had a small movement *per rectum*. Palpitation of the abdomen shows the presence of no tumor or abnormal condition. No further light is gained about the source of the obstruction, and it must remain for the present a mystery.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 24, 1887. The President, Dr. F. W. DRAPER, in the chair.

REMOVAL OF UTERUS, OVARIES, AND FALLOPIAN TUBES FOR FIBROID.

DR. JOHN HOMANS showed a uterine fibro-myoma which with its ovaries and Fallopian tubes, had been removed by laparotomy two days before, the whole mass weighing twenty pounds. The patient was a single woman, of forty-five, whose life had been made a burden by this growth. So far the pulse has not been above 80, nor the temperature above 99.4°. The stump was treated externally, that having proved the better way in the personal experience of Dr. Homans. It is an operation accompanied by some shock, and is not, in his opinion, an operation to be undertaken lightly, and this is seen from the fact that he has operated five or six times in the last year, having seen perhaps, from two to four cases almost every week. The speaker referred to the cases reported to be cured by Apotoli by means of electrolysis, which acts, as he is informed by Dr. Amory, by causing exosmosis.

Dr. J. C. REYNOLDS said that he had seen electrolysis used by Dr. Cutter and that he had received an account of the practical disappearance of the tumor.

Dr. J. C. WARREN read a paper entitled,

PERSONAL EXPERIENCE IN THE TREATMENT OF CANCER.¹

DR. D. W. CHEEVER said that he had been asked to open the discussion on this subject, and in doing so wished to express the pleasure and interest with which he had listened to Dr. Warren's paper. The conclusions arrived at therein did not differ, as he recalled them, from those given in the writings of the late Dr. J. Mason Warren. He would like to add some cases from his own experience.

Cancer was said to be more frequent now in this section than formerly, and he was inclined to think this was true.

The natural history or duration of cancer varied with the age of the patient — in youth being much more rapid than in old age. It varied also greatly according to the organ or locality involved. Its rapidity of growth and the duration of life were approximately in the following order: Tongue and

¹ See page 154 of this number of the Journal.

throat, four months to one year; antrum, one year to eighteen months; testis and penis, about the same; rectum, two years to two and one-half years; uterus, a little longer; breast, two and one-half to four years; skin, indefinite, often many years.

The natural duration of cancer of the breast, untreated, varied in the estimate of modern authors as follows: the elder Doctor Gross, two and a half years; Bryant, two to three years; Agnew, about the same; Paget, four years.

Dr. Cheever was inclined to accept the longer estimate as more nearly correct, except in cancer coming on during lactation, where he had seen two cases terminate in less than one year. He would mention a case of untreated cancer of the breast, which died in the City Hospital, lasting quite four years, and entering the hospital after three years and eight months, in a stage of advanced ulceration.

As to the average period of exemption after excision of the breast, Gross puts it at one year; Erichsen, at one year and a half. Dr. Cheever mentioned two cases of his own: in one there was an exemption of four years; and in one, an exemption of five years. Much longer periods were on record.

In favor of an operation it was proper to say that the mortality from excision of the breast was extremely low; not over six per cent; that anæsthesia had robbed the operation of its terrors, and that antiseptic treatment had reduced suffering and hastened convalescence.

Relief and prolongation of life were sometimes the result of operation under the most desperate circumstances. Last June he was called in consultation to see Mrs. G., who had concealed a cancer of the breast from her family until it had burst and ulcerated, and was thoroughly septic and decomposed. Her temperature was high; constitutional irritation great, and every circumstance unfavorable. She assented to a complete and rapid excision, as giving a small chance of life. The tumor was enormous and the wound left by incision very large. She made a prompt and speedy recovery, and called at his office at Christmas, active and well.

On the other hand, it was sometimes impossible to estimate the depth of the cancerous cachexia by the external appearance of the patient. Mrs. T. was operated on in October last. She appeared vigorous — the breast had not ulcerated — the scirrhus was somewhat adherent to the pectoralis muscle, but no indurated glands could be felt. The operation was easy. Some glands were found affected in the axilla, and this cavity was dissected out. For a week she did well, then she had pleuritic effusion under the wound. The fluid was aspirated twice without relief, it was sanious. She sank with pleuro-pneumonia and died in forty-eight hours. The cause of death was then supposed to be septic absorption, but an autopsy revealed cancer of the pleura and of the liver.

Excision of cancer of the breast relieves disgusting effluvia, and thus adds to the comfort of the patient. It was a mistake to suppose that it relieved suffering, after recurrence. Death was as painful and suffering as prolonged after recurrence, as in cases left to run their natural course.

Miss R. gained her livelihood by type-writing. She came to Doctor Cheever with a small, deep, adherent carcinoma of the breast. It was painless and did not interfere with the free use of her arm and hand. He

advised against operation, because she was dependent on her hands, and he feared that the disease was irradicable and that the scar of an operation in a thin subject, and with the pectoral involved, would prevent subsequent free use of the arm. Four months later it ulcerated a little and alarmed her by trivial hæmorrhages. She desired operation. Excision of the breast was done, convalescence was slow, adhesion took place. The arm was nearly useless. Cancerous asthma supervened, and she lingered eight months in great misery, and died sitting up in the distressed and bowed attitude of the sufferer from advanced cardiac disease. She did not leave her chair or lie down for eight weeks before death.

Was any other mode of removal better than the knife? Caustics were no safeguard against recurrence.

Some years since a woman entered his hospital service in the following condition:

The mamma was gone; the pectoralis major and minor muscles; the serratus; the intercostals and two ribs; a third rib necrosed, detached at its external end, and flapping like a loose hoop; the costal pleura was exposed over a large surface, and granulating. This extraordinary destruction had been accomplished by a paste applied to a cancer of the breast by a female charlatan.

The woman remained in the hospital all winter. Aided by grafting, cicatrization was nearly completed, but before she left the hospital, hard and tuberculous masses of cancer appeared in the neck and arm.

In epithelioma of the skin of the face and neck in the aged, Dr. Cheever used caustics with much benefit. He had preferred the chloride of zinc (Canquary's paste), which was nearly painless. He thought the use of Paquelin's cautery would prove extremely valuable, as in Dr. Warren's cases. He had recently noticed the remarkable arrest of growth in ulcerating epithelioma produced by an intercurrent attack of facial erysipelas. The elder Dr. J. Collins Warren had mentioned this phenomenon.

The arguments in favor of operating on cancer of the breast were:

- (1) The moral effect on the patient, which was very great.
- (2) Cleanliness.
- (3) A period of exemption, and a probable prolongation of life.

Dr. Cheever had been quite positively convinced of the beneficial effects of some other local remedies, such as submucous injection of a saturated solution of citric acid in the cylindrical epithelioma of the rectum. Glacial acetic acid made a slough. Citric acid tanned and shrunk the parts. Some growths of doubtful character in the breast had disappeared, under his observation, under large doses of bromide of potash, given by the mouth. And some in the parotid gland under the use of the bichloride of mercury taken by the mouth, in minute doses for many months. Chian turpentine, he thought, relieved the pain of rectal cancer sometimes, but not always. Cocaine injected subcutaneously, had produced cardiac distress and faintness in two cases.

Dr. Cheever wished, in closing, to say a word in favor of the *repeated* removals of sarcoma, which was a *locally* recurrent disease. Life can be much lengthened by operating over and over again, where the growth is accessible. The late Dr. March, of

Albany, operated on a sarcoma of the neck in an elderly lady. It recurred, and Dr. Cheever removed it five times. These six operations covered ten years. The first was done at the age of sixty-eight, and the last at the age of seventy-eight years. The patient finally died of pneumonia, one year after the sixth operation.

DR. J. C. WHITE said that his experience with carcinoma had been mainly with its superficial manifestations. He sees many cases of epithelioma in an early stage; and merely wishes to call attention to the importance of recognizing the disease while it is comparatively simple and harmless. In *hepatosis senilis* the early changes consist in a heaping up of cells of the upper layer, subsequently the lower cells became heaped up and undergo changes. By the early use of soaps, salicylic acid, cosmoline or vaseline cases can often be restored to their normal condition, that is, cured. Scaly masses, with change of color, upon the back of the hand, the face or the neck, can often be cured without the use of curette or knife. When sebaceous warts tend to be soft, scales form in masses, soften and fall, leaving a scab. Such warts may be treated with a pointed stick dipped in concentrated nitric acid. The stick can be pushed into all the recesses of the skin and the acid penetrates farther than the stick. Unless free bleeding occurs to dilute the acid, there will be probably a superficial scar. If driven deeper, there may be marked destruction of the skin. He never tried this method in cases fit for excision, but in the beginning, nine out of ten cases of epithelioma may be cured by it.

A mistaken diagnosis is often made because of age. True epithelioma may be found between twenty and thirty, or even fifteen and twenty, or even at twelve years.

DR. JOHN HOMANS expressed his opinion that it is wise in removing sarcoma or cancer, to start with the resolution to remove it as often as it returns, for as long a time as possible. In one case a sarcoma had returned before the patient had recovered from his first operations. He removed it again, and there has been no other return for nineteen years. He mentioned a case of a cancerous tight annular stricture of the rectum, in which the bowels had not acted for six weeks. The patient was too tender to be removed. He performed colotomy and afterwards the patient was able to be about shopping. Finally, a rubber tube dropped into the wound. He was not allowed to remove it, and death resulted.

Dr. Homans also spoke of the value of statistics. We do not know as much as we should of the after history of hospital cases. When younger, and with more time at his disposal, he had offered to follow up these cases of one of our hospitals by correspondence with physicians and patients, but was not encouraged to do so. He thought however it would be valuable work, and not merely so with cancer. There was room for it in the study of tracheotomy, for instance.

DR. M. H. RICHARDSON said that he thought the method of inquiry proposed by Dr. Homans would be valuable; but to be so, it should be limited to cases in which the diagnosis is certain, in which the microscope has been used.

He said that he has yet to see the case of cancer of the breast, in which the axillary glands cannot be detected. Of course, if they are thoroughly dissected away, there can be no return in these glands.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.¹

EIGHTY-FIRST ANNUAL MEETING, HELD AT ALBANY, FEB. 1ST, 2D, AND 3D, 1887.

SECOND DAY — AFTERNOON SESSION.

A resolution was passed, making the term of delegates to the Society three instead of four years, and enabling them to become permanent members after two successive years' attendance on the Society, instead of three. The object of the resolution was to increase the membership. The question of receiving delegates from certain other organizations will be voted upon next year.

DR. E. T. BRUSH, of Mt. Vernon, read a paper on the

MAMMARY GLAND.

After a humorous introduction in which he quoted instances of the secretion of milk in the mammary glands of the unimpregnated females as well as in the male, and deplored the fact that the product of the human female mammary gland was threatened with competition not only by the baby-food war, but also by the male wet nurses of the future, Dr. Brush gave his own experience with cases of mammary abscesses. He pointed out that, as there is an excessive activity in the gland during the puerperal state, disturbances in other parts of the economy produce pathological changes in it; that a malarial chill, rheumatic seizure or the like, is often at the bottom of the trouble, and that by treating these constitutional symptoms the local manifestation could be aborted, and that this, indeed, was the rationale of the exhibition of quinine or salicylic acid in cases of abscess. For sore nipples he proposed a new acid, according to his statement, an affectual method of preventing or remedying this troublesome annoyance; for painful abscesses he recommended ice-bags, and, if necessary, strapping and bandaging; and in galactorrhoea, ergot, quinine, and iodide of potassium. For emptying the breast he preferred hot bottles as more efficient and gentler than breast-pumps, many of which he described as simply barbarous. He alluded to the fact that in the human female, pus never exudes from the nipple, while in the bovine female it always exudes from the breast.

REPORT OF THE COMMITTEE ON PRIZE ESSAYS.

The Merritt H. Cash prize was awarded to Dr. A. N. Bell, of Brooklyn. The title of his essay was, "The Physiological Conditions and Sanitary Requirements of School-life and School-houses." Eight essays had been received. Later it was voted to authorize the secretary to send one thousand or fifteen hundred copies of this essay to the municipal and school authorities throughout the State.

OBSERVATIONS ON REFLEX NERVOUS DISTURBANCES, was the title of a paper by Dr. W. E. FORD, in which he held that many of the conditions commonly ascribed to reflex causes were due to actual lesion of the spinal cord. Operative procedure for the relief of reflex disorder often failed of its object.

DR. ROSWELL PARK read a paper on

THE SURGERY OF THE LUNGS,

Treating of the subject under the following heads :

¹ Concluded from page 139.

(1) Historical; (2) Pneumotomy, — indications for, — operations — results; (3) Pneumectomy — experimental and clinical — indications for — the operation described; (4) Thoracoplasty — Estlander's operation and its modifications — general principles upon which it is based — reports of cases.

Pneumotomy was indicated in bronchial abscess, tubercular abscess, gangrene of the lungs, hydatid cysts, and foreign bodies. The mortality-rate had been a little over thirty-two per cent. The clinical reports from pneumectomy were of a limited number. It was resorted to in hæmorrhage from the lung, wounds of the lung, hernia of the lung, neoplasms, and tubercular disease of one lobe. The future of this operation for tubercular disease at the apex was uncertain, but he hoped it would prove useful. The chief indication for thoracoplasty was empyema.—The paper was discussed by Dr. Weir.

THE RELATION OF LARYNGEAL TO PULMONARY PHTHISIS, AND THE IMPORTANCE OF LOCAL TREATMENT.

DR. C. C. RICE, of New York, read the paper, and said that about one-fourth of all deaths reported were from pulmonary phthisis; in about one-third of this number there was laryngeal phthisis. Yet it was evident that much fewer than this number received suitable local treatment. He asked, is laryngeal phthisis always tubercular? Is the deposit of tubercle always the primary lesion, or is it deposited often secondarily to catarrhal laryngitis of simple character, aggravated by the bad condition of the patient, and going on to the stage of ulceration? When tubercle becomes deposited, does it render the condition entirely different from the ordinary catarrhal process?

That tubercular laryngitis is not an inappropriate name, has been shown. While tubercular infiltration is known to be frequent among cases of laryngeal phthisis, yet its presence does not imply a disease which runs a typical course, or one in which the prognosis is always bad. Many of the cases of laryngeal disease, apparently laryngeal phthisis, connected with pulmonary phthisis, showed microscopically only the signs of simple catarrhal laryngitis. In some cases the diagnosis of laryngeal phthisis of tubercular character was evident, when there were no indications of phthisis in the lungs.

The function of the larynx was often a cause of its inflammation; from this he suggested that in the treatment there be complete rest of the larynx so far as use of the voice was concerned. Inasmuch as laryngeal phthisis, in his opinion, is not always laryngeal tuberculosis, he regarded the name tubercular laryngitis as unfortunate. The author then spoke of the importance of local treatment, particularly before the stage of ulceration, and also for the relief of symptoms after the stage of ulceration.

DR. FRANCKE H. BOSWORTH, of New York, referred to the fact that Mackenzie had been quoted, in contradiction to his former assertions, to the effect that laryngeal phthisis is not always laryngeal tuberculosis. Absence of the bacillus tuberculosis had been shown in the early stage of some cases of laryngeal phthisis; and the importance of this point could not be overestimated, as it was a generally accepted fact that tubercular laryngitis was usually fatal.

DR. O. B. DOUGLASS had in dispensary practice obtained some almost miraculous results in laryngeal

phthisis from the use of terpin, in about six-drop doses three times a day.

DR. A. WALTER SUTTER read a paper on
SOME POINTS OF MEDICO-LEGAL INTEREST IN THE
SCIENTIFIC INVESTIGATION OF THE CASE OF THE
PEOPLE *versus* ROXALANA DRUSE.

INTUBATION OF THE LARYNX.

DR. E. L. PARTRIDGE, of New York, read a paper in which he continued the discussion on Dr. O'Dwyer's method of intubation of the larynx, referring in detail to the possible difficulties arising in its performance, etc. The paper was also an argument in favor of the employment of the method which did not preclude the use of tracheotomy, should intubation fail.

DR. A. JACOBI said that when Bouche, of Paris, proposed intubation of the larynx, many years ago, he, Dr. Jacobi, lifted his voice on this side of the water, as did Trousseau and others in Europe, against the suggestion as being practically absurd. When about two years ago he heard of O'Dwyer's method, he also expressed publicly his opinion that it would fail. He had now, however, become convinced of the utility of O'Dwyer's system of intubation of the larynx, and he did not doubt but what the inventor's name would go down to posterity.

SOME CONSIDERATIONS CONCERNING CANCER OF THE UTERUS, ESPECIALLY CONCERNING PALLIATIVE TREATMENT IN THE LATTER STAGES.

DR. A. F. CURRIER, of New York, in a paper with this title reviewed the views held by eminent pathologists regarding the anatomy of cancer, also regarding radical operations for cancer of the uterus, and then spoke of the treatment commonly adopted in the cancer hospital at New York, which consisted in removing, by cutting instruments, such portion of diseased tissue at the neck as it was practical to remove in that manner, then the employment of the cautery, the application of a caustic of chloride of zinc, the removal of the slough, the dietary and hygiene of the patient. Life might thus be prolonged, and particularly rendered as comfortable as possible.

THE DUTY OF THE MEDICAL PROFESSION IN PROMOTING CREMATION.

SIR T. SPENCER WELLS, honorary member, sent the paper, which was read by Dr. A. Jacobi, who followed with some remarks. The author of the paper referred to the teachings and example of the distinguished Gross, and thought American physicians should not allow the lesson to go unheeded. He also sent two addresses on the subject of cremation, which he had read at meetings in England. Dr. Jacobi, in some written remarks, presented what had been said on the other side of the subject by different writers. As offsets to the assertion by those who insisted upon the necessity of cremation for sanitary purposes, it had been questioned as to what extent contamination of waters, etc., had taken place from burial grounds, and to what extent disease had been spread during burial ceremonies. Further, whether such contamination and such spread of disease could not be entirely prevented by change of the burial system. It was also questioned whether cremation would do away with these dangers to the public health. Aside from the question of sanitation, arose the question of

destroying the evidences of possible criminality by cremation.

PRACTICAL OBSERVATIONS ON ABDOMINAL SURGERY.

DR. W. GILL WYLIE, of New York, said his paper would consist of the report of 124 laparotomies, the use of hot water, and treatment of septic peritonitis and intestinal obstruction after laparotomy by the use of purgatives, etc. The cases of laparotomy included all that he had operated upon since November, 1882; 47 of the cases were operated upon in 1885, and 55 in 1886. Of the entire number, twelve died. If three deaths from suprapubic hysterectomy were excluded, the death-rate would be about seven per cent. Of 74 cases operated upon for removal of the uterine appendages, nearly 50 per cent. were cases of genuine pyosalpinx. Of the last 37 of the 74 cases only one had died. He employed hot water in the peritoneal cavity during and just after the operation, to prevent shock and to stop oozing of blood. Tympanites and vomiting supposed to be due to septic peritonitis after laparotomy, were best overcome by enemata, and if these failed then by purgatives. The bowels should be kept free, not constipated.

The President's Annual Address, entitled,

THE ACHIEVEMENTS IN SCIENCE AND LETTERS OF MEN WHO HAVE BEEN CONNECTED WITH THE MEDICAL PROFESSION,

was read in the assembly rooms of the Capitol.

THIRD DAY. — MORNING SESSION.

SPREAD OF CONTAGIOUS OPHTHALMIA.

DR. LUCIEN HOWE, of Buffalo, offered the following resolution, which was adopted:

Whereas, the census reports and other reliable statistics show an alarming increase of blindness in the United States, entirely out of proportion to the increase of population; and, *whereas*, examination indicates that the cause of this is contagious ophthalmia, therefore, be it resolved that a committee of three be appointed to investigate this class of diseases, and recommend means for its remedy. The President of the United States and Officers of the State Medical Society were called upon to render assistance in this work.

SYPHILIS OCCURRING IN CONNECTION WITH OTHER DISEASES OF THE SKIN.

DR. L. D. BULKLEY, of New York, thought it probable that syphilitic eruptions had occurred in connection with nearly every other skin disease, but he had seen it in connection with the following among others, and had found the diagnosis more or less difficult: acne, alopecia areata, cloasma, copaiba eruption, eczema, particularly pustular eczema of the scalp and mouth, iodine eruption, leprosy, lupus erythematosus, measles, psoriasis, urticaria, zoster, chancreoid, gonorrhœa, etc. The presence of the lesions of syphilis in connection with other skin diseases often made the diagnosis obscure, hence the necessity for the greatest care. Differential points were made.

The Committee on nominations reported: For President, A. L. Loomis; Vice-President, A. M. Phelps; Secretary, W. M. Smith; Treasurer, C. H. Porter.

DR. GROVER, of Amsterdam, described a modification of Chadwick's Gynecological Table.

A number of papers were read by title.

The Society adjourned at 10.50, A.M.

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RIGHT-HANDEDNESS.

SINCE the time of Aristotle, and we are not aware how much longer, the cause of the superiority of the right side has been a repeatedly recurring subject for discussion. If all that has been written on the subject could be collected, the huge mass would be interesting in ways quite unconnected with the question in hand. It would show, as in a long panorama, the progress and vagaries of medical science, and of the methods of thought of the times.

The rise and fall of systems, the coming of new and more accurate knowledge, would all leave their mark. We should be able to recognize, in different ages, the chief types of minds: the rash, the plausible, the cautious, the mystical; the one so dominated by one idea that it can see no other side; and its opposite, to whom the truth and error of various views appear to counter-balance one another so accurately, that a decision is impossible. We should find, no doubt, during the reign of each prominent system, a line of inventors of the self-same theory, each unconscious both of his predecessor's light, and of the critic who snuffed it out, and unsuspecting that another is at hand to do as much for himself.

The paper that has thrown us into such a moralizing mood is a very interesting one on "Man's Aptitude for Labor in the Erect Position, with an Inquiry into Right-handedness," which Dr. Oscar H. Allis, of Philadelphia, read before the College of Physicians of that city a few months ago, the advanced sheets of which have lately reached us. The central idea of the essay is that man's easiest mode of supporting the centre of gravity during labor is by rotary motion. It may be that this action is not universal, but we agree with the author in so far as to admit that it is very general. He then argues that the mechanism of the skeleton shows special provisions for this kind of strain. We shall not follow him through his argument in support of this proposition, which cannot be well given in few words, but will admit that, though parts might be criticised, it amounts to a demonstra-

tion, and then pass on to the deductions concerning "the agencies that predispose to the very universal preference for the right leg and arm."

Dr. Allis holds that the cause is a mechanical one, and one that comes into play when the child begins to walk. This cause is the weight of the liver, which, from its asymmetrical position, brings the centre of gravity to the right of the median plane of the body, and, as he expresses it, "anchors the right side, gives it stability, and predisposes erect man to a preference for the right hand." Because the right leg is more firm, the arm of the same side is better supported. Moreover, according to our author, "rotary motion in the erect position requires that one hand should be principal, and the other assistant."

"In demonstrating the position of the liver, I have been in the habit of remarking that the great weight of that viscus on the right side does not appear to be balanced by the viscera on the left side. . . . The fact would be sufficiently interesting in relation to animal symmetry and equipoise, to visceral development, and to the mechanism of the erect posture; but it has lately assumed a new importance, from the theory that a greater weight on one side of the body will determine the greater strength and use of the limbs of that side, and thus furnish a physical explanation of the use of the right hand in preference to the left." No! these remarks were not written with reference to Dr. Allis's paper, as the reader probably supposes. They are from the pen of Prof. (then Dr.) John Struthers, and are to be found in the *Edinburgh Medical Journal* of 1863. They refer to the paper of Prof. Andrew Buchanan in the fifth volume of the "Proceedings of the Philosophical Society of Glasgow," who takes, as they show, essentially the same ground as Dr. Allis.

Although not assigning so important a part in the mechanics of the human body to rotary motions, Professor Buchanan repeatedly refers to them, and analyzes at considerable length the movements that concur in throwing a ball. He believes that the body does not turn on a central axis, but on one that is continuous with a line dropped from the centre of gravity, and, consequently, on the right. Dr. Struthers, in his paper, discussed some of Dr. Buchanan's statements on the effect of respiration on the position of the liver, and, by a series of careful calculations, settled a question which remained unanswered the other day at Philadelphia, to wit: that the viscera of the right half of the body are heavier than those of the left.

The reason, according to Professor Buchanan, why women carry babies and bundles on the left arm, is that the extra weight tends to counter-balance the liver, but that heavy burdens are put on the left shoulder for a totally different reason, namely, that the consequent lateral inclination of the body brings the weight over the stronger right leg.

According to this theory, the superiority of the right side depends on a purely mechanical cause, and is not the result of fashion or of education. The right arm is the strongest because it is used the most,

and there is no difficulty in supposing that the left side of the brain becomes more developed in consequence, and further, that these characteristics are inherited.

The most provoking jack-in-a-box which cannot be suppressed, but is jumping up at frequent intervals, is Hyrtl's theory that the right arm gets the stronger current through the innominate artery, and that in left-handed people the right subclavian is given off last. This is quoted, sometimes with the self-evident refutation which its weakness, incompleteness and imaginary origin demands, sometimes as a fact on the authority of the great teacher whose *ipsissima verba* are rarely spared us. It was let off last about a year ago by a writer in the *Medical Record*, who apparently thought that he was imparting information. It is plain that even if this theory had any foundation it would account directly only for the arm. Making due allowance for the physiology of two thousand years ago, Aristotle's theory is of broader application. "The right side is preëminent over the left because it receives, not only a more abundant supply of blood, but blood of a different quality, purer and hotter. The aorta with its branches supplies the left side, while the vena cava, which is larger than the aorta, and lies on its right, supplies the right half of the body.

Now there are three objections to all these theories:

First, if right-handedness has a gross mechanical cause, such as the position of the liver or the course of the innominate artery, to account for left-handedness, we must assume that there is a transposition more or less complete of the viscera.

Second, there is frequently a difference in acuteness of touch between the sides.

Third, there seems to be something analagous to right and left handedness in animals.

The first objection to these theories is almost fatal, unless it can be proved that visceral inversion exists in cases of left-handedness, and conversely that left-handedness occurs with transversion. Now we know very well that there is no visceral inversion in the left-handed people who are examined by scores in medical practice, and also that in many, if not in most cases, the subjects of visceral inversion are right-handed. Dr. Allis, when asked to account for left-handedness, said that the predisposing cause of a preference for one hand or the other is a little thing. The answer, if correct, is a refutation of his own theory.

The second objection is that these theories account at most for the greater size and more ready use of one side, and give no explanation of other important phenomena. Weber asserted long ago that tactile sensibility is greater on the right, but that the power to distinguish between different degrees of temperature and of pressure is greater on the left.

This line of investigation has been almost entirely ignored. With the exception of the report of a single case, in 1870, of a left-handed person whose greater sensibility to touch and to warmth were inverted, we know of no new observations until comparatively re-

cently in Italy. Most of the observations have been made on the insane and on criminals, and though we do not subscribe to the hobby that each of these is a class *sui generis*, we should not choose either for general statistics. In point of fact the observers have not done so, but have endeavored to draw comparisons between them and the rest of the community, yet so far as we know there have not been a sufficient number of observations on others to establish a rule. Professor Lombroso found that of 67 students (presumably neither insane nor criminals, or who at least had not been found out), twenty were left-handed in sensation, and eighteen right-handed. It would lead us into other questions to discuss the results in the two special classes, but we think it may be assumed that in at least fifty men of a hundred, one side is the better for sensation, and that this by no means necessarily is the same or the better one for motion.

The third objection is that there is a favored side in many animals. The more their habits are studied the more evidence is obtained that most animals that have prehensile extremities use a certain side by preference. Dr. William Ogle found that of twenty-three monkeys twenty were right-handed. A parrot cannot manage a nut with the beak alone; he supports himself on one leg while the other is used as an arm. The same observer found that of eighty-six parrots, sixty-three stood on the right leg and managed the nut with the other. We have satisfied ourselves that parrots almost invariably have a favorite side. With the more common perching birds the point is not so easily settled, still there are those who believe that individual birds sleep resting on one leg rather than on the other. But though there is good reason for believing that in many animals there is a favorite side, there is, as a rule, little regularity even among those of the same species as to which side it is; and when we consider how differently from man's their bodies are supported, what we may call the equilibrium theory seems unsatisfactory.

More than twenty years ago Dr. Moxon suggested that as man has but one attention for two sides it is devoted chiefly to one, which takes the lead in associated movements. Perhaps this theory might be extended to account for differences in perception also. Crude as it is, there is a germ of truth in it. Vertebrates have true lateral symmetry only in the very earliest stages of embryonic existence. Soon vascular asymmetry shows itself, preceding changes in the viscera by which they lose their primitive evenness. In some animals the asymmetry is striking, as in the lungs of serpents, the oviducts of birds, to say nothing of such exceptional forms as the pleuronectidae; but even in those parts of animals which remain symmetrical in theory, there is a discrepancy in fact. The bones, for instance, of opposite sides are not equally large. One may be larger on the right and another on the left, so that apart from the hypertrophy consequent on greater use, it is hardly possible that the two sides should be quite alike. Man is symmetrical

in plan, but in actual life he is not. Something quite analogous is to be seen in plants. Take as an instance those climbing plants that grow in graceful spirals. Each family has its regular side and turns either to the right or the left, yet species are occasionally met with that turn in the opposite way, and again certain individual plants persist in describing spirals at variance with those of their species. In a word they are left-handed. Now it is evident that for a plant to grow in spirals it must have something that disturbs the equilibrium and inclines it to one side or the other, hence this asymmetry is no defect; and it has been argued that in the case of man distinct advantages accrue from the want of perfect symmetry both in the organs of locomotion and of sensation. It is probable that the cause lies deeper than in the coarse anatomical arrangements to which it is so often ascribed; a conclusion very possibly reached by some of Aristotle's critics.

HISTORY AND CLASSIFICATION OF THE MYELITIS.

Any one who will take the pains to look into any standard work on practice of the earlier part of this century (Mason Good, or Gregory), will be struck by the paucity of notions respecting spinal affections. He will find entire absence of hosts of terms familiar to the students of medical literature of to-day. Even the word *myelitis* seems to have been unknown to Good, and was first employed by Harless in 1811. Good's whimsical natural history classification of disease, and his arrangement of all his symptoms under uncouth Latin functional denominations, will strike the reader of the present day as somewhat odd.

Abercrombie and Ollivier were the first to describe acute myelitis as an affection independent of meningeal changes, giving naked-eye observations of exceeding accuracy and minuteness. Sir Charles Bell and Magendie had just before discovered the functions of the spinal nerves, and the localization in the columns of the cord of the motor and sensory tracts. Thus far, however, the knowledge of the minute anatomy of the spinal cord was in an inchoate state. Pathology cannot make any advances till the pioneer sciences, physiology and histology, have cleared the way, and in the first part of this century the entire nervous system was a *terra incognita*.

The impulse had been given by a great organizing mind, Bichat, whose life-work, begun in 1797, was finished before the end of 1802. Bichat, by directing the attention of physiologists to the elementary tissues, and to the vital properties of the tissues, gave an incalculable stimulus to histological and physiological investigation. The subsequent contributions in the department of the nervous system alone, of such accomplished workers as Rostan and Andral, Lobstein and Rochoux, Cruveilhier and Remak, Romberg and Tuerck, Duchenne of Boulogne, and Brown-Séquard, Oppolzer and Mannkopf, Leydig, Westphall, Charcot,

Vulpian, Hayem, Frommann, Leyden, Luys, and Lockhart Clarke (to mention only a few of the principal authorities to whom we are indebted), have given tolerable completeness to our knowledge respecting the conditions of diseases of the cerebro-spinal axis.

The inflammations of the spinal marrow are no longer the simple affair that Abercrombie supposed them to be, nearly sixty years ago. The spinal cord has been found to be a somewhat complex structure, containing certain "systems," or apparatuses, besides a frame-work of connective tissue, the neuroglia, and inflammation may affect primarily any one, or all of these constituent parts (in the latter case being *diffuse*), and on this fact the modern classification is mainly based.

The most general conception of the spinal cord is that of an organ composed of connective tissue elements, binding together nervous elements (the grey matter and the white matter). The latter can easily be arranged into "*systems*" having special offices (the central gray matter with its anterior and posterior horns, the antero-lateral and posterior columns). The "systematized" portions are the true "parenchymatous" portions, containing conducting fibres and cells. The first great division of the myelites would therefore naturally be into the parenchymatous and interstitial. The first class might then be defined as "systematic myelites, beginning and propagating themselves by the nervous elements, localizing themselves in a particular system," (Grasset).

Practically, this is a useful division, which includes most of the chronic forms of myelitis, and the most common of the sclerosis. Of sub-divisions we have: (1) Myelitis of the white columns (fasciculated sclerosis), differentiated still further into sclerosis of the posterior columns (to which belong locomotor ataxia and sclerosis of the columns of Goll), and antero-lateral sclerosis, the latter comprising "spastic paraplegia," and lateral amyotrophic sclerosis; (2) Myelitis of the gray substance, that is, of the anterior horns and the bulbar nuclei; under these latter heads are comprehended the interesting affections known as atrophic infantile paralysis, acute spinal paralysis of the adult, and labio-glosso laryngeal paralysis.

Bearing in mind that the above forms may be secondary as well as primary, we come to the second great division of the myelites, the interstitial. According to some pathologists (notably Jaccoud), all the myelites are primarily interstitial, that is, beginning and propagating themselves by the connective-tissue, and secondarily, involving the parenchymatous elements. A true inflammation of the parenchyma of the cord, Jaccoud says, beginning with the nervous elements and remaining for some time limited there, is no more a fact of spinal than of cerebral pathology.

Other pathologists (Erb, Vulpian, Grasset, Dujardin-Beaumetz, Spitzka, etc.) take the more probable view that myelites may begin in a primary irritation of the nervous elements. In the present state of our

knowledge, it is impossible to tell, either by the clinical signs or the post-mortem appearances, whether the myelitis in a given case was due to primary irritation of the neuroglia, or of the nervous elements. For convenience we may still adopt the French classification, and regard interstitial myelitis as including all the acute inflammations of the cord except the diseases known as acute atrophic spinal paralysis in the infant and adult.

A peculiarity of these interstitial inflammations is that they are diffuse. They are prone to invade indiscriminately all the regions of the cord, and this fact is in striking contrast with the tendency of the parenchymatous inflammations to remain localized in certain "systems," as portions of the white columns or central gray substance. A peculiarity of the acute inflammations is their tendency to end in one or more foci of softening, while the characteristic of the chronic myelites is the thickening of the neuroglia and atrophy of the nervous elements which invariably follow. Both the acute and chronic forms may be circumscribed or invaded, and are subdivided accordingly; there are types with ascending or descending march; some forms are so acute as to be speedily followed by death (apoplectic type), others sub-acute, or chronic with very gradual march of the lesions. The region of the cord affected gives the name to certain varieties, (cervical, dorso-lumbar, etc.) and there is a special form of myelitis which is diffuse after a manner peculiar to itself, a form which is almost unique in pathology, namely multiple, or disseminated sclerosis.

The principal landmarks in the history of the myelites are as follows:

The term myelitis first appeared in the works of Harless (1814), and Kloss, (1820).

Ollivier, in 1821, and Abercrombie, in 1828, gave the first lucid description of this disease, pointing out the connection of softening with the acute forms of myelitis. In 1851 Romberg published his admirable treatise on "*Tabes Dorsalis*," in which the principal symptoms of the disease are enumerated, and the complete differentiation from the true paralytic diseases is effected; this epoch-making book was followed, in 1854, by Wunderlich's more full description. Tuerck, in 1858, announced his important discoveries concerning the primary and secondary degenerations; while Duchenne, of Boulogne, in 1858 and 1859, in memoirs which are classical, again called attention to the complexus of symptoms characterizing posterior spinal sclerosis, which he was first to name *progressive locomotor ataxia*, giving a far more complete clinical account of that disease than has before been given. He was followed by Bourdon and Luys in 1861, who added to Duchenne's clinical description the data of pathological anatomy that were wanting.

The clinical history of multiple sclerosis begins with the work of Frerichs in 1849, and the pathological anatomy was cleared up by Rindfleisch (1863), by Leyden (1863), and Zenker (1865). Drawings, how-

ever, which are faithful reproductions of the lesions of insular sclerosis, appear in Cruveilhier's atlas (1835). Charcot and Vulpian have since contributed largely to our knowledge of this affection. For our knowledge of *tabes dorsalis spastica* we are almost entirely indebted to Charcot and Erb.

Jacob Von Heine, in 1840, was the first to call attention to the congeries of clinical characters which distinguish that myelopathy which he named "acute spinal paralysis of infancy." Duchenne, of Boulogne, in 1855, referred this affection to a lesion of the spinal marrow; and Cornil (1863), Prevost and Vulpian (1865), Lockhart Clarke (1868), and Charcot and Jouffroy in 1870, made valuable additions to our knowledge of the malady. The identity of this affection with the atrophic paralysis of adult life was shown by Moritz Meyer in 1869, and has been placed beyond doubt by the subsequent contributions of Charcot, Bernhardt, Kussmaul, Frey, Lincoln of Boston, Leyden, Erb, and Hammond.

Acute ascending paralysis was first described by Landry in 1859, and from that time reports of cases of this disease have been accumulating; we are still, however, in the dark as to the nature of the anatomical lesions in the cord which constitute this rapidly-progressive and fatal affection.

ANOTHER DIPLOMA MILL.

THE *Boston Herald*, of February 11th. contains an account of the manner in which one of its reporters obtained a degree of M.D., from the "Druidic University of America, State of Maine Branch." The "University" is situated in the city of Lewiston, Me., and occupies a two and a half-story wooden building, which is ornamented with the sign of "Dr. Samuel York, Druidic Physician." The reporter represented himself as a young man who wished to settle in the city of Mexico, and there practice medicine in all its branches. With many assurances that the college did not sell its diplomas, the proprietor exchanged a matriculation ticket and a most elaborate diploma for a small amount of money, which was said to cover cost of printing and other expenses. The aspirant was also put through some very farcical examinations, and given some equally absurd instruction, the whole transaction covering some six hours' time within three different days.

An act incorporating the Maine Electric Medical Infirmary was passed by the Maine Legislature of 1871, and in 1880 was incorporated the "Penobscot Valley Gorsedh of Bards and State of Maine Branch of the Druidic University of North America, for the purpose of promoting literature, science, art, medicine, philosophy, and other branches of knowledge and industry, according to the graded and seven year's curriculum of the bards," etc. Both infirmary and university are domiciled in the wooden structure already mentioned, although no accommodations for patients were visible, nor means for instruction other

than a skeleton and a few miscellaneous bones, an antiquated electrical machine and a copy of Neil and Smith's Compend of Medicine, edition of 1864. The diploma was elaborate, however, in "double and twisted" Latin, as stated by the vendor, with the addition of certain phrases which resemble Welsh.

The fact that such institutions can be incorporated and do business under the laws of Maine, shows that either the Maine laws regulating corporations are very lax or that the lawgivers of the State are somewhat careless in their attention to matters before them.

In an interview, subsequent to the *Herald's* exposure, with a Lewiston reporter, "Dr." York pretended to regard the matter as a good joke, and denied selling a diploma, saying that the document was only a copy of a society diploma, an allegation which the document itself does not support. At this latter interview a degree from the famous Buchanan University, seen by the *Herald* reporter, had disappeared from the Druidic Doctor's walls.

The exposure has already been followed by action on the part of the Maine Legislature, which has in view the repeal of the charter of the Druidical University. Legislation should also provide for the future, that the legal existence of such institutions may no longer be possible.

MEDICAL NOTES.

BOSTON.

—The Committee on Public Health of the Massachusetts Legislature consists, on the part of the Senate of, Jubal C. Gleason, M.D., Rockland; Edward J. Jenkins, Boston; Edward Glines, Somerville. On the part of the House: Theodore Giddings, M.D., Great Barrington; Samuel B. Bird, Framingham; John Larrabee, Melrose; Daniel J. Maguire, Boston; Luther Conant, Acton; Jonathan Bigelow, Watertown; James Sullivan, Boston; Felix F. McCue, Montague. This Committee has at present before it the question of lowering the standard for pure milk.

NEW YORK.

—Dr. D. G. Brinton, of Philadelphia, who has recently been elected Professor of American Linguistics and Archæology in the University of Pennsylvania, recently delivered a lecture before the New York Historical Society on "American Aboriginal Poetry."

—The Committee on Books and Newspapers of the State Charities Aid Association report that, during the past year, they distributed in hospitals and other institutions over 95,000 daily newspapers, 22,500 illustrated and weekly papers, 8,000 magazines, 2,800 bound books, and 5,000 Christmas cards.

—A legal case arising from railway injury in Troy, has just been finally decided by the Court of Appeals, after seventeen years of litigation. In April, 1870. the plaintiff, then a girl of ten years, was run over by the New York Central and Hudson River Railroad cars, while crossing an alley, and one of her legs was so badly crushed that two successive amputations

above the knee were required. The case has been tried four times in the Circuit Court in Troy, and seven appeals to the General Term and to the Court of Appeals have been taken by the unsuccessful party for the time being. In the fourth trial, the jury gave a verdict of \$7,500 for the plaintiff, and this has now been sustained by the Court of Appeals. The cost to the defendant, including interest, extra allowance, and court charges, is nearly \$20,000.

PHILADELPHIA.

—The Alleghany County Medical Society has voted an appropriation of one hundred dollars towards the expenses of the international Medical Congress, at Washington. Other County Medical Societies are preparing to follow this example.

—A death, last week, during the administration of chloroform at one of our College clinics, may serve as a text for repeating the old homily on the dangers of anæsthetics. As usual, the chloroform was administered for a trifling operation, breaking up some adhesions after symyitis of the wrist; and, as usual, the patient was moribund before attention was attracted to symptoms indicating danger. The coroner's jury found that the patient had a fatty heart, and exonerated the physicians, but the stubborn fact remains that he died during the administration of chloroform. It would seem only a reasonable precaution for each hospital to have an experienced anæsthetizer upon its staff, who should be intelligent enough to appreciate the responsibilities involved, and sufficiently trustworthy to assume them.

—The draught of an Act creating a State Board of Medical Examiners, prepared by a Committee of the State Medical Society, was submitted to the Philadelphia County Medical Society, recently, and favorable endorsement refused on account of the composition of the proposed Board, which was to be "mixed." There is a strong feeling that there should be some attempt to protect the community from ignorant and incompetent physicians, by the State. The registration law has done some good since it compels the showing of credentials, but this is but a slight gain. It is felt that some form of license to practice should be demanded, and that dependance upon the diploma as an evidence of fitness is a poor substitute for a State examination. Something of this kind is already required in the case of physicians who come into Pennsylvania with foreign diplomas, since it has been ruled by the Supreme Court that the Faculties of our Medical Schools "must satisfy themselves of the qualifications of the applicant," before endorsing the diploma, as required by the Act of June, 1881.

—While on the subject of legislation affecting the interests of the medical profession, it should be noted that the druggists are advocating a bill to advance pharmacy. It seems, however, that by its provisions a druggist is allowed to practice medicine so long as he confines himself to prescribing over the counter, and charges no specified fee, although he may demand

his own price for medicines furnished. There are also some restrictions placed upon physicians which, to say the least, are not demanded by the profession. Strange to say, an appeal is circulated among physicians for their signatures in favor of the passage of this law.

—The operation of excision of the larynx for malignant growth was performed at the Hospital of the University of Pennsylvania, on the 2d inst., by Prof. D. Hayes Agnew. The patient was a man, sixty-five years of age, of fair health but of rather intemperate habits, who six months ago applied to Dr. J. Solis Cohen, for some difficulty in his throat. A tumor of small size was discovered upon the upper portion of the arytenoid cartilage of one side; subsequently this steadily increased, until at the time of operation it was as large as a walnut. It grew upwards into the pharynx and had not encroached upon the glottis. Its surface was smooth, and it presented the appearance of sarcoma. The patient was fully etherized, and an incision made along the front of the thyroid cartilage and trachea. Preliminary tracheotomy was not performed; but the trachea was dissected for a short distance from the œsophagus, so that a ligature could be passed around it. The trachea was then cut across, and a silver tube, bent more acutely than those generally used, was slipped into a piece of rubber-tubing and the whole passed into the trachea, fitting it like a cork in a bottle; the ligature was then fastened so as to keep it in place. A piece of soft rubber-tubing was then attached to the free end of the tracheotomy tube, and a peculiar apparatus affixed to it. A funnel had its broad extremity covered with wire gauze, then a piece of flannel was laid over this, upon which the ether was dropped. This answered admirably for maintaining anæsthesia during the operation. The remainder of the operation consisted in dissecting the larynx free from its attachments, dividing the epiglottis at its beginning, and removing several inches of the pharynx which appeared infiltrated. The wound was dressed antiseptically. The patient was nourished by means of an œsophageal tube. Dr. Formad, after examining sections of the growth, pronounced it epithelioma. The patient died on the fourth day after the operation, from exhaustion.

Correspondence.

THE DOCTOR'S MESSAGE AGAIN.

NEW YORK, February 7th, 1887.

MR. EDITOR, — In your issue of February 3d, "B" wants to know what the Greek sentence on his office slate meant. The translation is "My relatives wish me to go home." But, goodness gracious! *ἡμεῖς δὲ δι' ἀγάπην τοῖς γένοιτο καμωμένοι σὺν ἡμῖν εἶναι τὸ τοῖς ἰατροῖς ἐλληνιστὶ διαλέγεσθαι.*

Yours respectfully,

ROBERT T. MORRIS.

[For the benefit of the physician who failed to understand the message on his slate, a translation of the above

is appended: "We certainly supposed the sick in Boston were in the habit of speaking Greek with their physicians." — Ed.]

St. Louis, 507 N. 14th St.
February 8th, 1887.

MR. EDITOR,—In reply to your correspondent "B," whose article appears in your issue of February 3d, requesting a translation of the following Greek sentence left on his table by some patient, I send my contribution. The sentence was "οἱ ἀναγκᾶσι, ἐπεὶ χρήζουσιν οἰκάδε ἵεναι." To translate this may require some little thought, as it seems to be in the Attic dialect. "My necessities (the Fates, or my relations) require me to go home," is the way I should render it. Your subscriber "wonders how many of your readers can translate this sentence." I should

suppose it would be quite unnecessary to go out of Boston for a translation, but that every medical graduate of Harvard University ought to be able to translate it. In the opinion of the undersigned (a constant subscriber of your valuable JOURNAL for more than twenty years past) no one should be allowed to graduate as a doctor of medicine until conversant with the classic tongues.
Very truly yours, T. G. C., M.D.

EAST BOSTON, February 10th, 1887.

MR. EDITOR,—I would suggest as a translation to your Greek correspondent, "I cannot wait any longer;" or, more literally, "Necessity obliges me to go home." I hope the doctor will have the good fortune to see that patient; he is truly a *rara avis*.
Yours respectfully,
A READER.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	793	342	25.74	20.54	1.43	10.01	9.75
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	144	62	11.04	8.28	1.38	2.76	—
Boston	400,000	170	52	15.93	16.52	2.36	7.08	1.77
New Orleans	242,750	102	22	9.80	14.70	3.92	3.92	—
District of Columbia	210,000	91	22	8.72	3.27	2.18	—	—
Pittsburgh	210,000	76	31	32.88	13.15	1.32	7.92	10.49
Providence	121,500	47	9	16.04	10.65	2.13	4.26	2.13
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	8	16.66	27.77	—	11.11	—
Charleston	60,145	28	9	—	7.14	—	—	—
Portland	40,000	11	4	27.27	—	9.09	—	9.09
Worcester	68,383	15	9	13.23	26.66	—	6.66	—
Lowell	64,051	37	10	10.80	18.90	5.40	—	—
Cambridge	59,660	13	3	—	23.07	—	—	—
Fall River	56,863	14	4	35.70	7.14	14.28	—	7.14
Lynn	45,861	14	4	—	7.14	—	—	—
Lawrence	38,825	13	2	15.38	7.69	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	6	—	33.33	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	2	10.00	—	—	—	10.00
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	6	1	16.66	16.66	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	9	2	—	22.22	—	—	—
Brockton	20,783	8	4	12.50	37.50	—	—	—
Newton	19,759	3	1	—	—	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	5	0	—	20.00	—	—	—
Waltham	14,609	9	2	11.11	11.11	—	—	—
Newburyport	13,716	10	3	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,662: under five years of age 614; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases whooping-cough, erysipelas and fevers) 315, acute lung diseases 268, consumption 240, diphtheria and croup 108, measles 90, diarrhœal diseases 20, typhoid fever 27, whooping-cough 12, scarlet fever 10, puerperal fever 10, malarial fever nine, small-pox eight, erysipelas six, cerebro-spinal meningitis five. From typhoid fever, Baltimore six, New York, District of Columbia and Pittsburgh four each, Boston three, Lowell two, Providence, Worcester, Lawrence and Chelsea one each. From whooping-cough, New York eight, Pittsburgh two, Baltimore and New Orleans one each. From scarlet fever, New York five, Boston, Portland, Pittsburgh, Providence and Brockton one each. From puerperal fever, New York, Pittsburgh and Providence two each, District of Columbia, Lawrence and Waltham one each. From malarial fevers, New York four, Baltimore three, New Orleans and District of Columbia one each. From erysipelas, New York four, Boston two. From cerebro-spinal meningitis, Boston and Fall River two each,

New York one. From small-pox, New York seven, Pittsburgh one.
In the 18 cities and greater towns of Massachusetts, with a population of 943,711 (population of the State 1,941,465) the total death-rate for the week was 18.95 against 22.45 and 20.74 for the previous two weeks.
In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending January 22d the death-rate was 22.8. Deaths reported 4,043: infants under one year of age 789; acute diseases of the respiratory organs (London), 531; measles 146, whooping-cough 92, scarlet fever 62, diarrhœa 36, fever 33, diphtheria 23.
The death-rates ranged from 15.0 in Derby to 33.8 in Plymouth; Birmingham 23.7; Hull 21.5; Leeds 28.4; Leicester 19.0; Liverpool 26.4; London 21.8; Manchester 30.1; Newcastle-on-Tyne 26.2; Nottingham 22.3; Sheffield 19.3; Sunderland 22.5.
In Edinburgh 23.2; Glasgow 27.8; Dublin 32.2.

The meteorological record for the week ending February 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Feb. 5, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 30	29.766	38.0	40.0	34.0	95.0	98.0	85.0	93.0	N.E.	S.E.	S.W.	4	7	15	O.	O.	C.	—	—
Monday, ... 31	30.134	27.0	40.0	23.0	56.0	47.0	50.0	51.0	W.	N.W.	N.	14	12	11	F.	O.	O.	—	—
Tuesday, ... 1	30.543	20.0	26.0	16.0	92.0	51.0	49.0	64.0	N.	N.	N.	20	14	13	O.	F.	O.	—	—
Wednesday, ... 2	30.668	19.0	27.0	15.0	87.0	100.0	100.0	96.0	N.	N.E.	N.	10	32	16	N.	N.	N.	—	—
Thursday, ... 3	30.196	21.0	30.0	10.0	92.0	90.0	90.0	91.0	N.	W.	S.W.	13	8	6	O.	Sl.	O.	—	—
Friday, ... 4	30.440	24.0	33.0	14.0	68.0	46.0	73.0	62.0	W.	N.W.	N.W.	20	19	18	F.	F.	C.	—	—
Saturday, ... 5	30.850	18.0	22.0	5.0	60.0	35.0	54.0	50.0	N.W.	W.	S.W.	11	6	6	F.	C.	O.	32	.72
Mean, the Week.	30.371	23.8	41.0	23.0				72.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 5, 1887, TO FEBRUARY 11, 1887.

FRYER, BLENCONE E., major and surgeon. Ordered to Fort Lowell, Ariz. Ter. S. O. 29, A. G. O., February 4, 1887.

LORING, L. Y., captain and assistant surgeon. Leave of absence still further extended three months on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

BRECHENSIN, LOUIS, captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

BARROWS, C. C., first lieutenant and assistant surgeon. Ordered for temporary duty as post surgeon at Fort Barrancas, Fla., to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

WOOD, LEONARD, first lieutenant and assistant surgeon. Ordered to proceed to these headquarters and report to the department commander, for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, February 22, 1887, at 7.45, p.m. Communications: I. "Remarkable Hypertrophy of the whole Right Leg, with Exhibition of the Case," F. C. Martin, M.D. II. "Experimental Research on Rabies," H. C. Ernst, M.D. III. "A Case of Intra-Orbital Abscess," W. S. Everett, M.D.

S. ALLEN POTTER, M.D., Secretary.

APPOINTMENT.

Dr. J. W. Pratt has been elected Superintendent of the Massachusetts General Hospital.

OBITUARY. EZRA DYER, M.D.

Dr. Ezra Dyer, whose death on February 9th, has just been announced, was formerly a resident of Cambridge, and graduated at Harvard, in the class of 1857. He studied medicine with the late Dr. Jeffries Wyman, and after passing a year as House-Surgeon at the Massachusetts General Hospital, sailed for Europe in the autumn of 1859. Remaining at Bonn a few months, for the purpose of familiarizing himself with the German language, he reached Vienna before the close of the year, and there decided to devote his entire attention to the study of ophthalmology; which science, thanks to the recent labors of Graefe, Arlt, and Donders, had just been re-created. Those illustrious masters were then in their prime, and Dr. Dyer, for the next two years, followed their personal teaching, dividing his time, for this purpose, between Vienna, Berlin and Utrecht. He also entered the clinique of Desmarres at Paris, and came to London for the advantages to be derived from attendance at Moorfields, where Bowman and Critchett were at the height of their fame.

Returning to this country in the latter part of 1861, he settled first in Philadelphia, where his services were almost imme-

diately engaged in the ophthalmic department of the government military hospital at West Philadelphia, and where, too, he rapidly built up a successful practice. Some years later the health of a member of his family obliged him to seek a change of climate, and he removed to Pittsburgh. While there he met with a severe accident, and his own health having been seriously affected by the shock, as well as by the confinement he was obliged to undergo, he again removed to Newport, R.I., by the advice of his physicians. But he failed to gain the benefit he had hoped from the more genial air and milder climate of this resort, his strength slowly failed, and he died at sea, on the voyage from Savannah to New York, while returning from a brief excursion to Florida.

Dr. Dyer was one of the original members of the American Ophthalmological Society, and his name was a household word in the annals of this branch of surgery in the United States. Among his many services to science we have here only space to allude to the beautiful and ingenious perimeter, figured in the last volume of the Society's Transactions, and more especially to his discovery of the proper treatment of simple asthenopia, which under the name of "morbid sensibility of the retina," had been the despair of ophthalmic surgeons for one or two generations. His method of gymnastic training of the eye, the conception of which was due to his own experience as a trainer for athletic contests during his undergraduate days, revolutionized practice in this affection; gave a large percentage of successful results, and under the name of "Dyerizing," is widely known and generally appreciated at home and abroad.

To this hasty and imperfect notice a single word must be added. For thirty years past the writer has had the privilege of Dr. Dyer's personal and intimate friendship. He has realized, as few others could, the rare combination of clearheaded judgment, generous frankness and simple loyalty that made up his character. He was in the truest sense a friend in need; devotion and unselfishness personified. May he rest in peace.

H. D.

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Lecture.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.¹

BY M. ALLEN STARR, M.D., PH.D.,
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III. SPONTANEOUS CASES.

IN a considerable number of cases of multiple neuritis no cause of the disease could be definitely ascertained. Great fatigue by walking, or by hard labor and exposure to dampness and cold, are assigned as causes in some of these cases, and may have acted as etiological factors. In others the disease seems to have developed spontaneously.

Symptoms. Turning now to the consideration of the individual symptoms of multiple neuritis and their course, we are at once impressed by their number and variety.

The *sensory symptoms* are the earliest to appear and the last to pass away. In the majority of the cases on record, from whatever cause, numbness, tingling, or formication usher in the disease. These forms of paræsthesiæ begin in the feet and hands, and extend to the knees and elbows. They may be associated with burning, stretching, boring, or tearing sensations, which distress the patients, especially during the onset. But all such sensations usually subside as the affection reaches its height. Their recurrence, as the case goes on, may be regarded as a favorable symptom, however annoying, for they frequently precede recovery, and are among the last evidences of the disease to disappear. Pain is usually present as well as paræsthesiæ. It may occasionally be sharp in character; but is usually moderate and not continuous. At times it may be lancinating, and so severe as to necessitate the use of morphia. But it is rarely as distressing as in cases of locomotor ataxia. Tenderness in the nerves and muscles is a constant symptom. It may be so marked that the limbs cannot be moved or handled, and thus it may interfere with the application of electricity and massage. When the tenderness and pain are referred to the joints, as not infrequently occurs in the early stage of the disease, the case may be mistaken for one of acute articular rheumatism, and if the joints are swollen or the limbs œdematous, the difficulty of diagnosis is greatly increased.

In addition to these subjective feelings, some demonstrable disturbance of the various sensations is usually present. Hyperæsthesia to touch, and also to electricity, is not infrequently observed during the first few weeks. It is usually followed by some anæsthesia, although this rarely becomes complete. In some cases the loss of tactile sense is quite evident from the outset, either limited to the cutaneous distribution of some special nerve, in which case oddly-shaped areas of insensibility will be found, or, as is most often the case, about uniformly distributed over the distal parts of the extremities. When the anæsthesia is at its height, the patient has difficulty in locating a touch upon the limb, even though he feels it. The transmission of pain and temperature sensations is always delayed, but the impressions are usu-

ally felt quite acutely. The sense of pressure has been tested in only a few cases, and in those it was decidedly impaired. The muscular sense escapes any affection in some cases, but in others is the most profoundly disturbed of all the senses. When it is involved, the incoördination and ataxia are well-marked symptoms, and, as already stated, some of the cases have been mistaken for locomotor ataxia, because of the predominance of the disturbance of muscular sense.

These sensory symptoms are usually limited to the forearms and hands, and to the legs and feet. In a few cases they have involved the entire extremities, and even the trunk; and one case of facial tingling with anæsthesia has been recorded. The skin reflexes are usually preserved.

The special senses are rarely affected in multiple neuritis. It is true that optic neuritis has occurred in a few cases, and in two cases hearing as well as sight has been affected. These cases prove that no nerve can be said to be exempt from implication in this disease, but the liability to affection seems to be slight in the case of the nerves of special sense.

The *motor symptoms* are as marked and as important as the sensory. Paralysis, beginning as simple weakness, with a feeling of fatigue on any exertion, gradually increases in severity until, at the height of the disease, it becomes complete. It usually comes on rapidly, so that within two weeks the patient is helpless; but it may be less sudden, and not deprive him of the power of walking and of using his hands for two or three months. In a few cases a very acute onset is recorded, all the symptoms developing within three or four days. The distribution of the paralysis is not uniform at the outset. It may develop in the muscles supplied by a single nerve, and advance to others; it may begin in all the muscles of the legs, and then involve those of the forearms; it may commence in all four extremities at once. It is always more severe in the muscles which move the joints of the feet and hands, and the ankles and wrists. It rarely invades those which move the knees and elbows. When the disease is fully developed all the muscles below the knees and elbows are much weakened or totally paralyzed. In a few cases those of the thighs and arms are involved also, and occasionally the muscles of the trunk and those of respiration become affected and the patient dies. When such a paralysis makes rapid progress and involves all the body, the case resembles Landry's paralysis. But in multiple neuritis, as has been already stated, the disease does not creep up from legs to thighs, and then trunk and arms, as in Landry's paralysis. It spreads from feet to hands, from legs to forearms, and the trunk is invaded only at the end. In some cases of multiple neuritis the cranial nerves become involved; those of the eye and of the face being most liable to invasion. It is only in fatal cases that the action of deglutition has been affected; and when the pneumogastric is invaded, and the heart becomes rapid and irregular, the prognosis is always grave.

The paralyzed muscles are relaxed, flabby, and atrophied; they may or may not lose their mechanical irritability, but their normal tone is always lost, and hence the so-called tendon reflexes are abolished. To the electric current their excitability is very rapidly and markedly changed; but the conditions which have been observed are quite various. Some-

¹ Lecture II (concluded from page 154) of the Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, Jan. 28, 1887. For Lecture I, see page 101 of the Journal.

times there is a simple diminution of excitability, and then a very strong faradic or galvanic current is needed to produce contractions. Frequently all faradic excitability is lost, and then the muscles react to a galvanic current only. In this condition it may require a very strong galvanic current to produce contraction, and this fact is quite pathognomonic of neuritis. For an anterior polio-myelitis, where the muscles respond to galvanism only, it does not require a strong current to cause a motion until some months after the invasion. The action of the different poles is not uniform. In many cases the contraction of the muscle, when stimulated with the positive pole, is greater than when stimulated with the negative pole, and the contractions may be sluggish. Then the reaction of degeneration is present. But in some cases the normal condition is found, and the negative pole produces stronger contractions than the positive pole. If the muscles that are not paralyzed be tested, the same electrical changes may often be discovered in them. A loss of faradic irritability and a marked decrease in the galvanic irritability of the muscle and nerve are, therefore, important symptoms of multiple neuritis. And as the disease goes on to recovery, a gradual increase in the galvanic irritability occurs, a fact which is often of much aid in prognosis if careful measurements of the strength of current used be made by the galvanometer. I am accustomed to record such measurements upon charts, and thus to obtain an electric curve for each muscle which is paralyzed. These curves enable one to judge of the progress of the case quite accurately; and when the line is advancing steadily toward the normal point, after a great deflection or after a stationary level, the prognosis is very favorable.

As a result and accompaniment of the paralysis, *abnormal positions* are assumed by the limbs. The dropped wrist and dropped foot are quite characteristic of multiple neuritis. But other deformities may be present. In a few cases it has been necessary to resort to tenotomy, but a permanent deformity has not been recorded.

The *vaso-motor and trophic symptoms* are less constant than those already described. In some cases, marked œdema has been an early and permanent symptom. Sometimes profuse perspiration is a noticeable symptom, being limited to the paralyzed parts. It may be offensive, and by its evaporation always causes a complaint of coldness. In other cases glossy skin makes its appearance early, and remains until regeneration of the nerves begins. Its disappearance, in one of my own cases, was the first sign of recovery in the lower extremities. Other forms of trophic disturbance are rarely met with in multiple neuritis. And this is quite remarkable, in view of the fact that it has been the tendency of late to refer such trophic affections as ulcerations, bed-sores, gangrene, peniphigus, and various eruptions, to lesions of the nerves.

A negative symptom of some importance is the absence of any interference with the automatic acts controlled by the sphincters.

One word about the onset. Occasionally it is sudden and accompanied by a marked febrile movement, with chill, and temperature of 103° to 104.5°. The fever may persist for several days, but usually subsides spontaneously, and does not recur. In a few cases there has been a constant elevation of temperature from one-half a degree to one and a half degree

above the normal; and an increase in the rapidity of the pulse throughout the disease has been noticed. A pulse of ninety need give no alarm, but if it runs up to one hundred and forty, and becomes irregular, there is reason to believe that the disease has attacked the vagus nerve, and then the prognosis becomes serious, though not by any means hopeless.

The duration of the disease varies considerably in different cases. An average of twenty-five cases gives seven months as the probable time required for complete recovery. But in these cases the duration varied from two months in the most favorable, to sixteen months in the most refractory.

The disease is more common in males than in females, excepting the form produced by alcoholism. Of 47 non-alcoholic cases, 33 were males.

All ages are liable to be affected, but in the records of multiple neuritis, excepting the form produced by diphtheric poison, the cases recorded do not include any children.

That children may be affected is, however, not at all improbable. Dr. H. D. Chapin, of New York, has described four cases of atrophic paralysis in children, in which the presence of sensory symptoms, pain, and muscular tenderness, and the steady progress toward recovery, pointed to the existence of multiple neuritis. The cases were such as are usually called infantile paralysis, but there were points of difference (namely, the existence of sensory symptoms) which removed them from this category.

Diagnosis.—While the individual symptoms occurring in the course of multiple neuritis are not different in character from those found in spinal cord diseases, the diagnosis can usually be reached with very little difficulty when their combination, the causation, and the course of the case under examination are considered. The varying combination of the symptoms possible has been manifest during their description, and it is not my intention to review them again. There are, however, three combinations which resemble very closely, respectively, anterior poliomyelitis, locomotor ataxia, and diffuse myelitis, and to these attention must be directed. Atrophic paralysis, with reaction of degeneration and loss of reflex, is common to anterior poliomyelitis, and some cases of multiple neuritis. In the latter, a more gradual onset, preceded and attended by numbness and pain, tenderness in the course of the nerves, tenderness in the muscles, and the persistence of sensory symptoms after the invasion, will remove all doubt regarding the diagnosis. When these symptoms are not clearly marked, the distribution of the paralysis in symmetrically situated muscles, especially if these muscles are supplied by single nerves, and the further extension to muscles in other nerve domains, rather than the affection simultaneously of muscles which are grouped physiologically (that is, act together to perform one function), will point to neuritis. In neuritis the paralysis advances more or less gradually, while in acute poliomyelitis there is, after the onset, a subsidence of the paralysis in some of the muscles first involved. And lastly, as the case goes on, a gradual complete recovery will be far more frequent if it was originally a case of multiple neuritis.

Ataxia, loss of knee-jerk, pain, and sensory disturbances, including a loss of muscular sense, Romberg's symptom, and optic neuritis, are common to locomotor ataxia and multiple neuritis. In the latter, the relatively rapid onset of the ataxia, which follows closely

upon the sensory symptoms; the prominence of numbness and anæsthesia, rather than of lightning pains; the extreme degree of the anæsthesia and analgesia; the tenderness of muscles and nerves; the usual occurrence of some degree of actual paresis, with atrophy and R.D.; and the absence of bladder and sexual symptoms, will point inevitably to the diagnosis. Furthermore, the ataxic form of neuritis only occurs after poisoning with alcohol or arsenic, or as a sequel of diphtheria, and the establishing of the causation will aid the diagnosis. Here, again, the course of the case toward recovery, with the return of the knee-jerk, will decide in favor of neuritis, if the diagnosis has not been reached in an early stage.

There are very few symptoms of diffuse myelitis which are not found in cases of neuritis. But cases of diffuse myelitis of the type of Duchenne, *paralysie générale spinale subaigue ascendante*, are very rare, and indeed, by Leyden it has been affirmed that all such cases are multiple neuritis. Other authorities dispute this assertion, and leave us to establish points of difference. These are as follows: In neuritis, affections of the functions of micturition and defecation do not occur. Girdle sensation is very rarely mentioned as a symptom. Bed-sores and cystitis have not been observed. The advance of the paralysis from the legs to the thighs and trunk, and then to the arms; it is usually from the legs to the forearms, the thighs and trunk escaping, and, as a rule, the distal portions only of the extremities are paralyzed. If the muscles of the abdomen and respiration are involved, it is only in rapidly fatal cases. In neuritis there is usually some ataxia, and loss of muscular sense is quite evident; while in some, at least, of the cases of myelitis of Duchenne, there were no sensory symptoms at all. Finally, the tenderness of muscles and nerves, and the absence of tenderness to pressure or to heat in the spine, would decide in favor of neuritis. The diagnosis from meningitis of the cord, from tumors or hæmorrhages into the cord, or from general paralysis of the insane, would rarely present any difficulty to one who was familiar with the symptoms in those affections, and who knew the prominent features of multiple neuritis.

No small difficulty may be encountered, however, in settling the question whether in a given case we have to deal with multiple neuritis alone, or with multiple neuritis which is complicated by myelitis. The importance of the question is evident, since the prognosis in the two conditions is very different. And the number of autopsies on record in which this complication has been demonstrated, though few, is sufficient to make a decision of the question necessary. The following points may enable a determination of the question to be reached: (1) As long as a case is increasing in severity, or in the extent of the symptoms, no one can determine the extent of the lesion. It is only when its course has become stationary that the question of exact limitation will arise. Many cases remain practically without improvement for three or four months, and then gradually recover. A stationary condition alone does not, therefore, excite fear of a complication. But neuritis tends spontaneously to recover, the process of regeneration beginning soon after the degeneration has ceased. If, therefore, there appears to be no improvement of the condition after the fourth month, the probability is either that the cause of the disease has not been removed, or that

a myelitis has developed and prevents recovery. (2) The cause of a case of neuritis is quite characteristic, the symptoms reaching their maximum in a short time, and then subsiding. If, after a stationary period, further symptoms develop, we must believe either that the cause of the disease is renewed (for example, the use of alcohol) or that myelitis has begun. The symptoms of such a myelitis will be an increasing weakness, and more rapid and progressive atrophy of the muscles; a gradually-decreasing degree of galvanic excitability in the paralyzed muscles; a loss of pain and temperature-senses, which, as a rule, are not affected in neuritis; a decrease in the paræsthesia, and an increase in the degree of anæsthesia; the development of loss of control over the sphincters; the occurrence of bed-sores, furuncles, eruptions of a bulbous nature, and the beginning of cystitis. (3) On the other hand, if the symptoms are gradually improving; if the power gradually returns; if the anæsthesia decreases, and is succeeded by paræsthesia, however disagreeable to the patient; if the galvanic excitability becomes gradually more acute in the muscles, so that the electric curve approaches the normal line; if the faradic contractility returns in the muscles; if the tenderness of muscles and nerves decreases; and if the glossy appearance of the skin disappears, it may be stated that no complication of myelitis has occurred, and that recovery, though possibly prolonged, will at length result.

Another question of diagnosis must also be considered. It is found that in no small number of cases of locomotor ataxia multiple neuritis develops as a complication. How can we determine when this complication exists? The symptoms of the two diseases may be so nearly identical that difficulty arises in distinguishing them. When they coincide it is equally difficult to determine to which any given symptom belongs. Pitres and Vaillard, who have considered this subject most carefully, affirm that there is no constant relation between the severity of the central and peripheral lesions when they coincide. But there are certain symptoms which develop in some cases of tabes, but not constantly, which may be looked upon as accidental, and thus traced to neuritis. Such are the appearance of plaques of anæsthesia and analgesia of limited area, muscular weakness or paralysis of limited extent, trophic disturbances in the skin (for example, perforating ulcer), nails, joints (for example, Charcot's disease), bones (for example, spontaneous fractures), and teeth (for example, spontaneous falling out), and possibly the various crises referrible to the viscera and larynx. In cases which competent observers have examined, peripheral neuritis has been found *post-mortem* in the nerves supplying the parts in which these symptoms appeared. It is, therefore, reasonable to conclude that in any case of locomotor ataxia in which the symptoms develop, we have to deal with a posterior sclerosis which is complicated by a peripheral neuritis. And here again the distinction has a bearing upon the prognosis, for the symptoms of the accidental kind may pass off, while those due to the central lesion will remain. While these conclusions of the French authors are of importance, it must be noticed that their claim that trophic disturbances are due to a complicating neuritis is by no means substantiated by the history of cases of multiple neuritis, in which, as we have seen, trophic disturbances of the varieties mentioned do not occur.

Prognosis.—The prognosis in multiple neuritis is good, provided the exciting cause can be removed. The only cases which form an exception to the rule are those whose constitution is much impaired by excesses or by other diseases.

Treatment.—The treatment of multiple neuritis requires patience, but receives the reward of success. As we have already seen, the majority of the patients recover, and it is probable that, if the cause of the affection were removed and the patients placed in favorable circumstances, expectant treatment would alone be sufficient. It is, however, not advisable to let therapeutics play a passive part. The course of the disease can be altered and its duration much shortened by active interference. In the stage of invasion the free use of salicin, salicylic acid, or the salicylate of soda, seems to have important results. These remedies cannot be said to act as promptly as in cases of acute articular rheumatism, but the consensus of opinion is that their effect in multiple neuritis is very marked. They should be given, as in acute rheumatic fever, in large doses, until noticeable effects are obtained. They should be combined with the bromide of potash or soda, partly because these drugs counteract unfavorable symptoms produced by the salicin compounds, and partly because, in the hyperæsthetic irritable condition attendant upon the invasion of the disease, they are indicated. This condition may require stronger sedatives, and not infrequently morphine must be employed to give relief from the excruciating pains. The pains are often relieved by hot or cold applications to the limbs; but as the muscles are often exceedingly tender, ordinary applications cannot be made. It is then advisable to use evaporating lotions, preferably those containing chloroform, which may be soaked into light cambric or gauze, and gently placed upon the limbs, which lie upon the softest pillows, or which may be more comfortable if the patient is put upon a water-bed. Applications of a five per cent. solution of carbolic acid have also been of use. If cool applications prove intolerable, heat may be employed. The limbs may be enveloped with cotton and covered with oiled silk, a light bandage keeping these in place; or they may be frequently bathed in hot water, and hot bottles placed against them, some soft substance intervening. One of my patients found great relief from the paræsthesia by cold douches, while another preferred the use of hot water. It is best to let the patient decide, as long as the application has to be made for the relief of pain. Gentle friction with oil of cocoonut often affords comfort. In the chronic stage, as we shall see presently, heat is to be preferred to cold. Cases which are distinctly syphilitic, if such occur, should be treated from the outset with inunctions of mercury and large doses of iodide of potash. I believe that both these drugs should be employed together, even in the tertiary stage of syphilis, and it is my experience that all syphilitic nervous lesions, whether central or peripheral, yield more promptly to their combined use than to the employment of either alone. Malarial cases must be treated with quinine or Warburg's tincture. In non malarial cases quinine has proved of no avail. In cases which are due to poisoning of any kind the first necessity is to eliminate the toxic agent from the system, and the second to prevent any further injection of the poison. Iodide of potash aids in the elimination. The second indication is easily fulfilled when

arsenic or lead are the toxic agents; but when the case is due to chronic alcoholism special precautions are needed. Alcoholic cases require from the outset special treatment. The condition at the time of the onset of the paralysis may be one verging upon delirium tremens. If all alcohol is suddenly removed, without due care to supply some other heart-stimulant and to secure the perfect nutrition of the patient, serious collapse may ensue. The first necessity is therefore to take care of the general condition of the patient. If this will admit of the immediate withdrawal of all alcoholic stimulation, it should be done; if not, the alcoholic beverage must be immediately reduced in quantity, and as soon as possible wholly cut off. The use of milk diet, or kumyss, or pancreatized milk, or if necessary, rectal alimentation, will be followed by a gradual recovery of the power of assimilation, and as soon as the patient ceases to lose weight all alcohol may in any case be safely stopped; its elimination by the intestines and kidneys may be hastened by appropriate means, and cerebral symptoms if they arise may be treated as in other cases of alcoholic intoxication. But it is in the chronic stage, when the patient is gradually recovering, that the vigilance of the physician is called into play to prevent a renewal of the poisoning. It is amazing that patients who know perfectly the injurious effect of alcohol upon them should insist upon getting it. But it is done. And when these patients are surrounded, as is often the case, by sympathizing friends, or servile domestics, or unscrupulous nurses, who do not appreciate the importance of total abstinence either for themselves or for the patient, they often succeed in baffling all attempts to deprive them of the favorite drink. It is only when they are watched constantly by persons who can be implicitly trusted, and who have sufficient authority to cut off all surreptitious supplies, that the physician can feel sure that his commands are obeyed. And this precaution is by no means needless even when it is probable that family servants are trustworthy. For the continued pleading and remonstrance of the patients may corrupt the best of attendants, especially if accompanied by threats of discharge at a future day. It is therefore necessary to place these patients under the surveillance of trained nurses from the start, or to remove them to an institution where they are under control.

In the chronic stage the drugs which are of great service are strychnia and arsenic. Strychnia may be given in doses of $\frac{1}{60}$ to $\frac{1}{30}$ gr. t.i.d. and it is well to combine it with phosphoric acid and the syrup of the hypophosphites. Arsenic may be used in tablets or pills containing $\frac{1}{30}$ to $\frac{1}{60}$ gr. t.i.d. or in Fowler's solution, five to eight drops t.i.d. The use of iron with these two drugs will be indicated in the majority of cases where there is attendant anemia. In alcoholic cases both arsenic and strychnia may increase the mental irritability, but should be continued unless this becomes too great. I have seen benefit from both of these drugs, and think it well to employ them alternately, using each for about two weeks at a time.

The remedies used in the chronic stage have two objects: one is to increase the rate of repair in the nerves; the other is to keep the nutrition of the muscles as good as possible. While the drugs mentioned probably meet the first indication, there are other remedies which meet both. These are massage, warm baths and electricity. The proper manipulation

of the limb increases the circulation^o in it. The increase of circulation brings fresh supplies of material to the nerve which is undergoing repair; it also aids the nutrition of the muscle, which would otherwise be decidedly affected by the sluggish flow of venous blood, due to the lack of functional activity. As soon, therefore, as the active progress of the disease is checked and the muscular tenderness has sufficiently subsided to allow the limbs to be rubbed, this potent remedy should be employed daily.

Allusion has already been made to baths and douches in the early stage, for the purpose of quieting sensory symptoms. In the chronic stage the object is a different one. Like massage, warm baths and douches stimulate the circulation and aid the nutrition and reparative processes in progress. Hence they are to be used daily. And if the warm bath be given at night it will secure not only a local action, but produce a general sedative effect, insuring quiet rest. In multiple neuritis, as well as in many other nervous affections, not due to anæmia, a warm bath at night, or a warm douche to the neck and spine, is far preferable to and more efficacious than the majority of hypnotic drugs in causing a good night's sleep.

The last agent to be mentioned is electricity. It is, however, among the first in importance, and in its use it is necessary to know what object is sought in its application. There is first the object of increasing the progress of nerve regeneration. This may be attained by the application of a constant galvanic current in the degenerated nerve, passing the current through the nerve in either direction, or in both alternately. A mild current should be employed, its strength being measured by a galvanometer. The strength of the current will depend: (a) on the size of the sponges placed upon the skin, (b) on the pressure upon the sponges, (c) on the resistance of the skin, and (d) on the number of cells of the battery used.

If the sponges are two inches in diameter, six milliamperes is enough; if they are three by five inches in measurement, twenty milliamperes should not be exceeded. If no galvanometer is used, the strength of the current employed is uncertain. But it is to be remembered that the current grows stronger the longer it passes, since the skin resistance is gradually overcome; and therefore, if the strength is measured in cells, the number of cells used should be decreased gradually during the application. As so few practitioners use a galvanometer it may be well to state that with large sponges, (that is, three by five inches) wet with warm water, a freshly-filled bichromate of potash battery will give nearly one milliamperè of strength for every cell used during the first three minutes, provided the sponges be put on any part of the body except the soles of the feet or the palms of the hands, and pressed firmly upon the skin. After the first three minutes, the body-resistance decreases, so that when twenty cells are used to start with, one should be cut off every half minute until the number is reduced one-third. The duration of the application should be about ten minutes to each limb. During this time the distal sponge should be passed over various parts, so as to include all the nerve-branches in the current; the central sponge should be put over the nerve-trunk high up on the limb. The current should be begun and stopped gradually, and never suddenly broken. Applications may be made daily.

The second object to be obtained is to re-establish the conduction of impulses in the regenerated nerve. This is secured by the method just described. It may be attained by the use of faradism, the interrupted secondary current being sent along the nerves by placing one pole over the nerve-trunk and passing the other over the skin of the limb. The strength used should be just sufficient to be felt distinctly through the palms of the operator's hands. The third object sought is to maintain the nutrition and function of the muscles by exercising them, and thus preserving their normal irritability. This cannot be done by a faradic current, as long as they do not contract to it. The galvanic current must therefore be employed. But now it is not a steady current which is needed, for this does not cause any motion. It is only when the steady current is suddenly broken and renewed, that the contraction occurs. Hence we place one pole over the trunk of the nerve, and the other upon the muscle, and with an interrupting electrode make and break the current at the pole which is on the muscle. The pole which produces a contraction with the least current possible, is the one to be applied to the muscle. This is in R.D., the positive; in normal conditions, the negative pole. Each muscle should be exercised for three or four minutes every other day. When electrical treatment is thus employed very marked improvement is observed, which can be measured accurately if a galvanometer is used, since every week will show a change of the strength of current needed to produce muscular contractions toward the normal.

The treatment must be kept up, in the chronic stage, until recovery is complete.

If contractures have occurred in the paralyzed limbs persistent massage may overcome them. If it does not, they are to be treated on general surgical principles.

Original Articles.

A CASE OF CONTRACTED FINGERS (DUPUY-TREN'S CONTRACTION) SUCCESSFULLY OPERATED UPON AFTER THE METHOD OF MR. ADAMS (ILLUSTRATED).¹

BY JOHN HOMANS, M.D.,
Surgeon to the Massachusetts General Hospital.

THE patient, who is thirty-two years old, is a conductor of a railway train. The contracted and perfectly stiff condition of the third and fourth fingers of his left hand vexed and hindered him all day long in his occupation of collecting tickets and fares. This contraction had been going on for nine years, and was started by a wound of the palm, until, when he applied for relief in March, 1886, his little finger was flexed almost completely on his palm; his ring-finger was bent at a right angle, and his middle finger was somewhat bent. He was admitted to the Massachusetts General Hospital, and I agreed to operate if he would take time for after-treatment and be patient, and not be disappointed if amputation of the little finger became necessary. I need not say that he deserves commendation for having been a most satisfactory patient. Dr. S. J. Mixer, Surgeon to Out-Patients at the Hospital, took these photographs (Figs. 1 and 2)

¹ Read before the Surgical Section of the Suffolk District Medical Society, December 1st, 1886. Patient exhibited.

before and after treatment, and I am under great obligation to him for this service, as well as for his uniform kindness and assistance in many other ways.

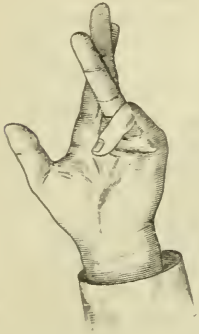


FIG. 1.

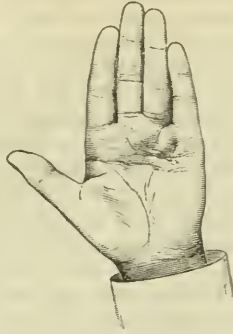


FIG. 2.

Mr. Adams states that finger contraction takes place in men at about the middle, or beyond the middle period of life. He has never seen it in women. As one finger (generally the little one) becomes bent, the next one follows, and then the next adjacent, but the first finger and thumb usually escape. The pathology and treatment of this contraction are not wholly settled; but the French surgeon, Dupuytren, in 1832, first showed that the flexor tendons have nothing whatever to do with the contracted state of the fingers, and that they are not shortened an atom, but that contraction of the palmar fascia, and its prolongations, binds down the fingers with bands as stiff and unyielding as steel; and that these contracted bands of aponeuroses have only to be divided thoroughly to liberate the stiff fingers.

I will quote at length, from Mr. Adams, a description of Dupuytren's discovery and conclusion.

"A man, who for some time had been under the observation of M. Dupuytren, and was the subject of this deformity, died, and M. Dupuytren succeeded in gaining possession of the arm and hand. A careful drawing of the parts was made before dissection. The whole of the skin was removed from the palm of the hand, as well as from the palmar surface of the fingers. The result was the complete disappearance from it of the folds into which it had been gathered. This opening-out showed that its arrangement during the disease was communicated to it, but in what way, or by what means, was not evident. Continuing the dissection, the Professor exposed the palmar aponeurosis, and was surprised to find it retracted and shortened. From its inferior part were given off bands, which passed to the sides of the affected finger. On making movements of extension in the affected fingers, M. Dupuytren observed that the aponeurosis underwent a kind of stretching and crackling. This threw light on the subject. It seemed clear that the aponeurosis was somehow connected with the deformity produced by the disease. The affected point remained to be discovered. The prolongations to the sides of the fingers were then divided; the contraction disappeared at once, and the fingers assumed their normal condition of one-third flexion. The smallest force was now sufficient to bring them into a state of complete extension. The tendons were not implicated in any way, and their sheaths had not been opened. All that had been done was the removal of the skin, and the divisions of the bands of aponeurosis going to the bases of the phalanges.

"In order to remove all doubt and objections, M. Dupuytren dissected out the tendons. They retained their natural volume and mobility, as well as the smoothness of their surfaces. Continuing the examination, it was found that the articulations were in their natural condition, the bones not enlarged, roughened, or presenting in any way, either externally or internally, the smallest degree of change. No alteration was observed in the apposition of the articular surfaces, nor in their external ligaments, no ankylosis; nor had the synovial sheaths, or the cartilages, or the synovial membranes, undergone the slightest change. The conclusion naturally arrived at from these conditions was that the starting point of the disease was the excessive tension of the palmar aponeurosis. As regards the cause of the palmar lesion, it was considered to result from injury to the aponeurosis, caused by the too violent or too prolonged action of some hard body held in the palm of the hand."

This deformity has since been spoken of as "Dupuytren's finger contraction"—a well-deserved compliment to a great observer and surgeon.

I will not discuss the causes of the affection, but will describe the operation in my present case, and that will give a good idea of the usual manner of proceeding: On March 27th, 1886, after etherization, a puncture was made between the transverse crease in the skin and the annular ligament (as advised by Mr. Adams) with a very fine tenotomy knife. This puncture should be made where the skin is not adherent to the fascia nor tightly stretched, so that the knife can be readily introduced between the two. I then cut downwards, dividing the tight bands and any digital prolongations that I could find. I then made a second puncture as near the finger as possible, and divided bands in the same way. Other punctures and divisions were then made between these two. All this cutting was done as subcutaneously as possible. The punctures were covered with carbolyzed absorbent cotton, and the fingers *immediately* straightened as much as possible, and bound to a moulded metallic splint. This *immediate* extension is a most important part of the treatment. Pain was relieved by morphia. On the 28th the fingers were somewhat swollen; on the 30th he was up and about. The extension was increased on the 31st, and the little finger was much straighter, and the ring-finger nearly straight. After this he was treated as an out-patient. Here are some illustrations from Mr. Adams's book, showing that the tendons are not all involved, as they may be seen lying against the phalanges and in their sheaths, while the cause of the contraction (the fibrous bands of aponeurotic tissue) are well shown.

Mr. Adams goes on to say:

"Anatomical impossibility of the flexor tendons being involved in contraction; the impossibility of the flexor tendons being involved in Dupuytren's contraction of the fingers, will, I think, become apparent to any surgeon after an attentive examination of the anatomical relations of the flexor tendons to the fascia and the bones at the parts where the most prominent contracted cords usually exist, namely, first, in the palm of the hand, at a spot corresponding to the transverse flexion furrow, where the most tense and prominent solitary cord generally exists; and, secondly, in the neighborhood of the cutaneous web between the fingers, where the smaller, but very resisting contracted bands of fascia are always met

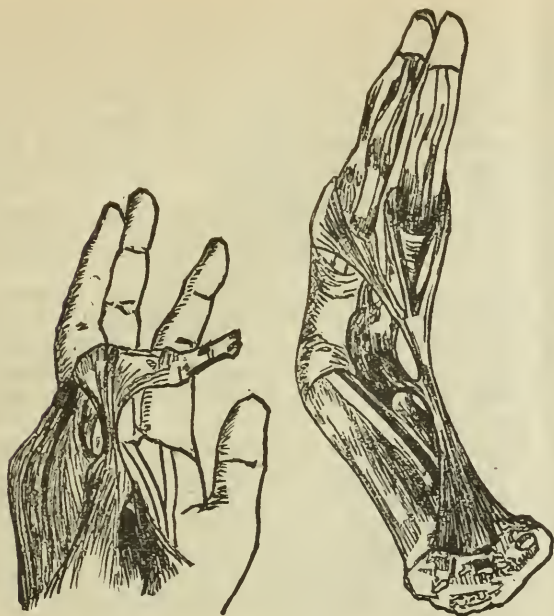


FIG. 3.

FIG. 4.

No. 3. More complete dissection of another specimen, showing flexor tendons in their normal position, and not in the least contracted. (After Adams.)

No. 4. Contraction of palmar fascia. (After Adams.)

with, and are directed towards the sides of the phalanges. At these two spots we have then particularly to study the anatomical relations of the flexor tendons to the fascia, and to the bones.

"First, with regard to the transverse flexion-furrow in the palm of the hand: by this, I mean a transverse crease which, on flexion of the fingers, is converted into a deep furrow, passing transversely across the palm of the hand, rather more than an inch above the margin of the cutaneous web between the fingers. This transverse crease or furrow is no doubt produced by the habitual flexion of the fingers upon the palm of the hand, and will be found to be more conspicuous in proportion to the hand-labor performed. This transverse crease, or flexion-furrow, precisely corresponds to the metacarpo-phalangeal articulations, and if a needle is entered at this transverse furrow on the palmar aspect, it will, in transfixing the hand, pass through the metacarpo-phalangeal articulation.

"Now, we know, as an anatomical fact, that the flexor tendons of the fingers enter into a dense tubular sheath on the palmar aspect of the first phalanx, just at the margin of the metacarpo-phalangeal articulation, and continue their course along the finger, in close proximity with the bone, so that a needle transfixing the hand from the transverse flexion-furrow in the palm, very closely indicates the spot at which the flexor tendons enter their dense tubular sheath. From this dense tubular sheath no anatomist would believe the flexor tendons could be dislodged by any traction power exerted by contraction of the palmar fascia; yet the spot at which the tendons enter the sheath, also corresponds to the most prominent part of the large solitary contracted cord, observed in the palm of the hand.

"Reasoning, therefore, from these anatomical facts, we can only conclude that the tense solitary cord in the palm of the hand must be one of the four large sub-divisions of the palmar fascia, into which it

divides, and which pass towards the four outer fingers, as far as the metacarpo-phalangeal articulations; and it is therefore impossible that the flexor tendons of the fingers could be reached or divided by the surgeon when he divides the tense solitary cord in the palm of the hand.

"Secondly, opposite the metacarpo-phalangeal articulations, the four great sub-divisions of the palmar fascia are connected by transverse bands, and then they subdivide into digital prolongations, which pass on either side of each finger towards their insertion into the bone of the first phalanx, external to, and along the margins of the dense tubular sheath enclosing the flexor tendons.

"The insertion of the digital prolongations of the fascia into the periosteum of the first phalanx, is not accurately described in many anatomical works—the insertion into the sheaths of the tendons being more generally recognized. Professor Curnow, of King's College, is in the habit of directing the attention of his class especially to the insertion of the digital prolongations of the palmar fascia into the periosteum of the first phalanx, external to and along the borders of the sheath of the flexor tendons.

"I have satisfied myself of the accuracy of this by my own dissection, and have seen it admirably displayed in the dissections used by Dr. Curnow.

"It appears to me that the drawing down of the first phalanx is the more readily explained when the insertion of the digital prolongations of the fascia into the periosteum is borne in mind.

"It will thus be seen that above and below the transverse flexion-furrow in the palm of the hand, we have important differences in the anatomical arrangement of the palmar fascia; above this line, we have the four great sub-divisions of the palmar fascia, proceeding centrally towards the four outer fingers; and below the line towards the fingers we have the digital prolongations of the fascia proceeding laterally to the sides of the phalanges.

"The tense solitary cord frequently seen above the transverse flexion-furrow might well, from its situation, direction, and thickness, be taken for one of the flexor tendons; and in my earlier operations I divided it in the belief that it was a tendon, or at least that the tendon and its sheath, as well as the palmar fascia, were involved in and contributed to form the tense contracted cord. The after-treatment, by gradual mechanical extension, was also based upon this supposition, which I have now satisfactorily proved to have been erroneous. It was the conviction of this error which lead me to abandon the method of gradual mechanical extension, and adopt the plan of immediate extension advocated in the present paper."

I have thought this case interesting enough to bring before this Society, and to call attention to the successful treatment of this very annoying disease.²

After a cure has taken place, it is well for the patient to wear some form of light retentive splint at night.

— The present value of the Johns Hopkins endowment is said to be about \$5,000,000. It yielded a net income, last year, of about \$226,000.

² For further information on this most interesting subject, the reader is referred to "Observations on contraction of the fingers and its successful treatment by subcutaneous divisions of the palmar fascia and immediate extension," by William Adams, F.R.C.S. London, J. & A. Churchill, 1879.

SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT AFTER HIP DISEASE.¹

BY E. H. BRADFORD, M.D.

NEGLECTED cases of hip-joint disease occasionally present themselves, in which, owing to extensive caries of the pelvis or in the length of the femur, excision offers no chance for a cure; in other instances excision has failed to arrest the destructive process in the bone, and the surgeon is left to choose between surrendering the patient to a lingering and wretched death, or the very radical measure of amputation at the hip-joint.

In making this choice he needs information as to the chances of recovery offered by amputation, and if the operation is decided on, as to the best method of procedure.

The former can not be found in the ordinary tables of mortality after amputation, as it would appear that the risk of death is greater when this operation is done after injury, or for the removal of tumors, than when the patient is freed by the amputation from an extensively carious and useless limb, which has itself served as an impediment to recovery.

Ashhurst² has collected thirty-four cases of primary amputation at the hip-joint for hip disease, and thirty-one consecutive, (that is, after excision,) and found nineteen deaths. This, rejecting five cases where the result was undetermined, would give a mortality of thirty-two per cent.³

The death-rate of amputation at the hip-joint after injury is 70.9 per cent., and for disease in general, 42.6 per cent.

It is to be expected that this percentage of mortality may be reduced by greater attention to detail, as in the case with other large operations. In fact, an examination of the accompanying table of cases of hip amputation (after hip disease) done since Ashhurst's table was made, would substantiate this idea. This is the more noticeable as important improvements in controlling hemorrhage have lately come into vogue in the operation.

LIST OF AMPUTATIONS AT THE HIP-JOINT FOR HIP DISEASE, NOT INCLUDED IN ASHHURST'S TABLES.

No.	Surgeon.	Result.	Reference.
1	Beddard	Recov'd	British Med. Jour., June 7, 1881, p. 1080.
2	Bradford	"	Boston Med. and Surg. Jour., Dec. 11, 1881.
3	F. Jordan	Died	British Med. Jour., loc. cit. [p. 564.]
4	"	"	" " " " "
5	"	Recov'd	" " " " "
6	Lediard	"	" " " " "
7	Littlewood	"	" " " " "
8	Lloyd	"	" " " " "
9	Lutz	"	St. Louis Med. and Surg. Jour., 1879, xxx-
10	MacLaren	"	British Med. Jour., loc. cit. [vii, p. 560.]
11	"	"	" " " " "
12	Marshall	"	British Med. Jour., 1885, xvi, p. 220.
13	"	"	" " " " "
14	"	"	" " " " "
15	"	"	" " " " "
16	"	"	" " " " "
17	"	"	" " " " "
18	May	"	British Med. Jour., June 7, 1884, p. 1080.
19	Pfleger	"	" " " " "
20	Roddick	Died	Phila. Med. News, 1885, xvi, p. 220.
21	Shuter	Recov'd	Clinical Society Trans, 1882-3, xvi, p. 86.
22	Spofforth	"	British Med. Jour., 1884, p. 1080.

According to Ashhurst, we have 60 cases, with 19

¹ Read at the meeting of the Surgical Section of the Suffolk District Medical Society, held December 1st, 1886.

² International Encyclopedia of Surgery, Vol. iv, page 501.

³ One of these nineteen fatal cases (that of Bullos) should strictly be considered an operative success, as death did not take place till three months after the operation.

deaths; in the table of later cases, 22 cases, with 3 deaths; making a total of 82 cases, with 22 deaths, giving a mortality of 27 per cent., and in the 22 cases done since 1880, a mortality of only 14 per cent.

This table does not include other successful cases reported by Denons, Buchanan Wheaton, as it was not certain from the report that the hip-joint was involved in the caries or necrosis.

The mutilation which results is the chief objection to the operation, but partially met by an artificial limb.

Artificial limbs have been reported as of use in the "Surgical History of the War of the Rebellion," (Part III, p. 131); and by Denons, *Bulletin and Mem. Soc. de Clin.* (xxxvii, 560.); Shuter, *Clin. Soc. Trans.* (1882-3, xvi, 86); and Barker, *Trans. Clin. Soc.* (1882, xvi, 258).

The two latter cases were done subperiosteally, and the resulting stump appeared to show a new bone or cartilaginous formation, in the periosteum of the femur left in the flap, which was of material assistance in the usefulness of the artificial limb. Shuter's case should be looked upon as illustrating a decided advance in the practical value of the operation.



An undoubted reformation of bone has taken place in the case operated upon by the writer three years ago. As yet no artificial limb has been fitted, as the patient is still young — ten years of age.

At the time of operation he was reduced to lowest limit of emaciation; excision of the hip had been done with but temporary benefit, and there was extensive disease of the pelvis and pelvic abscesses. He has steadily gained since the operation; several sinuses remained in the flap which was riddled before the amputation. A few abscesses have appeared in the stump from caries of the pelvis. These have, how-

ever, all healed with the exception of one, which has nearly healed. The boy has increased in weight, and now is heavier than boys of his age (ten years), weighing fifty-six pounds. According to Bowditch's tables, a boy of that age should weigh sixty-four pounds. He is fifty inches tall, which should give in the average boy a weight of sixty pounds. Considering that he has lost one entire lower extremity, which may be estimated as weighing at least ten pounds, it will be seen that he is above the standard in weight, an evidence that the carious process is arrested in progress.

Absolute economy of blood — of the utmost importance in all hip amputation — is vital in cases reduced to the physical extremity seen in cases of hip disease undergoing this operation.

For controlling hæmorrhage neither digital compression nor abdominal tourniquets are to be trusted, although the former can be used in children with less risk than in adults, and is still used by Marshall. Davy's lever in the rectum has caused death by perforation of the gut, and has little but novelty in its favor.⁴ Trendelenburg's method of compressing the flaps by means of a rubber tube which is placed over the thigh and is wound round both ends of a steel rod passed through the thigh, the vessels being compressed between the rod and the rubber tube, presents no advantages over an elastic compression properly applied. The best way is that described by Mr. Jordan Lloyd.⁵

The limb should be elevated and stripped of blood, and an elastic bandage is doubled and passed between the thighs,⁶ its centre lying between the tuber ischii of the side to be operated upon and the anus. A pad in the shape of a rolled bandage is tied over the external iliac artery, the ends of the rubber are drawn tightly upwards and outwards (one in front and one behind) to a point above the centre of the iliac crest of the same side. The front part of the band passes across the compress, the back part runs across the great sciatic notch and prevents bleeding from the branches of the internal iliac. The ends of the bandage are tightened, and should be held by the hand of an assistant placed just above the centre of the iliac crest. Mr. Lloyd suggests that a short piece of wooden rod can be slipped under the elastic, and is a convenience in holding this rubber band. This elastic bandage should not be allowed to slip down below the iliac crest or over the tuber ischii. This can be done by the hand of an assistant or by passing a bandage under the elastic and tying it to the patient's shoulder.

The method of disarticulating, so popular in the operating classes, and known as Lisfranc's method, is not readily done if an elastic tourniquet is used. To check all bleeding it will be found most convenient to amputate as if at the upper part of the thigh, and tie all bleeding points, removing the remaining fragment by a lateral incision. This is practically the method recommended by M. Furnaux Jordan. A lateral incision is made as in excision of the head of the femur — the head of the femur is excised in order that it be out of the way, the lateral incision is prolonged and the shaft of the femur separated for two or three inches in its length from the surrounding muscles — taking care that the periosteum remain with the muscles. A cir-

cular amputation of the thigh is then done, the bone sawn through, or if entirely freed from the surrounding tissues by the lateral incision, pulled out from the flaps. The vessels are tied and the tourniquet removed.

The operation in this way can be done without the loss of any appreciable amount of blood. There is time for due deliberation, as there is no danger of a death upon the table by a sudden gush of hæmorrhage.

The following conclusions would appear to be justified: amputation at the hip-joint, in hip disease, should be regarded as the very last resort, contra-indicated by extensive amyloid degeneration of the viscera, or a moribund condition of the patient.

The chances of mortality are not greater than the chances given in amputation of the thigh in general.

The chances of a permanent cure (barring the mutilation) would appear to be greater than after excision at the hip-joint.

The amputation should be done subperiosteally whenever it is possible. An elastic tourniquet gives the best means of preventing hæmorrhage.

Preliminary excision of the head of the femur, in freeing the upper part of the shaft, will be found to facilitate the amputation.

NOTE.—We have examined the stump of the patient shown by Dr. E. H. Bradford, at the meeting of the Surgical Section of the Suffolk District Medical Society, on December 1st, 1886, and upon whom he had three years before performed subperiosteal amputation at the hip-joint after suppurative hip disease; and we found in the centre of the stump a hard resistant mass, having on palpation the characteristics of bone. This mass was about two inches thick and four or five inches long, and projected downwards slightly flexed in the natural axis of the limb.

GEORGE H. MONKS, M.D., *Secretary*.

J. COLLINS WARREN, M.D., *Chairman*.

A REPORT OF FOUR CASES OF EXCISION OF THE HIP PERFORMED IN 1882.¹

BY ROYAL WHITMAN, M.D.,
Orthopedic Surgeon to the Boston Dispensary.

HAVING an opportunity to show what may be considered a successful result after excision of the hip, it was thought that a presentation of the results in three other cases, performed at about the same time, might prove instructive.

These four excisions were performed at the Boston City Hospital during my service as *Interne*. At that time, being interested in the comparative merits of the operation, I was surprised to find how difficult it was, in this vicinity, at least, to discover patients on whom the operation had been performed, or even to obtain any definite information from surgeons who had performed the operation, as to whether it had proved successful or otherwise. This fact has induced me to report these final results in this little group of four cases, comprising my personal experience with the operation.

CASE I. A boy, four years of age, entered the Hospital February 17, 1882, with a history of pain in the right hip, and slowly-increasing lameness of six months' duration. Examination showed muscular spasm, limitation of motion, tilting of the pelvis, pain and grating on movement of the right hip, and a fluctuating swelling, extending from the great trochanter

⁴ Brit. Med. and Surg. Journal, September 13, 1885.

⁵ Lancet, May 26, 1885.

⁶ The writer has used large rubber tubing in preference to the rubber band described by Mr. Lloyd. If pulled tight the pad is not necessary. It has also proved convenient to use the tubing long enough that the ends may be brought (after the tubing is fastened on the affected side) to the well side and then fastened.

¹ Read at a meeting of the Surgical Section of the Suffolk District Medical Society, held December 1st, 1886.

to the middle of the thigh. The child was placed in bed, and a double T-splint, with extension, applied. This treatment relieved the pain, but as no improvement followed, on March 10th Dr. W. H. Thorndike excised the hip. Considerable pus was evacuated, and the head of the bone, which was softened and eroded, was removed just below the great trochanter. The acetabulum was not diseased. The wound was dressed antiseptically, the patient placed upon a frame, extension and fixation of the limb applied, and an immediate improvement in general condition followed. Two months later the wound had closed, with the exception of two small sinuses leading down to the acetabulum.

On June 3d symptoms of an acute attack appeared, consisting of headache, constipation, vomiting, slow pulse, and stupor, followed by coma, dilated pupils, and convulsions, with death four days later. No examination was allowed, but, from the symptoms, a diagnosis of tubercular meningitis was made.

CASE II. The patient, a boy ten years of age, entered the Hospital February 18, 1882, with a history of slight lameness of the left leg, and stiffness in the hip-joint for more than a year, with, during the past three months, increasing pain and swelling of the leg. Examination showed the left leg flexed upon the abdomen, much limitation of motion, grating in the joint, and a large, fluctuating swelling, extending from the trochanter to the middle of the outer aspect of the thigh. Under ether, the leg was extended, and a T-splint and extension applied. The abscess, however, slowly increased in size, and two weeks later a spontaneous opening formed. The patient now grew rapidly worse, and on March 4th Dr. Thorndike excised the head of the femur, just below the great trochanter. This was found to be extensively diseased, as was the acetabulum, the greater part of which was also removed. The patient died thirty-six hours later, apparently from shock.

CASE III. A boy, seven years of age, entered the Hospital January 14, 1882, with a history of a fall three weeks before, followed by pain in the left hip and knee. It is probable, however, that the symptoms in this case were of much longer duration.

Examination showed the leg flexed upon the abdomen, pain on motion, and muscular spasm. Under ether, the leg was extended, a double T-splint, with extension, applied. This treatment relieved the pain, but two months later an ovoid, fluctuating swelling appeared on the groin, which slowly increased in size. This was incised, and the joint found to be so extensively diseased that an excision was deemed advisable. On June 13th Dr. C. D. Homans performed the operation, removing the head of the bone above the great trochanter. The after-treatment was similar to that of the preceding cases.

An immediate improvement in the general condition of the patient followed; five months later the wound had nearly closed, there was but slight discharge from two small sinuses, the patient up and about on high shoe and crutches, with a moderate amount of motion in the joint. One month later he was discharged. Six months afterwards I saw him. He was then walking about on crutches; the leg was firmly ankylosed, and from one and one-half to two inches shorter than the other. There was also considerable suppuration from two sinuses leading down to the acetabulum. The boy's surroundings were very bad, and his general

condition poor. In July, 1884, two years after the operation, he died. The resident physician at the New England Hospital, where the patient remained for a few weeks during the latter part of the time, informs me that there was then a large, fluctuating tumor over the lower part of the back, a freely-discharging sinus over the site of the former operation, and that the urine showed evidence of disease. His mother says that shortly before his death "he was all swelled up." I, therefore, infer the cause of death to have been exhaustion from long-continued suppuration, with amyloid degeneration of the internal organs.

CASE IV. The patient, a boy four years of age, first entered the Hospital October 4, 1878, with a history of a fall six months before, which was followed by gradually-increasing pain and disability. Examination showed well-marked disease of the right hip. He was treated by rest and extension, and he left the Hospital six months later, wearing a Sayre's short splint. October 20, 1880, he was admitted to the Hospital, the symptoms being about the same as before, and remained two months.

On October 11, 1881, he again entered the Hospital, with a history of injury, followed by acute symptoms. The leg was found to be flexed almost at right angles to the body. This was extended under ether, and after three months of rest in bed, with extension, he was discharged on crutches, wearing a high shoe.

On January 31, 1882, he entered the Hospital for the fourth time, with the usual history. Examination showed pain on motion, moderate flexion and fixation of the joint, with a hard, elastic, semi-fluctuating swelling in the groin. A T-splint, with extension, was applied, but as there had been no improvement at the end of three months, Dr. Homans decided to excise the hip. This was done on April 10th, 1882. The head of the bone was removed two inches below the great trochanter, and the acetabulum, which was roughened, was thoroughly scraped. Careful general and special treatment resulted in closure of the wound, and the patient was discharged February 5, 1883, well, and has since remained in perfect health.

Thus, of these four patients the first died of tubercular meningitis; possibly the operation might have increased the danger of tuberculous infection, but of this it is impossible to say.

The second died from shock, though in this case the disease was so extensive and the condition of the patient so bad that probably the operation simply hastened his death by a few months.

The third died from the effect of long-continued suppuration. The operation was a failure, but it is improbable that death was hastened by it.

The fourth I show. The leg on the operated side is considerably smaller than the other. There is three and one-half inches shortening, and almost complete ankylosis, the limb being held in a position slightly adducted and flexed. This might be remedied, by making the leg slightly longer, but the patient objects to further interference. With a high shoe he walks long distances without especial fatigue and without artificial support, though with a decided limp.

This result would not be considered a brilliant one by those who expect free motion after every case of excision; but practically, if the two periods of four years before and after the operation be compared, the first of more or less pain and disability, interspersed with fifteen months' confinement in a hospital, and

the second of continuous good health, the operation may, I think, in this case be classed as a success.

In regard to the merits of the operation itself, the weight of surgical opinion in view of the very satisfactory results obtained by careful and continued conservative treatment, is that the operation should be limited to those cases in which it is either impossible to carry out such treatment, or where conservative treatment carefully carried out is unavailing. In other words, to consider excision of the hip as a life-saving operation. If then, the operation is, as a rule, to be reserved to those cases where conservative treatment has failed—cases of extensive destruction of bone and soft parts, in such cases any hope of preserving useful motion in such joints should be discarded, and the operation conducted in the hope of relieving the patient, exhausted by pain and long-continued suppuration, as speedily as possible.¹

A large incision should be made and the bone removed well down below the trochanter; all the diseased soft parts, including the periosteum, and the capsule, should be removed, all sinuses thoroughly scraped; the extremity of the femur placed as nearly as possible in apposition with the acetabulum, the soft parts united by deep sutures placed in layers to close the cavity and prevent retention of secretions, the limb placed on an immovable apparatus; dry non-irritating antiseptic dressings, preferably in connection with iodoform, applied, thus hoping to secure rapid closure of the wound and ankylosis. But, as in these cases of long standing it can scarcely be hoped to remove, at the first operation, all action or latent disease, if healing does not result, the suppurating wound should again and again be explored in the hope of final success. The ordinary procedure is, or has been, to treat both recent and advanced cases alike, simply removing the head of the femur through a small incision, leaving the periosteum with the attached muscles in the hope of obtaining a movable joint. If healing does not result, nothing more is attempted. I think this point has not been sufficiently insisted upon: that the operation having been undertaken with the object of relieving patients from the danger of a chronic exhausting disease, they should not be sent back to their wretched homes with unhealed suppurating wounds; but if persistent attempts to effect a cure by excision have failed, amputation should be undertaken as a last resort.

—Sergeant Boston Corbett, the man who shot J. Wilkes Booth, has become insane. His maniacal outbreak was characterized by his arming himself with a pair of revolvers, and dispersing the officers, and finally, the members of the Kansas Legislature, which body he served in the capacity of assistant-door-keeper.

REPORT ON MENTAL DISEASE.

BY HENRY R. STEDMAN, M.D.

EPILEPSY WITHOUT UNCONSCIOUSNESS.

BALL,¹ in introducing a carefully-observed case of true epilepsy without unconsciousness, criticises as too absolute the definition of that malady which makes unconsciousness a necessary accompaniment of all attacks, and contends that this accepted formula, like all absolute rules, has its exceptions. Somnambulism, for example, is nearly always attended by obliteration of consciousness during the sleep-walking stage, but it is equally certain that some sleep-walkers do retain the recollection of what has happened during that interval; so it is with epilepsy. In the immense majority of cases consciousness is abolished during the attack, but in a very few exceptional instances this is not so. A case reported by Major is quoted by Bucknill and Tuke, and several similar cases have been met with by others. The medico-legal importance of such cases is readily appreciated. A man commits a crime while in the epileptic state, and is held to be irresponsible; but if we admit the accepted definition of epilepsy, he cannot be considered an epileptic if he retains the slightest recollection of what has happened during the attack.

The case in point is that of a married woman of thirty-two years. Her father, an habitual drunkard, died at the age of fifty-two. Several brothers and sisters died, when young, of convulsions. The patient began to have convulsions for a time when seven years old, and soon after her marriage, at the age of twenty-three, during pregnancy, she had attacks of an epileptiform nature. For seven years afterwards, during which time she has been under Dr. Ball's observation, she has had seizures, at variable intervals, of three different kinds. First, she has, but very rarely, genuine epileptic convulsions (*grand mal*), ushered in by a cry, facial pallor, etc., and attended by foaming at the mouth, and the characteristic convulsive movements of all the limbs of the tonic and clonic type. One of these attacks was witnessed by Dr. Ball. Somewhat oftener she has attacks of epileptic vertigo, "*absences*," of short duration (*petit mal*). But by far the most frequent seizures are characterized by delirious excitement. She gives a scream, turns pale, and cries out, "Oh! God leave me!" jumps out of bed, and runs about the room, indulging in all sorts of absurd conduct, and sometimes even violently attacking others. It is only in attacks of the last variety that she retains recollection of what has happened, and it has only been during the past year that this peculiarity has been manifested.

In one of these seizures (November 25, 1885) she said to her husband, "I am going to bite you," and then, putting her threat into execution, she bit him and spat in his face. On coming to herself, she remembered the occurrence perfectly, and said to him, "Didn't I say I was going to bite you, and didn't I really do so, and spit in your face?"

In another of these attacks, which occurred at night, she left her bed and went to her ironing-table. She also tried to find her needles, thread, and the rest of her sewing implements. The next morning, on awaking, she remembered this circumstance very clearly.

¹ L'Encephale for July and August, 1886.

² The Neurological Review for November, 1886.

² De la Coxalgie, par le Prof. Ollier. Congrès français de Chirurgie, 1885.

"As my experience increases and the longer I watch patients on whom I have performed the operation of excision of the hip, the less I am satisfied with movable joints. There are, of course, advantages in being able to bend the thigh and seat one's self, but it is of much greater importance to be able to walk all day, and to be protected from the danger of recurrence of disease by a good bony union. In those who preserve movable joints, the extremity of the femur is generally loosely attached, it always slips up more or less on the pelvis or rather the pelvis slips down on it, the weight of the body stretching the fibrous bands so that the pelvis is as it were suspended on the femur. We must consider not the immediate but the final results; and I repeat among my patients who work at laborious occupations, those whose femurs are ankylosed with the pelvis, are much better satisfied than those who preserve movable joints."

and told her mother of it, who expressed surprise at this unexpected return of her memory.

On January 11th, 1886, in the midst of an attack, she seized an ink-stand and threw it at her mother's head. Several minutes later, when the attack had passed, she recalled the whole affair unaided, and could not apologize enough for what she had done. Her memory returns in this way, but seldom, however, and in the immense majority of her seizures; all recollection of what has passed is completely effaced.

Such instances as these seem to show conclusively that amnesia is not a distinctive mark of epilepsy. In fact, it is very probable that if attention were generally directed to this point, the number of reported cases of the kind would be greatly augmented.

Bannister,² in a recent article on "Consciousness in Epilepsy," treats the subject quite exhaustively, and comes to the following conclusions:

(1) That the epileptic discharge may, in rare instances, take place in motor regions of the cerebrum, and not involve at all, or to any extent, those parts concerned in psychic functions so far as to seriously affect or abolish consciousness, meaning by that term a vivid sense of being and knowledge of one's thoughts and actions, continuous with that in the normal condition.

(2) That in the so-called automatic epileptic conditions there may be a state of double consciousness, as it may be termed, in which it cannot always be said that the mental functions in the abnormal condition is less perfect and complete than in the normal state.

(3) The post or pre-epileptic outbreaks of violence, the so-called epileptic mania, are not necessarily attended with loss of consciousness, but may be, in some cases, simply manifestations of extreme morbid bodily and mental irritability, with loss of self-control, but with no more impairment of consciousness than might be caused by similar emotional disturbance under other conditions.

(4) That there may be a true automatism in epileptics, not attended with any apparent loss of consciousness, and due, possibly, to the rapidity of some psychic reflexes exceeding the limits of the reaction time necessary for their conscious recognition.

(5) That the definition of epilepsy which makes loss of consciousness an essential character, is an arbitrary one, not supported on pathological or clinical grounds, either in the ordinary convulsive phase of the disease, or in its psychic manifestations.

CRANIAL EXAMINATIONS IN THE INSANE.

M. Verga,³ a prominent Italian authority on insanity, thinks that, in the present state of our knowledge, little is to be gained by examining the crania of the insane. We may, to be sure, feel through the scalp certain coarse lesions of the skull of more or less recent origin, projections, depressions, and exostoses, which may possibly reveal the traumatic or syphilitic nature of the mental impairment, but that is all. Lassègue's views of the relation between epilepsy and plagiocephalus and corresponding facial asymmetry are often contradictory to facts. M. Luy's opinions regarding a cranial prominence corresponding to the paracentral lobule are far from being proved. The indications found by measurements of the skull are only of value in extreme cases. The assistance to

be gained by cranial percussion, auscultation, and thermometry, he finds to be next to nothing.

PARANOIA.

Kierman⁴ quotes Spitzka's graphic description of monomania, and notes his abandonment of this term for that of paranoia. The latter was introduced by Heinroth, and first applied to this class of cases by Kahlbaum, and is now in use in Italy, Germany and the United States. It has been variously designated imbecility of the first grade, *mania systematisée*, *pazzia sistematizza primitiva*, *megalomania*, *vesania*, *wahnsinn*, chronic mania, insane temperament (congenital type), *folie héréditaire* (hereditary type), primary monomania, primary paranoia, dementia monomania, *primäre Verrücktheit*, monomania, protopathic insanity and *primarforryethet*. Several cases of paranoia are reported by the writer, and all answer to the description of chronic delusional mania of some English and American authors. He considers this psychosis likely to contribute a considerable part to the insane population, both directly and by its victim leaving descendants. About ten per cent. of the population admitted to the German and Italian insane hospitals are victims of this psychosis, while about seven per cent. of the resident population are also paranoiacs. In American asylums one-third of the 921 tabulated were Americans. These furnished 49 paranoiacs. The remaining 606 furnished 99 paranoiacs, or more than double the proportion of the paranoiacs resident in German and Italian asylums. From these and further researches conclusions are reached as follows:

First: The character of the government and institutions of the United States is such as to attract thither the paranoiacs, since they are fertile project-makers, and see in the United States a great field for all such projects.

Second: In consequence of the peculiarly unsettled condition of civilization in many parts of the United States, these paranoiacs readily pass muster, even become leaders in the community, and often rear families, their insanity never being discovered.

Third: In all probability at least one-seventh of the insane entering the United States are paranoiacs, whose insanity is so sufficiently concealed as to enable them to pass as sane until long after their arrival: to marry and leave a neurotic inheritance to their descendants.

Finally: Until the ancestry and history of immigrants into the United States is rigidly traced, and the insane excluded, insanity will increase among the foreign-born population of the United States and their immediate descendants in a disproportionate ratio.

GRANULATIONS OF THE EPENDYMA OF THE VENTRICLES OF THE BRAIN.

Brunet⁵ notes the fact that these granulations are more abundant by far upon the lateral portions of the antero-inferior wall of the fourth ventricle than elsewhere. All authors attach the greatest importance to the granulations of the fourth ventricle because of the physiological functions of the medulla oblongata, and their presence in this ventricle is one of the chief reasons given for considering general paralysis as a periencephalitis rather than a pericerebritis.

Luis, although far from agreeing that this lesion is peculiar to general paralysis, has only very rarely

³ Archives Italiano per le Malatie Nervose, March, 1886; and L'Encephale for September and October, 1886.

⁴ The Neurological Review, Vol. 1, No. 1, May, 1886.

⁵ Annales Psychologiques, March, 1886.

encountered it in any other disorder. Magnan and Merzejewski, who have made a special study of these granulations of the ependyma of the ventricles of the brain, consider them the most important lesions of general paralysis. Brunet, however, believes that their importance has been greatly overestimated, especially as regards the granulations of the fourth ventricle. He has often found them present in disorders other than general paralysis, and in that disease itself they are by no means constant appearances. They are found in nearly every form of mental disorder, while they are usually absent in rapid cases of general paralysis in which the pia mater, although very adherent to the cortex, is somewhat thickened and the convolutions have not had time to become appreciably atrophied. They are well-marked in hydrocephalus, chronic mania of long duration with dementia, and in epileptic dementia. Speaking generally, we may say that they bear a certain relation to thickening and opalescence of the pia and arachnoid and to atrophy of brain and sub-arachnoid and intra-ventricular effusion. If they are more numerous and prominent in general paralysis, it is because in that disease, more generally than in any other, are combined these three changes. Plaxton's view, that these granulations are post-mortem changes, is also worthy of consideration. The writer concludes that as: 1st. These granulations are neither constant in, nor peculiar to, general paralysis; 2d. Sclerosis of the parts composing the isthmus of the encephalon, is only an accidental and terminal lesion of that affection; 3d. The cerebellum is intact, as M. Baillayn has just shown, and as the writer himself has observed—that therefore the name *pericerebritis* is better adapted to general paralysis than that of *periencephalitis*.

THE USE OF SEDATIVES IN INSANITY.

Writing of the use of sedatives in insanity, Dr. Savage⁶ says that though asylum physicians erred very naturally in using them occasionally as restraints, but more freely as means of control, the general practitioner has done so much more, and will continue so to act and err so long as public feeling is so strong against asylum treatment. He protests against the use of these drugs as a rule. The patients at Bethlem (where recent cases are treated almost exclusively), are treated almost without the use of the common sedatives—bromides and morphine, chloral and opium, being very rarely used indeed. The treatment by drugs differs according as the patient has organic or functional brain disorder. In general paralytics severe measures may be rapidly destructive. The early and excited general paralytic is very often easily affected by alcohol, so that a glass of wine will often make such a one appear to be drunk; and in the same way a slight opiate or a small dose of hyoscyamine may produce serious effects. In advanced senile atrophy the same effects are observed. In true brain decay, it is better to avoid any of the stronger sedatives, and rather to use small and repeated doses of the milder ones. As in the latter cases one must be careful not to begin with too large doses, so in functional mental disorders we must sometimes not be afraid to give large doses.

Bromide of potassium is seldom given alone in cases of insanity, and it is rare to find a violent case of mania benefitted by the use of this drug or by chloral

or by their combined employment. As to chloral, Dr. Savage finds it hard to be just, as he has seen so many disastrous results from its abuse that it is to be feared that more harm than good has followed its introduction. It is the first thing now taken by the man of intellect who is overworking, and is eagerly sought by the nervous, fashionable lady; it is a temporary prop to the drunkard, and to the doctor in many cases it is the means of keeping a troublesome patient quiet. The chief objection to it is that it soon establishes a habit and almost always disturbs digestion. Patients are constantly admitted to Bethlem who at once call for their night draught. It is withheld, and after perhaps three terrible days of suffering, sleep comes, and with it the delusions which have been almost embalmed by the chloral, slowly disappear. Delusions of months may thus vanish in a week. Though there is danger, aid too may be got from it; and though not trusting it fully, Dr. Savage thinks it will often prevent death in cases of acute delirious mania, if given with abundance of food and stimulants. It is also of great service in cases of epileptic furor.

THE "INCREASE" OF INSANITY.

Dr. D. Hack Tuke, in an elaborate statistical study on alleged increase of insanity, dwells upon the importance of ascertaining, as the only sound test of such increase, the number of *occurring* cases of mental disorder in proportion to the population during the periods of time we desire to compare. Among a number of interesting results, he finds that *so far as statistics teach us anything*, they fail to show the slightest increase in occurring insanity in England and Wales since January, 1878, when we apply the above and only reliable test. In fact, the tendency has been, on the whole, as shown in one of his tables, toward a decrease in the admissions to asylums, of patients laboring under first attacks. The question therefore arises whether the present age may not wage successful war against the causes of insanity in one direction, but at the same time favor their growth in another? Take, for instance, general paralysis. It does not admit of reasonable doubt that it has increased of late years, after abundant allowance is made for its better recognition; but if the frequency of insanity, as a whole, has undergone little change, it would look as if some form of insanity other than general paralysis, had declined. Dr. Tuke also thinks it quite possible that without any actual increase of the insanity which is actually certified, there may be considerably more "borderland" insanity and more of that instability of brain which scarcely reaches even this level. He inclines to the belief that more, considerably more, young people of both sexes, break down mentally than there did formerly, but cannot prove it. He should be surprised, he says, if the tables of age on admission into asylums do not show, when they extend over a sufficiently long period, that more patients are admitted under twenty now, than formerly. Dr. Savage, of the Bethlem Asylum, holds a similar opinion.

— Mme. Trélat, the widow of the late Dr. Trélat, governor of the Salpêtrière Hospital, has recently bequeathed \$40,000 for the benefit of the Paris poor. The rest of her large fortune was left for technical schools for girls, and other public institutions.

⁶ Practitioner for September, 1886.

Clinical Memorandum.

THE AMBLYOPIA OF SQUINT.

BY HASKET DERBY, M.D.

DR. WADSWORTH'S statistics as to the vision enjoyed by the subjects of strabismus, in the squinting eye, were to me so startling that I have employed a portion of the interval since the last meeting of the New England Ophthalmological Society, in looking over my cases of convergent strabismus in private practice.

To begin with, I rejected all cases of alternating strabismus. As Dr. Wadsworth justly observes, "the suppression is not constant and therefore amblyopia does not result." He has nevertheless followed the usual example in including these cases in his statistics. I rejected, as he did, all cases depending on or associated with opacity of the media, or visible change in the fundus oculi; as well as the large number of children too young to give intelligent answers as to the amount of vision they possessed. With these omissions I find 160 cases of convergent strabismus, in which the vision has been carefully recorded, after neutralizing the hypermetropia.

I have tabulated them as follows.

Vision slightly better in squinting eye	10
" " equal in both eyes	3
Squinting eye inferior to other by 0.1	1
" " " " " " " " 0.2	4
" " " " " " " " 0.3	10
" " " " " " " " 0.4	19
" " " " " " " " 0.5	18
" " " " " " " " 0.6	21
" " " " " " " " 0.7	16
" " " " " " " " 0.8	15
" " " " " " " " 0.9	11
Greater degrees of inferiority than above	32

160

By comparing these results with Dr. Wadsworth's a considerable difference will be at once apparent. Deducting his cases of alternating strabismus, he found vision equal in both eyes in 20.4 per cent. and 1 in only six per cent. of the cases. Both he and Schweigger find thirty per cent. of their patients to have vision less than 1-7 (0.14) in the squinting eye. I find, however, fifty-seven per cent. to come under this category. Out of my 160, 91 had vision less than 0.14 in the eye that converged. Moreover, half of Dr. Wadsworth's cases had, in the squinting eye, vision from 14-20 to 14-30; or putting it in decimals, of very nearly 0.5. I find only eleven per cent. (18 cases out of 160) to have this amount of vision.

Both sets of figures are too limited for useful generalization. But I have seen, and see, no cause for losing faith in the commonly-accepted theory of amblyopia ex anopsia. That an explanation on this basis is not always satisfactory is evident to all. Why a child of ten, with a strabismus of three or four millimetres, noticed only within a few years and not constant, should have a vision of less than 0.1 in the converging eye; and an adult of thirty, with a convergence of double the amount, lasting, moreover, since infancy, should have a vision of 0.8 in the eye that squints, can only be explained, if at all, on the theory of occasional and even unobserved alternation; or else on the supposition that disuse does not, in all instances,

imply decay. But while either explanation may be somewhat far-fetched, it certainly makes a slighter demand on one's credulity than the assumption that a hypermetrope, who needs all his disposable accommodation for the near, who can accommodate better by squinting, who must abstract from the vision of the squinting eye to avoid diplopia, and who does all this habitually; the assumption, I say, that such a person owes his amblyopia rather to a freak of nature than to a voluntary, systematic and persistent effort to avoid the annoyance of double vision.

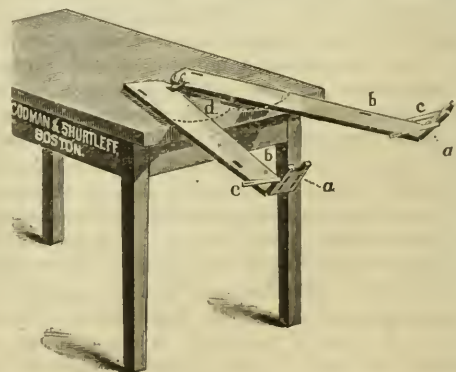
In looking over these cases I have been interested to note the effect of the operation on vision generally. Ordinarily I have seen none; but in a few cases, perhaps half a dozen in all, there has been a slight but unmistakable change for the better. Such a change as from 0.1 to 0.2, or even from 0.3 to 0.4, I have noted several times. One of these cases, however, which I had an opportunity of examining some fifteen years later, and in which the change had been from 0.1 to 0.2, had not held its improvement, but gone back to 0.1.

New Instruments.

A CHEAP AND PORTABLE SUBSTITUTE FOR THE GYNÆCOLOGICAL TABLE.

BY T. L. PERKINS, M.D.,
Surgeon to the Salem Hospital.

THE appliance herein described is by no means intended to supersede the elaborate gynæcological tables now in use, but only to occupy a humble place at their side. With it, however, about as much can be done as with any of them, and it has two advantages, cheapness and portability. There are many who feel that their pocket does not allow them to possess one of the expensive tables, yet desire something to



take its place. Again, many wish for that which can be easily taken to the house of a patient in cases of operation. To those who use the Sims' position at all times, it will be of less use than to those who use it only in some cases. There are many who choose the dorsal position when it is possible to do so. To them I think it will commend itself. The pair used by me were made by Codman & Shurtleff, who have kindly furnished the accompanying cut, as without it description would be almost impossible. It consists of two pieces of wood fifty inches long, hinged at one end to a piece eight inches long. These are loosely tied at the end which rests upon the table, and upon

¹ Remarks made during the discussion of Dr. Wadsworth's paper on the same subject (Boston Medical and Surgical Journal, Vol. CXVI, p. 49), at the meeting of the New England Ophthalmological Society, February 1st, 1887.

them a folded blanket is placed. The feet can rest in the hollows at the top of the foot-pieces or be placed against them and there tied, in case ether is used, by passing a bandage over them through the holes *a a*. The catch *c* allows the foot-pieces to be adjusted at any angle. When the patient lies upon them they do not slip in the least, and may be pushed in to shorten or brought out to lengthen, at pleasure. The legs may also be separated more or less at the will of the operator, and retain their position in the most perfect manner. By tying the pieces at *b b* we have a very good support for the legs when the patient is in Sims' position. They can be easily carried to the patient's house, and a good operating table made by placing them on such a one as can be found in any house.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING December 1st, 1886, DR. J. C. WARREN in the chair.

DR. JOHN HOMANS reported

A CASE OF DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA SUCCESSFULLY TREATED AFTER THE METHOD OF MR. ADAMS,¹

and exhibited the patient. He also demonstrated the characteristic deformity on a gentleman kindly brought to the meeting by Dr. Cleaves, of Medford.

DR. J. C. WARREN remarked, in regard to the etiology of this disease, that it had been regarded as traumatic in its origin, as syphilitic, and also as indicating a gouty diathesis. An examination, by Mr. Noble Smith, of seven hundred elderly inmates of English workhouses, showed seventy to have this malady. He was unable to discover any general condition of health which might have given rise to the disease, although the larger number of cases in which both hands were affected seemed to indicate something more than a local cause. In most cases a contraction of the palmaris longus muscle was observed, pointing to some nerve-irritation. In one case a wound of the fascia had produced a condition identical with the disease, but in many cases there was no history of injury or pressure which might have served as a cause for the disease. Mr. James Hardie recommends longitudinal incisions to expose the contracted bands, which may then be divided and partially dissected out. In two cases there were reports of cure by accidental rupture of the band, the fingers remaining free from subsequent contraction.

DR. HOMANS also spoke of the possibility of rupture of the contracted bands, and quoted one of Mr. Adams's cases, where they were torn from the palm by violence.

DR. F. S. WATSON showed a patient, aged thirty-seven, who was the subject of chronic urethritis of some months' standing, and who had had, for seven years,

A CHRONIC HYDRARTHROSIS OF BOTH KNEE-JOINTS.

Previous to the appearance of the joint-affection

the patient had had rheumatic fever, but there was an interval of several weeks after the convalescence before the collection of fluid in the joints began to show itself. This came on gradually, without pain, and has been constant ever since. The patient had applied for treatment, the day before, at Dr. Watson's clinic, and he was shown at the meeting simply for the interest attaching to the long duration of the disease, and the comparatively slight injury to the function of the joints, in spite of the great distension of the capsules, and the long time the effusion had lasted. Though the quantity of fluid in both joints was large, yet the increased mobility from relaxation of the ligaments was but slight, and the patient had been able to pursue his trade as a painter without interruption. He had never received any treatment for the trouble.

DR. HOMANS, in speaking of the difficulty of radically curing cases of chronic effusion into the knee-joint, alluded to a case of his own in which about two tumblersful of fluid was removed by the trocar, and compression applied. For a time the case was supposed to be cured, but eventually the fluid re-accumulated.

DR. WARREN spoke favorably of the practice of tapping the joint, and of applying compressed sponges afterwards.

DR. BLODGETT asked, in reference to the formation of fluid in a joint, if it were not possible that, under certain circumstances, there may be an increased amount of fluid without a pathological process being present; that is, simply by an increased physiological action.

DR. WARREN said he had often noticed that when there was a pathological collection of fluid in one joint, there was a slight increase in the fluid of the other, as if by sympathy.

DR. WATSON spoke of the frequency of water-on-the-knee at Milton, a peculiarity which had been often remarked.

The rest of the meeting was devoted to a consideration of the ultimate results following the various forms of treatment for suppurative hip disease.

DR. ROYAL WHITMAN read

A REPORT OF FOUR CASES OF EXCISION OF THE HIP PERFORMED IN 1882,²

and showed one of the patients.

DR. HOMANS considered that Dr. Whitman's work in investigating and reporting the results of such an operation as excision of the hip some years after it was done, decidedly useful. He also spoke highly of the operation, as being the only available mode of treatment in certain obstinate cases.

DR. E. W. CUSHING showed an Italian instrument, which was specially designed to make subperiosteal sections of bone, and explained how it could be used in excising a hip-joint.

DR. CABOT said that he entirely agreed with Dr. Whitman in regarding the operation of excision of the hip as a last resort, to be used only in advanced disease, with the object of saving life when death is threatened by the exhaustion of prolonged suppuration. The cases to be cited by Dr. Lovett show what excellent results the expectant plan of treatment can usually accomplish, and it should always be adopted when possible.

Sometimes, however, in spite of the greatest care,

¹ See page 177 of the Journal.

² See page 181 of the Journal.

and the most complete fixation of the joint possible with apparatus, the disease shows a tendency to steadily progress to a fatal termination. It is in such a case that a thorough excision, with provision for good drainage of the joint-cavity, is indicated, and will often bring about an arrest of the disease. Sometimes, too, we see a case in which the pain occasioned by the contact of the diseased surfaces of the joint is so great as to rapidly exhaust the patient's strength, and persists in spite of every effort with fixation and extension-splints. Here we have another clear indication for the operation for removal of the diseased parts.

He said that he should differ from Dr. Whitman in regard to the wisdom of stitching the wound carefully together. In an early excision it may be often possible to remove all of the diseased tissues, and so to get a healing by first intention. In the cases, however, in which the operation is justifiable on account of the severity and extensive character of the disease, it is rarely possible to thoroughly remove the suppurating tuberculous material from all of the pockets about the joint, and this being the case, it seems wiser to leave the joint-cavity open and accessible to applications. After a trial of both plans, he has obtained the best results by leaving the wound entirely open, and packing it lightly with iodoform gauze. After excision, as after removal of any tuberculous bone, it is often necessary to do a second operation where the disease is not entirely checked or shows a tendency to return.

Dr. Cabot called attention to the fact that in the case shown by Dr. Whitman there was a lack of development in the limb below, which could not be ascribed to the effect of the operation. For instance, the foot, which was perfectly normal in shape, was about one-half an inch shorter than the foot on the well leg, and proportionately smaller in all of its dimensions.

He said that he had several times noticed an equally marked lack of development of the foot in cases where the knee was affected with white swelling, and where no operation had been done.

Dr. R. W. LOVETT made some remarks on the

RESULTS OF THE CONSERVATIVE TREATMENT OF SUPPURATIVE HIP DISEASE.

He spoke substantially as follows:

The published statistics of this treatment give a rather favorable showing in suppurating cases, where the question of excision would come in; the figures are as follows: Gibney, in 1878, reported 80 cases cured by the purely expectant method, or no treatment at all. 48 of these had abscesses, and of the whole number 73 recovered with useful legs. At the Alexandra Hospital 260 cases of suppurating hip disease were treated by rest and extension, 42 per cent. were cured and 33 died. Dr. Taylor, of New York, traced 93 cases from beginning to end. Of the 24 who had abscesses, 2 died, and 17 fully recovered (14 with movable joints) and the other five were doing well at the time of writing. Cazin had charge of the Hospital at Berck where cases of suppurating hip disease were sent from some of the Paris Hospitals after they had ceased to improve. Of 80 cases received, 55 per cent. were cured, that is, the sinuses closed and joint symptoms ceased, and 12½ per cent. died; they were treated by rest and extension. So that suppurating hip disease is not hopeless by any means, even left largely to itself, as in Gibney's cases.

Dr. Lovett then showed two patients from the Children's Hospital, to illustrate average results in severe suppurative hip disease treated conservatively.

CASE I. Harry L., eleven years old. Entered the Children's Hospital, January, 1878, having had hip-joint disease for four months. He was treated by rest and extension in bed, and by a long extension splint at times. Abscesses began to form in a few months and he became worse. Altogether he had fourteen abscesses, and excision was seriously considered but abandoned. He staid at the Hospital for two years, and has now been without his splint for four or five years. He is now a well-developed boy with a marked limp. He has one inch shortening of his leg, his right thigh is three inches smaller than his left, and he has a certain amount of motion in the joint of a very few degrees. But the limb is in a position of permanent flexion of about thirty degrees, and this, of course, makes the limp so noticeable. He is in the soundest possible health.

CASE II. Henry P., seven and one-half years old, came to the Children's Hospital when he was only a year and a half old, having had the disease for six months. He was treated by extension and a Cabot frame. He had two abscesses, and was extremely sick; the question of excision was seriously considered and abandoned in his case too. He staid at the Hospital nearly two years, and he wore his splint for a few months outside after discharge. He is remarkably rugged and well-developed. One leg is an inch and a half shorter than the other, and what is worse, the thigh is flexed on the pelvis at an angle of nearly forty-five degrees. He wears a high shoe, and is able to walk or run any distance. There is no motion in the joint.

Dr. PARKS spoke of a case of suppurative hip-disease he had known of, to be treated by weight and extension for eight years! The result was a favorable one.

Dr. H. W. CUSHING said that the longest course of treatment he could recall, was in a case at the Children's Hospital. For five years the patient was under observation, during which time the treatment was principally by a high shoe and a crutch. The result was satisfactory. He said, also, that he thought excision did not necessarily prevent subsequent general tuberculosis, and quoted an article by Yale in the "Annals of Surgery" for January, 1886.

The advantages of excision, according to advocates of that method, are that the operation prevents general infection, shortens the treatment, and gives better functional results than the conservative method. The conclusions from Yale's article are that the only indication for excision of the hip is to save life.

It does not save the patient from any dangers except those consequent on long suppuration. Hence it is only indicated where the suppurating process has reached a dangerous point, and cannot be stopped by any less serious operation.

Dr. LOVETT remarked that Caumont, in a series of twenty-six cases, excised about one-half, the others being treated conservatively. More cases died of general tubercular infection after excision than after conservative treatment.

Dr. H. L. BURRELL said that regarding the development of tuberculosis after operative procedures, that he was not sure but that the necessary confinement to bed incurred by an operation might not be a factor in

determining its appearance. He had seen five cases of tubercular meningitis develop shortly after the patient had been placed in bed for joint disease, and he had come to look upon placing a patient in bed with joint trouble as a thing to be avoided where possible.

To guard and protect the joint against any jar by some suitable splint, placing the patient under the best hygienic surroundings, opening abscesses when necessary, in fact, thorough conservatism in all the stages of treatment, he believed gave the best results.

DR. E. H. BRADFORD showed a patient upon whom he had performed

SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT AFTER HIP DISEASE.³

After relating the history of the case and describing the operation, he made the following remarks:

The subject of regeneration of bone after sub-periosteal disarticulation at the hip-joint, was considered of so much importance that a committee was appointed by the London Clinical Society to examine Mr. Shuter's case. The committee was unable to satisfy itself of the presence of bone, but recognized a hard core in the stump.

Dr. Bradford therefore requested, that, since the testimony of more than one observer was desirable in all such cases, an examination be made of the stump by the Chairman and Secretary of the Section, and that a report of the same be appended to the full report of the case.⁴

DR. CABOT spoke of the great value of the *short stump* after subperiosteal amputation, in enabling the patient to wear an artificial limb. He said that Mr. Shuter, in the report of his case, several years ago, stated that the patient had been able to walk considerable distances (two miles); whereas we know that the old methods of hip amputation left no projection to which an artificial limb could be fitted, and that after the late war the survivors from hip amputations were unable to wear with comfort any prosthetic contrivance whatever.

QUARTERLY MEETING OF ESSEX NORTH DISTRICT MEDICAL SOCIETY.

MAURICE D. CLARKE, M.D., CORRESPONDING SECRETARY.

THE regular quarterly meeting of the Essex North District Medical Society was held at the Eagle House at Haverhill, Wednesday, January 12th, at noon. There was a large and interested attendance, twenty-six members being present. The President, Dr. E. P. Hurd, of Newburyport, occupied the chair, and the records of the semi-annual meeting were read by the Secretary, Dr. George W. Snow, of Newburyport.

The Secretary announced the death, during the past year, of a member of the Society, Dr. Eugene S. Gates, of Lawrence; and on motion of Dr. Crowell, a committee, consisting of Dr. David Dana and Dr. Augustus Stabler, of Lawrence, and Dr. John Crowell, of Haverhill, was appointed to prepare an appropriate tribute to his memory.

It was voted to hold the annual meeting (which occurs on the first Wednesday in May) at Lawrence; and a committee, consisting of Drs. F. B. Flanders, C. G. Carleton, and C. N. Chamberlain, of Lawrence, was appointed to make the necessary arrangements.

DR. E. W. BULLOCK, of Haverhill, then read a paper upon

A CASE OF SCROTAL TUMOR,

occurring in the practice of a Boston surgeon, and which the writer had had opportunity to see daily. The following is an abstract:

John R., forty years old, presented himself for treatment January 5, 1886. He was by occupation a switchman on the Fitchburg Railroad, and subject to much exposure to wet and cold. His habits were good. He used alcohol to some extent, but not excessively. Up to the present time he had been perfectly well and strong. On close questioning he stated that for five years he had noticed that the left side of his scrotum was gradually increasing in size, but, as he had suffered no discomfort from this, he had done nothing for it. Two days after Christmas he attempted to open a switch in the freight yard, and, as the rails were frozen, was obliged to use considerable force to do so. The switch handle suddenly flew back, and, as he thought, struck him on the scrotum. He had a good deal of pain in that region, followed by faintness and nausea, which passed away after a time. On going to bed that night he noticed that the left side of his scrotum was larger than ever before, and the swelling increased during the night. He kept on with his work until the tumor reached such a size as to interfere with the discharge of his duties, when he presented himself for treatment. He had not suffered any pain since the night of the injury. His bowels were regular, appetite good, he had had no nausea nor vomiting, nor any pain in his bowels. His scrotum was much enlarged, the right testicle could be plainly felt, but the left one could not be located. The tumor was perfectly painless, regular in outline, and larger above than below. It extended up to the inguinal ring, but not apparently through the ring. It imparted a decided sense of fluctuation on palpation, but was not translucent. There was no impulse on coughing, nor could the size be at all reduced by taxis.

After the diagnosis had been very carefully considered, it was finally decided that the weight of evidence was in favor of the contents being fluid in character, probably, sero-hæmorrhagic. So it was decided to puncture the tumor, which was done; but only a very little bloody serous fluid was obtained, and the size of the tumor was not materially diminished. The patient was put to bed, and compression tried for a number of days without any success.

At length it was decided to open the scrotum and ascertain the character of the tumor, so, on the 16th of January, he was etherized and an incision made the entire length of the left side of the scrotum. Dissecting down upon the tumor it was found to consist of a large piece of omentum, which extended by a very small pedicle up through the inguinal ring. The pedicle was ligated, cut and allowed to slip back into the peritoneal cavity. The mass of omentum which was removed was about the size of the average adult brain. The wound was dressed antiseptically, and the patient put to bed again. For two days he did nicely, but on the third, for some unknown cause, the temperature rapidly rose, and decided symptoms of septicæmia developed, the wound assuming a very unhealthy condition. He was freely stimulated, quinine given, and the scrotum poulticed. Several abscesses formed in

³ See page 180 of the Journal.

⁴ See page 181 of the Journal.

the scrotum which were opened. On the seventh day after the operation, the temperature fell, and from this time the patient convalesced steadily until he was discharged cured.

The principal features of interest in the case, were the obscurity of the symptoms, and the freedom from constitutional disturbance, which one would naturally expect to follow a hernia of such a size.

DR. MAURICE D. CLARKE, of Haverhill, then read a paper upon

HOUSE DRAINAGE.

Whatever conflicting views, he said, might be held by physicians as to so-called filth diseases and as to the relation between sewer-gas and disease, they were as one as to the need of the best appliances for drainage, since no one would take the chances of an open sewer in his bedroom. The multiplication of plumbing devices would imply multiplicity of belief as to drainage, but, in fact, sanitary experts are nearly agreed as to the principle and dispute mainly over matters of detail. As to the deplorable lack of knowledge and interest on the part of the public, the reader cited a case from his own experience. He attended a rapidly fatal case of diphtheria in one of the "fine" houses of the city. The plumbing was examined after the child was dead, and there were found, besides a nearly complete absence of traps and of ventilating pipes, a leaky soil pipe and an open drain in the cellar, which had become choked up and overflowed. Of all this the owner was entirely ignorant.

Certain things in regard to house drainage may justly be insisted on. One is, that the main source (or an important source) of contamination being the house-pipes rather than the street-sewers, there ought to be a trap under every fixture, and as close to it as possible, to reduce to a minimum the unprotected waste-way. Another thing is the necessity for a ventilated soil-pipe, to dilute with fresh air the gas that must arise in all pipes where organic matter is deposited and putrefaction is possible. These two things constitute a most important reform.

With these, one would have reached far toward safety if one could rely on traps for farther protection. Which trap is the best is one that each must determine for himself. The range for choice is wide, and, perhaps, choice is still a matter of some difficulty. The best trap, however, is, other things being equal, the simplest, like other appliances. And the simplest trap, the S-trap with a water-seal, would be sufficient, were it not for certain things that tend to destroy its seal, among which are siphonage, back-pressure, etc., which were well explained by Mr. Putnam, in a lecture before one of the Boston societies last year, a report of which appeared in the *Medical and Surgical Journal*. Siphonage might be obviated by ventilating each trap, but this is likely to destroy the water-seal by evaporation. So-called pot-traps have been devised, but these, like the mechanical traps, easily become clogged. So that, unless one of the new traps, Putnam's for example, proves worthy after full trial, it requires a good deal of judgment to select one with the least faults.

As to water-closets, the writer awarded the old-fashioned pan-closet its appropriate condemnation, any of the newer type of hopper-closets being far preferable. With well-trapped fixtures, a ventilated soil-pipe, and a good water-closet, a man is tolerably well

off. There are, however, other matters worthy of mention. The common set-bowl, with plug, strainer, chain, and overflow-pipe, and the bath-tube equipped with like machinery, are both filthy. Waste-pipes and traps are often too large. Kitchen traps suffer from accumulation of grease. The recent maxim that plumbing should all be in sight or easily visible, was referred to with approval. "In conclusion," said the reader, "it is not to be forgotten that plumbing needs constant supervision and care; the best there is cannot with safety be left to itself. Wash-bowls, bath-tubs, water-closets, must be washed and scrubbed like other utensils; soil-pipes watched; traps periodically examined; and the lesson constantly insisted on, to mistress and maid, that health demands the cleanliness which is next to godliness, and which is entirely independent of traps and plumbers."

The paper was followed by an animated discussion, participated in by nearly all the members present, after which the Society sat down to an excellent dinner. Succeeding this, the subject of puerperal eclampsia was discussed, after which the meeting was adjourned.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, January 6, 1886. The annual

ELECTION OF OFFICERS

was held, and resulted as follows: President, A. Jacobi; Vice-President, William H. Draper; Treasurer, William F. Cushman; Member of the Council, Everetts Herrick; Member of the Committee on Admissions, H. E. Crampton; Member of the Committee on Library, F. P. Kinnicutt.

DR. L. EMMET HOLT read a paper on

THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.

In the outset, he wished it to be understood that other methods of treatment than the use of drugs were not ignored by him, though, unfortunately, in the class which suffered the most from this form of disease, it was often impossible to secure proper hygienic conditions, which were so essential to the welfare of the patient. With the exception of instances of pure cholera infantum, the cases of summer diarrhœa, in Dr. Holt's opinion, were all of dyspeptic character, and were primarily due to fermentation or putrefaction in the intestinal tract. Among the factors entering into the causation of the trouble, he mentioned heat, improper feeding, and bad hygienic surroundings. The affection was evidently not due to heat alone, or else we should find that the greatest mortality was among infants under six months of age, which was not the case. During the first six months a much larger proportion of infants were wet-nursed than at a later period, and it was after this age that the greatest mortality from summer diarrhœa was noted.

In treating of the influence of heat, he spoke of its effect upon the food, as well as upon the child, and referred to an instance at the New York Infant Asylum, in which no less than twenty-three children became affected with diarrhœa in a single day, from the use of tainted milk. In tenement-houses, all the conditions were especially favorable to the contamination of this article of food, and it was remarkable that more children did not suffer from this cause than was

actually the case. In this connection, he spoke of the development of poisonous ptomaines from food, and alluded particularly to the investigations of Professor Vaughan, of the Michigan State Board of Health, in regard to the principle which he has designated as tyrotoxicon. Bruntion's researches had also, he thought, furnished the solution of many hitherto insoluble problems. Cerebral symptoms had been generally supposed to be due to the sudden stoppage of the diarrhoea. Huchard had shown, however, that poisonous ptomaines were involved from human faeces in conditions of health, and this was the case to a much larger extent in disease.

In summer diarrhoea, Dr. Holt went on to say, the inflammatory changes were almost entirely confined to the large intestine. A specific microbe bearing a causative relation to the affection had not been as yet demonstrated, though numerous bacteria, of various kinds, were always found in connection with it. The indications for treatment were as follows: (1) Clear out the bowels; (2) stop decomposition; (3) restore healthy action to the bowels; (4) treat the consequential lesions. In the first place, it was necessary to clear out the bowels, for the same reason that the surgeon thoroughly cleanses a wound before applying his antiseptics. As a rule, Dr. Holt said he began his treatment with a cathartic, in order to remove the altered secretions; and if the stomach was not very irritable, there was nothing which, in his opinion, was to be compared to castor oil for this purpose. If the stomach were irritable, he was in the habit of using large injections of water by means of a fountain-syringe. By experiment, he found that it took about a pint of fluid to reach the ilio-cæcal valve, and, at least, this quantity should be used. In many cases the castor oil was all the medicine that was required, as a suitable dietetic and hygienic regimen would do the rest. In cases in which the passages, consisting of pure serum, were odorless, and alkaline in reaction, no preliminary cathartics were required.

In order to stop decomposition and restore healthy action in the bowels, the most efficient agent that he had found was the salicylate of sodium. If there was much vomiting, it was better to withhold food altogether from ten to twenty-four hours, employing carbonic acid, water, or thin barley-water, for allaying thirst. In children under two years of age no milk whatever should be allowed, though peptonized milk was much less likely to do harm than either condensed or ordinary cow's milk. He had known many relapses to be brought on by the use of milk.

The treatment of the consequential lesions was the fourth point considered. This consisted in (1) appropriate dietetic treatment; (2) the continuation of the antiseptic; and (3) the washing out of the whole large intestine every day with pure water, or with a weak antiseptic or astringent solution. The medicinal agents which he preferred for these injections were benzoate of soda and nitrate of silver. It was a fact, he said, that all the drugs which had formerly proved of service in the treatment of summer diarrhoea, with the exception of opium (in regard to which there had been much discussion), were of a more or less antiseptic nature.

Dr. Holt then proceeded to give a *résumé* of the history of the use of antiseptic remedies proper in this affection, from the time when Mays first employed creosote, in 1846. As long ago as 1853, Matthison

had reported much success from the use of salicin, and in 1858 S. W. Smith published, in the *British Medical Journal*, his successful experience with willow charcoal. In 1879 Kilner used salicylate of bismuth and calcium, and in 1880, Hutchins, of Brooklyn, reported good results from the use of salicylate of calcium alone. Segur, of Brooklyn, also met with much success in the treatment of the diarrhoea of phthisis with salicylates. In 1886 Braithwaite recommended the use of salicylate of iron, which he had found very efficient. Naphthaline had been highly lauded by Falkenberg and other writers, and bichloride of mercury had also been recommended by Ringer and others.

Even the most recent text-books on diseases of children, Dr. Holt went on to say, advocated practically the same treatment of summer diarrhoea that was in vogue fifty years ago. In order to find out what was the present practice in New York institutions, he wrote to the physicians of fourteen of these, including the Nursery and Child's Hospital, the Foundling Asylum, St. Mary's Hospital for Children, the Demilt Dispensary, and a number of other prominent hospitals and dispensaries, in which upwards of 40,000 children are treated annually—25,000 for diarrhoeal diseases. He found, among other facts, that opium was used in all, and bismuth in all. Castor oil, as a preliminary medication, was used in six; and castor oil emulsion, with equal parts of the oil and paregoric, in three. Chalk-mixture, in combination with paregoric and astringents, was used in several, calomel in three, ipecac in three, pepsin in one, iodoform in one, morphia and atropia, hypodermically, in one, and astringent injections in three.

Dr. Holt said that, in his own experience, he had found that with the use of opium, bismuth, and astringents, fifty per cent. of cases were cured, and seven per cent. died. A year ago last summer he first commenced the use of salicylate of sodium. In about two-thirds of the cases in which he had employed it he gave castor oil as a preliminary to the treatment. In a few cases, where there was great nervous irritability, he employed Dover's powder, simply for the purpose of controlling this. Out of eighty-one cases treated with the salicylate, sixty were cured, fourteen improved, six not improved, and one died. The results of all his cases were as follows: cured, eighty four per cent.; died, one per cent.

Of 44 cases in which he had employed naphthaline, 67 per cent. were cured, 15 per cent. were improved, 13 per cent. were not improved, and 1 per cent. died. In 27 cases treated with resorcin, 22 per cent. remained unimproved, and it soon became evident to him that this agent was not nearly so efficient as either salicylate of soda or naphthaline. He had also used bichloride of mercury in 28 cases, but had not found it as successful as the remedies named. The comparative results of treatment of these different remedies were, then, as follows: Cured by opium, bismuth, and astringents, 50 per cent.; cured by salicylate of sodium, 84 per cent.; and by naphthaline, 67 per cent.; cured by resorcin, 55 per cent.

After relating an illustrative case in which the salicylate of sodium, administered after a preliminary dose of castor oil, had effected a cure in an apparently hopeless case, Dr. Holt stated that he was in the habit of giving the salicylate in doses of from one to three grains, every two hours, and in the form of an aqueous solution which could be taken with the food

or drink. Instead of producing vomiting, he had found that it often allayed irritability of the stomach. Naphthaline could be given in doses of from half a grain to five grains, and resorcin in doses of from half a grain to two grains. Bichloride of mercury, which was given in doses of from $\frac{1}{120}$ to $\frac{1}{100}$ of a grain, was sometimes apt to produce vomiting.

The putrefactive changes taking place in the food, which was the immediate cause of summer diarrhœa, often began outside of the body, before it was eaten; and diarrhœal discharges at the outset, at least, were to be regarded as salutary. Dr. Holt mentioned that he did not undervalue the efficacy of opium in other forms of diarrhœa. In conclusion, he said that the use of evacuants constituted an essential part of the antiseptic treatment; and, as the result of his experience, expressed a preference for the salicylate of sodium after a cathartic had been employed. The antiseptic treatment he regarded as especially valuable because it removed the cause of the trouble in the intestinal canal, and did not simply combat its effects.

DR. WILCOX related his experience with naphthaline, in the treatment of diarrhœa; stating that he had employed it in thirty-two cases, nearly all of which, however, were in adults. In his hands it had proved so efficient that he had come to regard it of the same value in diarrhœa as mercury in syphilis, or quinine in malarial trouble. In order to secure its full effect the patient should take at least sixty-grains a day, and in some cases as much as one hundred and twenty grains *per diem* was required. He gave it chiefly in starch capsules, with oil of bergamot to conceal the odor. Occasionally he had found that the urine became smoky under its use, but no albumen or casts could be detected in it. In one case of twenty-four years' standing, in a man sixty-one years of age, a cure was effected by the use of ninety grains a day. In two cases he had used it successfully in the diarrhœa of typhoid fever. The patients were in the third week of the disease, and took from sixty to ninety grains a day, which reduced the stools to two in the twenty-four hours, and rendered them perfectly odorless. Naphthaline also had an antipyretic effect in these cases, and he regarded it as quite as safe as any of the antipyretics now so commonly employed, such as antipyrine, thallin, etc. He had also tried resorcin to some extent, but with very indifferent results.

DR. ANDREW H. SMITH remarked that it had been his idea for some time that the cause of summer diarrhœa could be best treated by the aid of antiseptics. The essential oils which were in common use in domestic practice, are really antiseptics and the same was true of the pennyroyal, spearmint, and peppermint teas so often resorted to in the country.

DR. VAN ZANTWOOD said that Dr. Holt was no doubt correct in considering the disease primarily dyspeptic in character. He thought bismuth was of service, not simply from its mechanical effect, but because it was a true antiseptic. The inflammatory changes were largely located in the large intestine, and he was in the habit of employing large astringent injections to flush out the colon. He combined an alkali with the astringent in these injections, in order to be able to get at the mucous membrane, by removing the mucus from it.

The President, DR. A. JACOB, said that he heartily agreed with what Dr. Holt had taught in his paper, and particularly as to the antiseptic character

of remedies long in use. As regards bismuth, which is now regarded simply as an inert mechanical substance, he had published an article twelve years ago in the *American Journal of Obstetrics*, in which he distinctly claimed that it was an antifermentative; and such was still his conviction. He also agreed with Dr. Holt as to the importance of appropriate dietetic treatment. If there were any one especial danger in summer diarrhœa, it came from the use of milk, and for twenty-five years now, he had taught that the disease could not be cured unless milk was given up. It was often necessary to withdraw it for a number of days; and there were plenty of things that could be resorted to to take its place. As a rule, he substituted for it the white of egg, raw, mixed with barley water, or other farinaceous drink. The use of raw meat had been advised by some, but this should not be employed if it could be avoided, on account of the danger of introducing into the system the tœnia canelata, which was a much more difficult kind of tape-worm to get rid of than the ordinary tœnia solium.

DR. GEORGE F. PEABODY said that he had come to look upon naphthaline as a very valuable addition to our therapeutic resources, in a number of intestinal complaints. For some time past he had been using it in all the earlier cases of typhoid fever which came under his care at the New York Hospital. It was reasonable, he thought, to look for relief in a remedy which acts directly on the local lesions, and several cases had already occurred in his practice in which the disease was apparently aborted by this remedy. He referred particularly to a case which came under treatment on the second day of the disease. By the thirteenth day the fever was gone, and convalescence had commenced; yet the patient had had the usual prodromal symptom of typhoid, and the characteristic eruption and enlargement of the spleen had been well-marked. Dr. Peabody also mentioned a case of chronic diarrhœa, of twenty-one years' standing. The patient had been under treatment for a broken leg in the surgical wards of the hospital, but though while there the usual astringent remedies were employed, the diarrhœa still continued unchecked. On his transferral to the medical wards he was placed on the use of naphthaline, and in ten days the case was cured; the passages by that time having become normal in quantity, color, consistence and odor. Having referred to another cure of chronic diarrhœa by naphthaline, he stated in conclusion that all his cases of typhoid fever were given a preliminary full dose of calomel.

DR. HOLT said that Dr. Cauldwell, whom he had expected to be present at the meeting, had used salicylate of sodium with much success, in twenty cases of the diarrhœa of phthisis.

— In a recent paper by Prof. von Nussbaum, of Munich, on "Erysipelas," the author speaks very highly of the use of ichthyol, in the form of an ointment, made of equal parts of ichthyol and vaseline, to be painted over the whole erysipelatous area, then covered with ten per cent. salicylic lint, and fixed with a gauze bandage. In erysipelas of the face, ichthyol collodion is to be preferred, and on the hairy scalp, ichthyol soap.

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ANNUAL REPORT OF THE SURGEON-GENERAL, UNITED STATES NAVY.

THE report of the Surgeon-General, with the appended documents and estimates, makes a volume of 126 pages; but the report itself is apparently based on the size of the Navy.

The most noticeable recommendation is one to increase the advantages and improve the condition of the Medical Corps of the Navy. Its vacancies have not been filled for several years; resignations, deaths, and retirements have depleted it more rapidly than candidates have been obtained. The Bureau has not been willing to lower the standard of requirements, and it is impossible, with the present inducements, to find young men of the necessary qualifications who are disposed to become medical officers of the Navy. The Army has properly-qualified applicants in excess of its needs; its superior qualifications being better pay, *well-defined* rank, and more satisfactory professional position. Since 1870, more than thirty young medical officers have resigned, three of them to enter the army corps.

Of the persons examined for enlistment during the year — 10,913 — 79 were rejected for color-blindness or feeble color-sense. Eight candidates for admission to the Naval Academy have been rejected during the last four years for a similar cause.

The Medical Corps of the Navy is doing its share in advancing the public welfare through the Museum of Hygiene. In his report, Medical Director Turner, who is in charge of the Museum, states that there has been hardly a day without some call for information, either from plumbers, architects, medical men, or others interested in the means of preventing dangers to health. The collection of sanitary and hygienic appliances has increased, until the present building is completely occupied, and the attic is crowded with unbroken packages. In the library the shelving is full, and the constant addition of books, pamphlets, and circulars upon hygiene, both general and especial, has rendered it necessary to store these accessions upon

the floor space. In fact, its overcrowded condition impairs its usefulness.

The researches in the chemical, physical, and biological departments of the laboratory, which forms one department of the Museum, take the widest range, and may become of national importance; but the advantages of the Museum to original investigators, and their investigations into matters connected with public health and the progress of preventive medicine, are at present at their minimum for want of working room.

EXTENSION OF THE CROTON WATER-SUPPLY SYSTEM.

At a meeting of the New York Aqueduct Commissioners, held February 7th, it was formally determined to go on with the construction of the great Quaker Bridge Dam, which has been so long in contemplation as a part of the Croton water-supply system. On account of the magnitude of the work — the most stupendous piece of engineering of the kind ever undertaken — the Commissioners have proceeded with great deliberation, and did not finally decide in regard to the matter until after abundant opportunity had been afforded for the expression of the opinion of experts favorable to and in opposition to the project.

At the meeting there were presented a majority and a minority report. The former, which was in favor of the construction of the dam, was signed by six of the seven Commissioners. In it reference was made to the fact that some of the best hydraulic engineers of modern times have approved of the plan, and Gen. Newton, who recently resigned his position as Chief of the Engineer Corps of the United States Army, to accept the position of Commissioner of Public Works of the City of New York, supplemented the report with a personal statement favoring the project as the best one for securing a requisite supply of water for the city. In the minority report, which was signed alone by Mr. Spencer, President of the Aqueduct Commission, it was claimed that the construction of the dam, besides entailing an expense of over ten million dollars, was open to the objection that the dam would enclose an enormous quantity of water which could not be distributed in a thoroughly pure condition. In answer to this sanitary point a letter was read from Prof. Charles F. Chandler, ex-President of the New York Board of Health, in which he commended the project and denied that the water distributed from the lake formed by the dam would be impure.

The great dam which it has thus been decided to construct, will be situated several miles below the present Croton Dam, and near what is known as the Quaker Bridge. The dimensions are to be as follows: Total height above foundation upon solid bed rock, 277 feet; height above the bed of Croton River, 178 feet; length of dam at foundation, 500 feet; length at top, 1,500 feet. Including the capacity of the Muscoot Reservoir, which it was also voted at this

meeting to construct, 2,500,000,000 gallons, and of the Croton Reservoir, 1,500,000,000 gallons, the new dam will make a reservoir of the capacity of 38,377,935,000 gallons. The dam will raise the water 34 feet above the Croton Dam, and the surface-level of the water in the new reservoir will be about 200 feet above mean tide on the Hudson River. The plan for the water-supply of the city, as at present contemplated, will add 23 square miles of territory to the watershed of the Croton River, and the cost of the entire work, including \$1,200,000 to be expended in the purchase of the land required, is estimated by Mr. Church, the chief engineer, at \$6,741,000.

MEDICAL EXAMINERS AND THE RECORD OF THEIR WORK.

Two years ago, the Legislature of Massachusetts enacted a law requiring medical examiners to transmit annually to the Secretary of the Commonwealth "certified copies of the record of all deaths," the cause and manner of which they had investigated in the course of their official duty during the previous year. To secure uniformity in these annual reports, blank forms are provided which are designed to facilitate and systematize the work, at the same time leaving to the medical examiner a considerable discretion touching the fullness of the details relating to individual cases, the heading "Notes" permitting a somewhat elastic interpretation, according to the facts actually in the possession of the reporter and according to his judgment of the relative importance of the case itself. Thus, a homicide deserves fuller notice than a case of accidental drowning, and the blank, after its requirement of data relating to name, age, time of inspection and of autopsy (if an autopsy is made), cause and manner of death and expenses of the investigation, leaves an unlimited space for the full history of the case, the anatomical appearances, the result of the inquest and of other judicial proceedings — in short, a complete medico-legal history of the individual affairs.

Now it is obvious that these records — if properly made and successfully edited and published, as the law contemplates — must be of very great value to the medical examiners themselves, by leading them to be closer observers, knowing that their work must go on record; to the executive department of the State government, by demonstrating the fitness of individuals to hold the responsible office of a medical examiner; to legal medicine, by furnishing a unique collection of medico-legal cases; to medical science at large, by throwing light upon a too-neglected but fruitful field; to the public in general, by supplying evidence of the efficiency and fidelity displayed by its servants. The labor imposed by the statute upon the medical examiner is not a burden worth mentioning, a majority of the corps having but a limited number of cases in the course of each year; it is only in the large cities that the task of preparing the records can prove in any degree irksome.

An examination of the returns on file at the office of the Secretary of State, covering the work of the year 1886, compels the conviction that, on the part of some of the medical examiners, the purpose and potential advantages of the law are not recognized or appreciated. The letter of the statute has, indeed, been fulfilled, but its spirit and intent have been in too many instances ignored. In some cases, the "certified copy of the record" gives a most meagre and wholly unsatisfactory mention of the circumstances attending the death; in a few instances, the return has been forwarded with absolutely no mention of the data having medico-legal value, the column of "Notes" being left blank.

This evidence of indifference or laziness is exceptional, however; the majority of the reports are satisfactory, and attest the zeal and intelligent efficiency of their authors. But it is plain that, unless all the corps of seventy-four medical examiners freely and faithfully contribute their share to the general fund of medico-legal information, the product is just so far impaired. If the raw material, the foundation data, are of poor quality, it is useless to look for fine results at the editor's hands. Each medical examiner owes it to his fellows, to the honor of his office, and to his respect for the law, to make his record of real value.

The JOURNAL's uniform attitude of friendly recognition of the medical examiners and their work, makes it a less ungracious act to give this hint of the possibility of improving that work in one important direction, and to recall the adage "Whatever is worth doing at all is worth doing well." If the new system of investigating deaths by violence is to grow in esteem in the State of its birth, and is to commend itself to other States as a good thing for their adoption, it must continue to enlist the efficient, zealous, faithful services of its own agents and representatives.

We continue to be so convinced of the excellence of the system, as a whole — of the great advance over the conditions which it has replaced — that we earnestly desire to see it bearing *all* the results which we know may be fairly expected from it. And while we believe it to be better that medical examiners should not be cramped and tramelled by a too rigid official formulary, we should be glad to recognize that they were all availing themselves, in the best sense and with the most genuine discretion, of the latitude which the present forms allow. We hope that all our medical examiners will feel a just pride in keeping Massachusetts to the front in this very important department.

THE HYGIENE OF CRIMINAL COURTS AND PRISONS.

Dr. DAY, Sanitary Superintendent, has transmitted to the New York Board of Health a report by the Sanitary Inspectors in regard to the condition of the Tombs Police Court, the Special Sessions Court, and the old Tombs Prison, the result of an examination

just made in compliance with a request of the Board of Police Justices. The inspectors found the places named in a deplorable and alarming condition. Thus, there are old brick cesspools full of disease-breeding matter under the police court, and apertures in the walls permit the effluvia to enter the court-room. This room, in which 26,000 persons were arraigned last year, is badly ventilated; while the sewerage is in a disgraceful condition. All the waste-pipes of the prison seem to connect directly with the Special Sessions Court and the clerks' offices. The connections are not trapped, and there is free communication with unventilated house-drains which empty into a large pool in the prison yard. The heating system, which is by stove, also further vitiates the air.

This report, which states furthermore that the recommendations made in regard to the Tombs, two years ago, were only partially carried out, and explains what measures should be adopted for the removal or improvement of the bad sanitary conditions now prevailing, was transmitted by the Health Board to the Commissioners of Charities and Correction, and it is to be hoped that prompt action will be taken in the matter.

So long as conditions, such as those described in this report, continue to prevail in our court rooms and jails, we shall continue to find in practice that members of the bench and bar, especially in middle life, are peculiarly liable to pneumonia, and to read in our text-books that phthisis flourishes in prisons; even if we escape a revival of the old term, jail-fever. Bad ventilation is probably the rule rather than the exception in most of those buildings in our cities devoted to the detention of criminals and the administration of criminal justice; add to this overcrowding and bad drainage, and all the necessary conditions are given for producing a rapid rotation in judicial offices, with an early transference to another world of the administration of justice. It may be because such results are not recognized as an absolute evil, that it is so difficult to arouse the spirit of reform.

MEDICAL NOTES.

— Dr. Schutz, of Rostock, advocates the use of *hydrastis canadensis* in many cases of profuse menstruation, and also in the hæmorrhages from myomata. He believes that it acts primarily on the bloodvessels, while ergot acts on the muscles of the uterus. Thus the two drugs produce similar effects, but in different ways, and the *hydrastis* has been found sometimes effective in cases where the ergot failed.

— The editor of the *Therapeutic Gazette* says that in several hundred cases of chorea treated in the Philadelphia and University Hospitals, *cimicifuga racemosa* was found of some value, but yet was distinctly inferior to arsenic. If this latter remedy fails, the next attempt is usually made with the *cimicifuga*. The arsenic, however, requires to be given in ascending

doses until it produces physiological effects, which requires a little boldness on the part of the physician. If the remedy is withdrawn as soon as puffiness is seen in the face, no harm can be done.

— Not long since an action was brought at Paris to recover a sum of money alleged to be owing as the price of the sale of a medical practice. The plaintiff was non-suited, on the ground that the *clientèle* of a physician was not a saleable property, and, therefore, that the money agreed to be paid in consideration thereof was not recoverable by law. This ruling is in marked contrast with the usage so common in England of transferring physicians' practices, and is somewhat in accord with the experience in the comparatively infrequent operations of the kind in this country, that it is one thing to make the sale, and quite another to deliver the goods.

— The abstract of sanitary reports issued from the office of the Surgeon-General of the Marine Hospital Service, under date of February 17th, gives the returns as to cholera in Japan. In 1885 there were altogether 11,927 cases and 7,152 deaths, the proportion of mortality being about 60 per cent. In 1886, there were 154,373 cases and 101,695 deaths, a proportion of about 66 per cent. Thus we see that the cholera in Japan during the past year has spread widely, has been exceptionally severe, and the percentage of deaths enormous. In Nagasaki Ken, however, owing to the speedy and vigorous restrictive measures adopted by the Government, the epidemic of 1886 was not so severe as that of 1885.

The means taken for the control of the disease at Takasima Colliery, on the island of Takasima, near Nagasaki, were particularly creditable. At this place, in 1885, the epidemic had been very severe. Of the 4,000 men employed in the mines 1,500 were attacked and 800 died. As this was the third or fourth time that the island had been ravaged with cholera, the owners of the mines determined to try such preventive means as modern science could suggest. A complete sewerage system was formed. Heavy pumping arrangements were erected on the beach, for pumping sea-water to the highest point of the island, whence by an arrangement of drains and sluices it was gravitated back to the sea, flushing for three or four hours daily every drain among the dwelling-houses. An extensive fresh-water condensing apparatus was erected, turning out from 7,000 to 8,000 gallons of water per day. The wells on the island were closed, and water from the main-land only allowed to be imported for purposes of washing, etc. A strict system of food quarantine was instituted, and all food was supplied through the company. Three digesters, each of 800 gallons capacity, were erected, beef killed under inspection being used to make soup, about 1,000 gallons per day being supplied to the miners. Beef was also served out in the rations. All shell-fish were prohibited, only deep-water fish, after inspection, being allowed to be landed or sold. No deleterious vegetables of any kind were permitted to be brought

to the island; potatoes, beans, and certain harmless native vegetables being the only ones allowed for consumption. The success of the system adopted has been amply demonstrated by the fact that Takasima has been the only place in Nagasaki Ken untouched by cholera during this year's epidemic.

BOSTON.

— We observe that one of our New York contemporaries has taken somewhat seriously the sensational report published in one of the Boston daily papers, to the effect that a bureau of undergraduate practitioners had established itself in proximity to the Boston Lying-in Hospital, on McLean Street, with a view to diverting obstetric patients from that institution. We had refrained from allusion to this unfounded story when it appeared, but, as it seems to have impressed the very elect, we now refer to it only to deny its authenticity. Practice in a dispensary district and instruction in obstetrics appear to have confused and been confused in the mind of an enterprising reporter.

NEW YORK.

— Dr. J. B. Mattison, of Brooklyn, read a paper on "Cocaine Dosage and Cocaine Addiction," before the Kings County Medical Society, February 15th; and at its close, a motion made by Dr. Alex. I. C. Skene was unanimously adopted, appointing a Committee, consisting of the President and Secretary, Drs. Wallace and De Lavergne, and Dr. Mattison, to draft a bill for presentation to the legislature, placing cocaine on the list of poisonous drugs, and to be sold only on physician's prescription.

— At this meeting the Society adopted the report of a Committee recommending the purchase of land and buildings on Bridge Street, and appointed Trustees to make this purchase and to receive subscriptions, not to exceed \$15,000. It is intended to erect a large hall for meetings, and transfer to it the Society's library.

— Small-pox does not seem to increase in the city, but still prevails to some extent. During the week ending February 19th, there were reported thirteen cases and six deaths from the disease.

— At a meeting of the Institute of Social Science, held February 10th, Dr. T. D. Crothers, Superintendent of the Walnut Lodge, Hartford, Conn., read a paper on the "Cause and Cure of Inebriety." He estimated the number of inebriates in the United States at 500,000, with a mortality of 90 per cent., and assigned a number of causes for the existence and increase of the evil. He considered inebriety as a disease, which is not curable by the exercise of will-power, and advocated the organization of work-house hospitals, in which the inebriated could be restrained and treated, these institutions to be situated in the country, and conducted on a military basis. He would have three grades of hospitals: one for recent cases, where the inmates can be committed by the courts, or volun-

tarily commit themselves, for one or two years; another for chronic cases, with a term of commitment of from one to three years; and the third for incurables, with a term of from five to ten years, or for life. The money for their maintenance would be taken from the license fund or the taxes on the sale of spirits.

Miscellane.

CHLORAL HYDRATE AS A VESICANT.

ATTENTION is again called by the *Medical Press*, October 13th, 1886, to the fact that, for blistering purposes, chloral hydrate is fully as efficacious as cantharides, while it is free from the inconveniences attending the employment of this latter agent. The chloral should be reduced to a powder, and a layer of it placed on a piece of common adhesive plaster, taking care to leave a margin between the edge of the layer of chloral and that of the plaster. This is then warmed over a gas-jet until the chloral becomes discolored and melts, when it should be immediately applied on the spot for the operation, the skin covering which is to be anointed beforehand with olive oil or lard. The anæsthetic properties of the chloral prevent any unpleasant sensation, and fifteen minutes is the maximum period of time during which the application may be continued. If the above-mentioned precaution be taken of anointing the skin, its vitality is retained, and the presence of an open wound is avoided, the skin adhering again as soon as the exudation is evacuated. Another advantage consists in the absence of the risk of poisonous effects consequent on absorption, a by no means uncommon sequel to the use of cantharides.

THE OCCASIONAL SUPERVENTION OF URGENT SYMPTOMS UPON THE PUNCTURE OF HYDATID CYSTS OF THE LIVER.

MR. LAURENCE HUMPHRY reported in the *Lancet*, January 15th, a case of collapse with dangerous symptoms, following the withdrawal of half a drachm of hydatid fluid by means of a hypodermic needle from the liver of a man aged twenty-three. He also cites two cases in which death followed this simple operation, while the occurrence of urticaria after such puncture is said to be common. He thinks that these complications do not arise after the puncture of other hepatic tumors or abscesses, and believes that the hydatid cyst contains some poisonous substance which finds entrance to the system at the time the cyst is tapped. To confirm this he requested Professor Roy to inject into animals (in the jugular veins and the peritoneal cavity) some of the fluid from this patient. Two of the animals died and the others showed toxic symptoms. As a conclusion from his experiment Professor Roy remarks: "It may be concluded from this experiment, so far as is possible from a single experiment, that there is in hydatid fluid some substance which has a powerful effect on both the heart and the respiratory mechanism. From the first two doses but little effect on the rate of the heart-beat was produced, but on giving a larger dose the slowing of the heart from

seventy to thirty-three beats per minute is very striking. The acceleration of the respiration by the first dose and its great slowing by the dose of twenty cc. of hydatid fluid, are also remarkable. The great fall of the blood-pressure after the third dose shows that the fluid from hydatid cysts contains some substance which can affect the blood-pressure in the systemic arteries to a very serious extent. The marked change in the rate of heart-beat, the respiration, and the blood-pressure after atropine seems of much interest as well as of practical importance." The hydatid fluid may enter a wounded vein at the time of puncture (continues the author), or escape into the peritoneal cavity and be subsequently absorbed, and the rapidity of onset and urgency of the symptoms would be the indication. In the post-mortem account of the fatal case recorded by Mr. Bryant, it was found that immediately inside the hydatid capsule the trocar had transfixed a very large vein, which on subsequent dissection was found to be the trunk of the portal vein, and it was supposed that after withdrawal of the trocar, hydatid fluid escaped into the portal vein and acted as a fatal poison. It may be questioned whether there is not a greater liability, where the close method of tapping is employed, for the fluid to find entrance into one of the dilated veins, which are sometimes found in the fibrous atrophied liver tissue around the cyst, should one happen to be wounded; and whether the treatment by incision, advocated by some, may not be found safer.

PHYSICAL TRAINING IN ELEMENTARY SCHOOLS.

THAT this important subject is gradually gaining public attention, is sufficiently clear to one who reads the signs of the times. What is especially needed is evidence as to what specific means of training have been tried and found applicable in common schools. In this direction is an article by Charles F. Bearsley, M. A., in the *Sanitary Record* for December 15th, 1886. We make the following extracts from the article:

"No one who has visited one of the newest and most efficient of our Board Schools can fail to have been impressed by the thoroughness of the arrangements and the completeness of the educational machinery, so far as it goes. At the same time it would not be strange if one came away with the feeling that there is a onesidedness about the whole system. This imposing building, with its ingenious apparatus and skilled staff, is devoted entirely to the training of the mental faculties. As a rule, the physical development of the scholars is left to take care of itself. Reading, writing, arithmetic, history, geography, grammar, in some cases the elements of science, even languages, as well as drawing, sewing, and cookery, are taught after the most approved methods. In nearly every time-table systematic physical training is conspicuous only by its absence.

"If physical exercise is to be generally introduced into our elementary schools, it must be put on an equal footing with other subjects. Then teachers may devote a fair amount of time and attention to it without being harassed by the thought that for the time thus employed they will be able to show no pecuniary result.

"If physical training were to be thus endowed as a

source of school revenue, it might be considered necessary to have, as a guarantee that some definite work would be done therefor, a syllabus of exercises for each year. A suitable scheme could easily be arranged. Probably much might be learned from a study of the German and Swedish systems of gymnastics. It might, however, be better at first to leave the scheme of exercises to be arranged by the teachers, subject to the approval of the school inspector. I do not at present propose to offer many detailed suggestions, but shall confine myself to a few general principles that should be kept in view.

"In the first place the exercises, while tending to the healthy development of all the bodily organs, should be, as much as possible, of a recreative character. In the younger classes they must be very largely so, just as the kindergarten system seeks to educate the senses and the intellect by attractive exercises in form, color and number. Some actual pastimes might be occasionally introduced, and the charm of combined rhythmic movement should not be forgotten. It is generally understood that exercise taken for its own sake is not so beneficial as when it is incidental to some pleasant occupation or the attainment of some engaging end. Of course there must be a good deal of routine work in any practicable scheme. Even though it were found unavoidable that the course should consist entirely of gymnastic drill, it might still be expected to be attended with solid benefit. A great part of the intellectual training of children has to be conducted on the 'drill' principle. Drill there must be; but the regular change from mental to physical drill would do much to refresh the jaded powers of both scholar and teacher. I say 'teacher' advisedly, for the teachers should share in all the exercises and in all the sports of the children. It is in fact almost as much in the interests of the teachers as of the scholars that I desire to see physical training made a regular part of our school system.

"On this account I would strongly recommend that the exercises be taught not by visiting teachers but by the ordinary staff. There is another reason for this, well known to practical educationists. Visiting teachers are generally regarded as a kind of necessary evil. They have not the same hold of the children as those who have them constantly in hand; often, though perhaps eminent specialists, they are unskilful in teaching and dealing with children; and the arrangements necessary for them to meet the scholars in suitable detachments often interfere seriously with the organization of a school. A system of physical training which necessitates such aid is bound to break down. To insure its success it must be workable by the ordinary staff. Gymnastics and calisthenics, which are not at present entirely neglected in our training colleges, would then become subjects in which proficiency would be desirable; and there is no question that in a short time teachers thoroughly qualified for the work would be turned out. . . .

"Lastly, as to apparatus, rooms, etc. A good many invigorating exercises require no apparatus. For a good many others apparatus could easily be fitted up in the ordinary class-rooms. Many exercises on the parallel and horizontal bars, as well as vaulting and leaping, could be performed by a class in rapid succession. On a row of rings or stirrups, suspended along the free space of a class-room, the pupils could exercise themselves in detachments. Any additional

outlay on appliances of this sort should be regarded as a part of educational expenditure as necessary as the cost of a desk and seat for each scholar. A regular gymnasium would no doubt be a great acquisition to every school; but it is by no means indispensable. Even where there is one, part of the exercises should be performed in the class-rooms; and it would be desirable to have a considerable portion of the training given in the open air.

"Of the feasibility of the scheme suggested I have, as a practical teacher, no doubt whatever. It is quite as workable as the present elaborate sewing schedule, and much more so than the teaching of cookery in elementary schools."

Correspondence.

THE DISCUSSION ON ARSENIC AT THE SUFFOLK DISTRICT SOCIETY.

BOSTON, FEB. 19, 1887.

MR. EDITOR,—In your issue of February 10th, an editorial upon "Arsenical Wall-papers" comments upon my remarks at a meeting of the Suffolk Section of the Massachusetts Medical Society. Presumably these comments were based upon the report of the meeting as published in your paper. The report so distorted what I said, and in several instances made me say what I did not say at all, that I make claim to your space in correction.

In regard to the several disorders instanced as having common symptoms, I did not say that physicians made mistakes, but used the words, "how are you to differentiate in these cases."

Neither did I say that this subject is "but two or three years old," for a correct report would show that I instanced a case of twenty years ago; and here I was made to say that "the girl died." Any reader could see that if I had desired to show the "careless way" and "wrong theories" of physicians, I should not have added by way of context such a remark as "the girl died." In point of fact the girl did not die. What I said was "the symptoms still remained," and I further added, "no attention was paid to the fact that there was a washstand in the bedroom connected with the sewer."

In speaking of the arseniuretted-hydrogen theory of poisoning I dismissed it with the simple remark: "It is ingenious, but I think hardly probable."

It is not necessary to enlarge upon the various other points. I may, however, add that the method of production of arsenical aniline colors, as attributed to me, is misstated.

To your editorial upon the subject I need not refer in detail. After the distortion of the report, it follows naturally enough, I suppose, that you should use such words as "ignorant" and "impertinent;" but it is considered more courteous to first be accurate in understanding one's position if it is to be assailed. I do not feel it desirable at this time to treat the question controversially, and have avoided statements in support of my position.

At the meeting of the Society, my treatment was marked by courtesy and attention, and I have been surprised that the report of my remarks was so generally perverted. In fact, there are only one or two sentences which convey the sense of what I said.

C. TENNANT LEE.

[Mr. Lee's remarks at the meeting of the Clinical Section of the Suffolk District Medical Society were understood in the sense in which they were referred to in our columns by several of those who were present at the meeting and took part in the discussion. Notice would have been taken of Mr. Lee's remarks at the time, had he not left the room.—Ed.]

ANOTHER RENDERING OF THE GREEK MESSAGE.

ROXBURY, MASS, February 18, 1887.

MR. EDITOR,—I have waited two weeks, in vain, for a vernacular translation of the message upon "B's" slate, and so suggest, that, had he in his waiting-room the proper *necessaries* (labelled after the manner of the Boston and Albany Railroad, "men," "women"), he would have saved his fec, and us all the trouble of translating the message.

Yours truly, U. V. M.

DOMESTIC DEVICE FOR NIPPLE SHIELDS.

HOLYOKE, February 12, 1887.

MR. EDITOR,—The old adage, that "there is no new thing under the sun," was prettily contradicted by one of my patients, who, suffering with fissured nipples—so sensitive and painful that their contact with any fabric or dressing caused intense distress—invented for herself most perfect nipple-shields, by suspending from a ribbon about the neck, two deep, wire tea-strainers.

They were held in place by a properly-fitting waist, and the nipples, thus covered, were entirely free from any irritation.

She had, moreover, such a copious supply of milk, that it was otherwise quite impossible to keep the nipples dry. This was remedied by the ready passage of the milk through the wire gauze to a layer of absorbent cotton covering the tea-strainer.

Not until she began to employ this method of protecting the nipples did the process of healing go on satisfactorily.

This young mother's clever device has been a source of great comfort in a number of similar cases which have since then come under my care.

I believe that this use of the tea-strainer is quite novel, and trust that its value may be tested by some of your readers.

Truly yours,
FRANK HOLYOKE, M.D.

THE TRIALS OF AN ANATOMIST IN THE LAST CENTURY.¹

LEXINGTON, MASS., January 28th, 1887.

MR. EDITOR,—The following letter "to the impartial Publick," written in 1771, may be of some interest to physicians and pharmacists of the present day.

Yours respectfully,
ROBERT M. LAWRENCE, M.D.

To the Impartial Publick:

It is with great reluctance I appear in print, but it is become necessary, as I have been represented to the Publick in an odious light by a set of men who cannot bear any should live but themselves. To set this affair in a clear light, it is proper to acquaint the Publick that about twelve months ago I set up an Apothecary's shop in Worcester, which was disagreeable to a certain number of men who would if possible monopolize (to themselves) all the Profits of the Town.

In this situation my conduct was narrowly inspected, and unfortunately for me, I gave them an opportunity by taking up the body of one Linsey, who was executed on the 25th of October last, with no other view than the advantage of having a skeleton in town, whereby other surgeons and myself might gain further knowledge of the human structure. At this they rejoiced, proclaiming that I had done for myself and that I must leave the town, I ought to be hanged, etc., till they enraged some people to such a degree that a number, after consulting lawyers to know if I had laid myself open to the law (resolving to prosecute me without mercy) finding I had not, they came

¹ From the Boston Gazette and Country Journal, Monday, February 18th, 1771.

in a riotous manner to my house, demanding the body, which I delivered; desiring that they would keep it covered. Instead of taking my advice (with a view to irritate the minds of the people) they exposed it the remainder of the day to as many as they could collect, which had the desired effect, so much that they surrounded my house soon after in the night, blowing horns, ringing bells, hanging up a dead b-tch before my door, etc. Notwithstanding all they did, the thinking part of the people considering ultimate design was to get knowledge which would tend to the publick good, my practice and custom returned as formerly. But being hitherto baffled in their attempts, they published an anonymous advertisement respecting me, as using the body in an inhuman manner and contrary to his desire. I can make oath I did not know his desire (it was known only to a few) till after the affair happened.

And that their advertisement might take the greatest effect, they inform you it is truth, and attested by five respectable gentlemen. These gentlemen I allow to be as worthy as any, and I believe the publick will think so when they are informed they were requested to sign the advertisement, but one and all refused, on account of its being a spiteful, ill-natured, malicious thing. Having represented the facts just and truly as they were, I leave it to the impartial Publick, whether or not I ought to be represented to the world in such an infamous manner, as these men and their dependants have done. After examining the whole with candor, I hope my friends and customers will see through their evil designs and continue their favours as usual.

I remain the Publick's most obedient humble servant,
ELIJAH DIX, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,481,920	751	333	21.71	18.98	.39	8.97	6.37
Philadelphia	993,801	419	120	12.96	10.56	3.36	6.24	.24
Brooklyn	745,108	279	129	17.00	21.08	1.70	7.14	4.76
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	135	52	6.66	15.54	—	4.44	.74
Boston	400,000	162	53	11.74	13.64	1.24	8.86	1.24
New Orleans	242,750	101	23	7.82	12.86	—	3.96	—
Buffalo	225,000	62	22	12.88	6.44	1.61	4.83	1.61
Cleveland	210,000	77	41	18.06	12.98	2.58	9.03	—
District of Columbia	210,000	70	15	10.00	7.15	5.72	—	—
Pittsburgh	210,000	74	31	29.70	14.85	6.75	9.45	6.75
Montreal	186,257	91	57	10.70	11.99	1.09	10.98	4.26
Providence	121,000	57	19	26.10	17.54	3.50	5.25	10.50
Richmond	100,000	36	18	19.46	8.34	2.78	—	2.78
New Haven	80,000	29	7	6.90	17.25	—	3.45	—
Nashville	65,000	21	4	14.28	4.76	—	—	—
Charleston	60,145	23	7	4.35	21.75	—	—	—
Portland	40,000	8	1	—	12.50	—	—	—
Worcester	68,383	27	9	7.40	18.50	—	.37	—
Lowell	64,051	57	25	14.00	14.00	5.25	1.75	1.75
Cambridge	59,660	16	5	6.25	37.50	6.25	—	—
Fall River	56,863	16	6	18.25	6.25	—	6.25	—
Lynn	45,861	10	5	20.00	10.00	—	10.00	—
Lawrence	38,825	15	7	—	6.66	—	—	—
Springfield	37,577	21	4	14.28	19.04	4.76	4.76	—
New Bedford	33,393	10	5	10.00	30.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	4	—	14.28	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	2	12.50	25.00	—	—	—
Taunton	23,674	5	2	40.00	—	—	20.00	—
Haverhill	21,795	9	4	22.22	22.22	—	—	—
Gloucester	21,713	7	1	14.28	—	—	—	—
Brockton	20,783	8	1	—	25.00	—	—	—
Newton	19,759	8	1	12.50	12.50	—	12.50	—
Malden	16,407	7	1	14.28	7.14	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	7	0	—	—	—	—	—
Newburyport	13,716	5	0	—	20.00	—	—	—
Northampton	12,896	6	2	50.00	—	—	50.00	—

Deaths reported 2,544: under five years of age 1,017; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 435, acute lung diseases 404, consumption 385, diphtheria and croup 178, measles 85, typhoid fever 45, diarrhoeal diseases 44, scarlet fever 24, malaria fever 16, cerebro-spinal meningitis 11, erysipelas 11, whooping-cough 13, small-pox four, puerperal fever four. From diarrhoeal diseases, New York 16, New Orleans four, Philadelphia, Montreal, Providence and New Haven three each, Cleveland and Fall River two each, Brooklyn, Baltimore, Richmond, Charleston, Lowell, New Bedford, Chelsea, and Haverhill one each. From scarlet fever, New York 10, Brooklyn five, Philadelphia four, Pittsburgh two, Providence, Taunton, and Malden one each. From malarial fevers, New York six, Brooklyn three, Cleveland and District of Columbia, two each, Philadelphia, Baltimore and Buffalo one each. From cerebro-spinal meningitis, New York, three, Lowell two, Philadelphia, Buffalo, Pittsburgh, Lynn, Springfield and Gloucester one each. From erysipelas, New York four, Philadelphia two, District of Columbia, Pittsburgh, New Haven, Haverhill,

and Malden one each. From whooping-cough, New York and Richmond four each, Philadelphia two, Buffalo, Montreal and Worcester one each. From small-pox, New York three, Brooklyn one. From puerperal fever, Boston two, Cleveland and Pittsburgh one each.

In the 22 cities and greater towns of Massachusetts, with a population of 1,027,994 (population of the State 1,941,465) the total death-rate for the week was 20.89 against 18.95 and 22.45 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending January 31st the death-rate was 21.1. Deaths reported 3,734: infants under one year of age 781; acute diseases of the respiratory organs (London), 432; measles 130, whooping-cough 76, scarlet fever 54, diarrhoea 41, fever 37, diphtheria 33.

The death-rates ranged from 11.1 in Derby to 30.6 in Bristol; Birmingham 20.1; Bradford 19.8; Hull 19.1; Leeds 23.1; Leicester 19.3; Liverpool 26.1; London 19.6; Manchester 27.9; Nottingham 19.8; Portsmouth 22.7; Sheffield 19.6.

In Edinburgh 18.8; Glasgow 29.8; Dublin 28.2.

The meteorological record for the week ending February 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Feb. 5, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 6	30.289	33.0	39.0	20.0	87.0	82.0	81.0	83.0	S.W.	S.W.	S.W.	11	15	8	N.	O.	O.	—	—
Monday, ... 7	30.462	28.0	40.0	22.0	62.0	70.0	90.0	74.0	N.	N.	E.	8	12	13	O.	O.	N.	—	—
Tuesday, ... 8	30.074	37.0	44.0	27.0	93.0	97.0	93.0	94.0	E.	E.	S.W.	12	3	17	R.	R.	R.	—	—
Wednes., ... 9	30.030	36.0	44.0	27.0	51.0	37.0	57.0	48.0	W.	N.W.	W.	18	25	14	C.	C.	C.	—	—
Thursday, ... 10	30.065	34.0	42.0	20.0	63.0	47.0	70.0	60.0	W.	S.W.	S.W.	10	16	12	C.	O.	O.	—	—
Friday, ... 11	30.320	38.0	44.0	31.0	88.0	100.0	84.0	91.0	S.W.	N.E.	W.	7	8	19	O.	R.	C.	—	—
Saturday, ... 12	30.187	19.0	38.0	14.0	67.0	50.0	65.0	61.0	W.	N.W.	W.	24	16	10	C.	C.	C.	32	.67
Mean, the Week.	30.061	32.1	42.0	23.0				73.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 12, 1887, TO FEBRUARY 18, 1887.

SMITH, JOS. R., lieutenant colonel and surgeon. Detailed, in addition to his present duties, as President of the Army Medical Board in New York City, N. Y. S. O. 38, A. G. O., February 15, 1887.

TREMAINE, W. S., major and surgeon. Sick leave still further extended four months, on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

WAKEMAN, WM. J., first lieutenant and assistant surgeon. Relieved from duty in Department of Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Wash. Ter. S. O. 36, A. G. O., February 12, 1887.

MORRIS, EDWARD A., first lieutenant and assistant surgeon. Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Ordered from Fort Clark, Tex., to Fort Ringgold, Tex. S. O. 16, Department of Texas, January 31, 1887.

MCGRURY, GEO., Captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

TAYLOR, ARTHUR W., captain and assistant surgeon. Relieved from duty at Camp Medicine Butte, Wyo., and ordered for duty at Fort Laramie, Wyo. S. O. 14, Department of the Platte, February 12, 1887.

WYETH, M. C., captain and assistant surgeon. Ordered from Fort Wayne Mich., to Fort Barrancas, Fla. S. O. 39, A. G. O., February 16, 1887.

SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, Wednesday evening, March 2d, at eight o'clock. The subject for the evening will be the "Treatment of Head Injuries." Dr. M. H. Richardson and Dr. E. H. Bradford will read papers, and Dr. Morton Prince will illustrate the "Topographical Anatomy of the Brain on the Living Subject."

G. H. MONKS, M.D., Secretary.

OBITUARY.—FENNER HARRIS PECKHAM, M.D.

Dr. Fenner Harris Peckham, one of the oldest and best known physicians of Providence, R. I., died February 7th, of chronic Bright's disease, from which he had suffered for nine years. He was born in Killingly, Conn., January 27, 1820, and was the son of Dr. Hazard Peckham, an able and noted physician. After graduating at Yale Medical College in 1842, Dr. Peckham began his medical practice in Killingly, Conn., (now Putnam Heights), and removed to Providence in 1852. He was twice chosen president of the Rhode Island Medical Society. He has contributed to this JOURNAL and to literature several valuable addresses and monographs on special subjects of medical research. During the Civil War he served with distinction as a surgeon, first with Rhode Island regiments, and afterwards as surgeon of the board of enrollment of the second Rhode Island district. He leaves a wife and six children. To his only

son, Dr. F. H. Peckham, Jr., he relinquished the more arduous duties of his profession in 1878. One daughter, Dr. Grace Peckham, is an educated physician in successful practice in New York City.

BOOKS AND PAMPHLETS RECEIVED.

The Apache-Yumas and Apache-Mojaves. By Wm. H. Corbusier, M.D., U. S. A. 1886. (Reprint).

Twenty-Eighth Annual Report of the Inspector of Milk and Vinegar for the Year 1886. Boston, 1887.

Report of Deaths, during the Month of January, 1887. By Edwin M. Snow, M.D., City Registrar, Providence, R. I. 1887.

Report of the Surgeon-General of the Navy for the Year 1886. Washington: Government Printing Office. 1886.

The Yearbook of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co. 1887.

On Aphasia: being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By James Ross, M.D., LL.D. London: J. & A. Churchill. 1887.

Report of the Directors of the Boston Training School for Nurses attached to the Massachusetts General Hospital, 1886, with an Address by William L. Richardson, M.D.

A Text-Book on Surgery, General, Operative and Mechanical. By John A. Wyeth, M.D., Professor of Surgery in the New York Polyclinic, etc. New York: D. Appleton & Co. 1887.

A Case of Ante-Partum Hemorrhage at Term: Recovery. By Augustus V. Park, M.D., of Chicago, Member of the American Medical Association, Chicago Medico-Legal Society, Chicago Medical Society, etc. Chicago, 1887. (Reprint).

An Outbreak of Cerebro-Spinal Fever. By T. J. MacLagan, M.D., M.R.C.P., Physician in Ordinary to their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein. Edinburgh, MDCCC.LXXXVI. (Reprint.)

XVIII. Die Balgdrüsen am Zungengrunde und deren Hypertrophie. Aus Grund von 190 beobachteten Fällen beschrieben von Dr. med. H. L. Swain. (Hierzu Tafel V. VI.) Separatabdruck aus dem Deutschen Archiv für klinische Medizin, XXXIX. Bd.

A Case of Pyelitis of Nineteen Years' Duration caused by a Renal Calculus: Recovery. By Augustus V. Park, M.D., of Chicago, Member of the American Medical Association, Chicago Medico-Legal Society Chicago Medical Society, etc. Chicago, 1887. (Reprint).

The Therapeutical Drinking of Hot Water: its Origin and Use. By Ephraim Cutter, M.D., and Origin of the Salisbury Plans of Diet in Chronic Diseases, with Directions for Preparing Beef-pulp. By Ephraim Cutter, M.D., of New York City. New York: W. A. Kellogg. 1886.

A Clinical Manual of the Diseases of the Ear. By Lawrence Turnbull, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, etc., with a colored Lithograph Plate and numerous Illustrations on wood. Second Revised Edition. Philadelphia: J. B. Lippincott Co. 1887.

Ueber Wirkung, therapeutischen Werth und Gebrauch des neuen Karlsbader Quellsalzes, nebst dessen Beziehung zum Karlsbader Thermalwasser. Von Dr. W. Jaworski, Universitäts-Dozent in Krakau (im Sommer in Karlsbad). Klinisch-experimentelle Untersuchungen aus der mediz. Universitätsklinik des Prof. Korczynski in Krakau. Wien, 1886.

Original Articles.

TWO CASES OF CHRONIC ALCOHOLISM.¹

BY W. A. GORTON, M.D.,
Superintendent Danvers Lunatic Hospital.

OF the toxic neuroses, those produced by alcohol are probably among the most frequent, as they are certainly among the most interesting. So diverse have been the clinical phenomena attending their development, that until within a comparatively short period only a vague and general classification of them has been made, and it seems highly probable that many cases of nervous disorder have been erroneously attributed to other than alcoholic influences. The various forms of mental disorder produced by continued indulgence in the use of alcoholic drinks might be dwelt upon with some interest, and, perhaps, with profit, but the cases I have selected are chosen mainly to illustrate the complex character of what is generally called "Chronic Alcoholism."

A. H. J., male, aged thirty-four, married, native of United States, a milk-dealer by occupation, was admitted to the Danvers Lunatic Hospital, November 22, 1883. His friends stated that he had been a man of good bodily health and good mental capacity. Heredity good. For several years he had been very intemperate, and had indulged in venereal excesses. Seemed in perfect bodily health until August, 1882, or about fifteen months prior to admission, when he had what was called an attack of sciatica, which affected the right side principally, though pain was experienced on both sides, and which lasted about two months, confining him to bed most of this time. Experienced severe pain in his limbs during almost the whole period, but showed no mental symptoms. At the end of two months he had sufficiently recovered to resume his business and to renew his alcoholic and venereal indulgences. He continued in a condition which enabled him to attend to his work until July, 1883, although he suffered at times from neuralgic pains in his limbs. In July, 1883, or about three months before admission, he complained of being ill, suffered from the old pain in the limbs, but showed no special muscular weakness, although he fell from his wagon shortly before he gave up work. At this time he showed no mental symptoms that attracted the attention of his family, nor did he complain of any difficulty of hearing, vision or locomotion. He continued to drink to excess until August, when he began to show mental disturbance in the way of forgetfulness, incapacity for work and indifference to surroundings. At this time it was first noticed by the family that his gait was getting to be clumsy and unsteady. From this time until he entered the hospital he failed in all respects, becoming much demented and almost helpless from increasing feebleness of the lower limbs. He had no vesical or rectal paresis, and no fits. There was no direct history of syphilis. Examination on admission gave the following notes: man of medium height, well built but imperfectly nourished. Pupils are large in size, respond sluggishly. Tongue points to right and shows marked gross and fibrillary tremor. There is no appreciable lesion of heart or lungs, though the cardiac sounds are weak and the

pulse rapid, 144. Temperature normal. Is scarcely able to walk, gait showing extreme ataxia. Stands with eyes closed, but does so with extreme difficulty. Nutrition of limbs fair. The patellar reflex appears to be about normal on the left side, but is scarcely perceptible on the right. Cutaneous reflex apparently normal. Cutaneous sensibility apparently normal. Moves arms and uses hands without notable embarrassment. Speech incoherent, but articulation is not perceptibly impaired. Mentally is greatly confused, does not know where he is, cannot tell day of week or month. Seems greatly elated, but does not reveal delusions of grandeur. Mistakes identity of those about him. During the fortnight following his admission patient underwent no particular change. Was unable to walk without assistance, and passed much of the time in bed. Mental confusion persisted. Received no medicine. After this, patient began to improve, both mentally and physically, and two months after admission it is noted that he has become much clearer mentally, and is able to assist in ward work. Is childish in manner, memory is impaired and he has numerous delusions of identity. Says he feels well, has no pain, and thinks he ought to go home. Gait is slightly ataxic, but he gets about quite easily. In April, five months after admission, he had recovered almost completely from ataxic symptoms, and had gained greatly in general strength. Still showed delusions of identity, and thought he had discovered a new way to preserve meat and milk, which, when patented, would make his fortune. Improvement was progressive, and at the end of a year he had become able to do regular and hard work without fatigue, and had in great measure lost his delusions, though he was still uncertain about the identity of certain people about the hospital. Had had no neuralgic attack since admission. Fifteen months after admission he was discharged; has since remained well as far as is known, though I have not seen him for a year, but at that time he was in vigorous physical health and had no delusions.

The second case is that of a male, single, age thirty-five. A commercial traveler by occupation. Of good mental capacity and good physical health until he broke down from prolonged dissipation. Though very intemperate he had been able to support himself until the year preceding his admission, during which he was, for the most part, unable to work. In the spring of 1885 had reached such a state of mental, moral and physical degradation that he was placed in the Washingtonian Home for treatment, from which place he was transferred to the Danvers Lunatic Hospital, July 23, 1885, as a dipsomaniac. On admission he was found to be practically helpless from well-developed paresis of both lower extremities, and his condition indicated great physical prostration. Complete examination disclosed a large bed sore just above the left gluteal region, in the center of which was a large dark and offensive slough, and a smaller sore, apparently of more recent development, on the left knee. Was wholly unable to stand, but by great effort could partly flex the limbs. The cutaneous sensibility in both legs was found to be delayed but not markedly diminished. There was absence of the patellar reflex and of ankle clonus on both sides. Muscles of both limbs were flabby, and the general contour was indicative of atrophy. The respiration was accelerated and labored. Voice sounds weak and articulation difficult

¹ Read before the Boston Medico-Psychological Society, November 18, 1886.

and explosive in character. Incomplete paralysis of bladder and rectum. Was mildly delirious. Talked in a calm, self-satisfied way, but had many delusions of identity, and did not know where he was. Thought he would be all right if allowed to get up and dress himself and take a little exercise. Said he had been paralyzed once before from syphilis, which he contracted at the age of eighteen, seventeen years before admission. Pulse 98, temperature 98°. For a week there was no perceptible change in his condition. Was mildly delirious, restless, and troublesome. Began to complain of pains in his limbs, which were partly due to the bed-sore, which involved the greater portion of the left gluteus maximus muscle, and partly to some other cause, which was thought to be possibly syphilitic and he was given K. I. gr. xv. t. i. d., with hypnotics and anodynes at night. At the end of a month he had undergone slight improvement, but was still in a state of great exhaustion. Had acquired a certain amount of power in the lower limbs, the respiratory embarrassment had diminished, the vesical and rectal paresis had disappeared, the cutaneous sensibility was no longer delayed, and the bed-sore had commenced to heal. Still showed loss of memory, with the same fleeting delusions of identity. Begged almost constantly for whiskey, which he thought would at once restore him to the full possession of all his faculties. Had taken it pretty freely with egg and milk, from the time he was admitted. At this time he was given hydrarg. protiod., grs. $\frac{1}{2}$ t. i. d. During the next month improvement was quite rapid, he had become able to walk, but his gait was unsteady, respiratory embarrassment had wholly abated, and he seemed rational and appreciative. Unfortunately no record of the condition of the patellar reflex was now made. On the 4th day of November, 1885, or nearly four months from the date of admission, he had apparently made a complete recovery. He declared that he felt as well as ever; and at any rate he was well enough to run away from the hospital and make good his way to Cambridge, since which time nothing has been heard from him. The decided paresis, the bad muscular nutrition, the acute bed-sore, the delayed sensibility, and the rectal and vesical paresis, induced me to make the diagnosis of acute myelitis, but with the qualification that the case was one of chronic alcoholism, and that a long time must be allowed to elapse before a positive opinion could be given. I am aware that the syphilitic element of the case is not to be overlooked, but after a lapse of seventeen years, during which the patient declared he had taken mercury enough to sink him, it seemed a little less likely that syphilis was the cause of his trouble, than his continued indulgence in alcohol almost up to the commencement of the attack.

I am aware that the foregoing histories are incomplete in many respects, but they were made when the patient, owing to the great amount of mental disorder present, could give no assistance, and with no special reference to being used in subsequent reports. Similar cases have been numerous reported and diversely explained, but it seems to me that these two at least come within the descriptions of alcoholic neuritis and paralysis with which the German periodicals of the past year have been largely filled, a most excellent *résumé* of which, made by Dr. Knapp, may be found in the *Boston Medical and Surgical Journal* for September 16, 1886.

THE APPEARANCE OF INTERMITTENT FEVER NEAR THE NEPONSET RIVER.¹

BY J. S. GREENE, M.D., OF DORCHESTER, MASS.

WHEN the causes of disease are studied in the presence of a wide-spread epidemic, or where endemic phenomena prevail over a large territory, the abundance of material gives advantages too obvious to need particularising; yet this very abundance may prove a source of perplexity. It becomes necessary to recognize and estimate the power of counter-active or intensifying influences. Evidence collected from many and various sources has to be weighed and sifted. The value of the work depends much on the judgment as well as the industry of the worker; for he has both to collate and arrange facts and opinions, and to sum up his conclusions with judicial fairness.

Such, on intermittent fever, was preëminently the work of Holmes fifty years ago; and such are the quite recent papers on the same subject by the Drs. Adams. Far less ambitious is the mere reporter's work of describing those things only which his own eyes have seen; yet his few facts, in their very simplicity, may have some significance to justify their presentation. Such is my humble and easy task, and such my apology.

In a practice of twenty-three years I have not known a case of intermittent fever in Dorchester nor Milton, until within the last four years, *except such as have been imported* from malarial localities. Other physicians say that they have seen no indigenous cases. Dr. Benjamin Cushing remembers to have heard his uncle, Dr. Thaxter, say that he had one such case in Dorchester. Perhaps it would not be too sweeping a statement to say, that with barely an exception, the cases which I shall mention are the only instances of intermittent fever ever known to have had their origin on the soil of Dorchester or Milton. I have seen seven thorough-going cases in four different localities—two in Dorchester and two in Milton. Besides these I have seen two cases of uncertain etiology, which being each resident under one or other of the four roofs covering the undoubted cases, I suspect of partaking the infection. Dr. M. V. Pierce, of Milton, has lately seen a case.

I will now mention the several cases, and briefly describe the places where they occurred.

The first case was in September, 1882, in the person of a man whom I had known for years as a laborer in Milton, at the skin-shops, so called, where fleeces are washed. Here he had developed so characteristic a case of tertian intermittent that I formed a probable diagnosis from his aspect, as I saw him approaching my house. He was an Irishman, about thirty-five years of age, previously healthy and able-bodied. At the time of his attack he was living on the first floor of his house and his roof was leaky. Afterwards the roof was repaired, and he moved to the second floor.

This wool-yard forms part of a relatively low-lying level tract of seventy-five or a hundred acres extent, between Milton Hill and the elevated land to the westward, where stand the churches and public buildings of Milton. Through this intervalle flow the pure waters of Pine Tree Brook, which empties into the Neponset a short distance below the eastern bor-

¹ Read before the Boston Society for Medical Observation, December 6, 1886.

der of the tract. A fog often clings to this small plain while the air is clear on the hills around; and the passer, remarking this, might suspect the plain of insalubrity. But such suspicion would find no support in facts. Time out of mind this same interval has been the abode of healthy long-lived generations. The western breezes find it, while Milton Hill protects it from the fiercer north-east blasts. It has a gravelly soil, which is well drained by the brook before named. In all respects have the time-honored geponic conditions in the wool-yard, through the brook valley, and throughout the town, remained substantially unmolested, with this one exception.

For about ten years past this brook has been dammed at its entrance to the wool-yard, and the meadow above flowed, to procure a winter's crop of ice. The brook, thus broadened into a pond, has not been set wholly free after the ice-harvest, but only in part; and throughout each summer there has remained some small semblance of a pond. The same brook has for twenty-five years been dammed a mile higher up; but there the gate has been wholly removed after the ice-harvest, and the brook restored to its ordinary channel.

My second case occurred the next following year, in July, 1883. Mrs. J. M., aged about thirty-three, married, previously healthy, occupying with her family, consisting of a husband and three children, half of a one-story, two-tenement house on Clapp Street, in rear of the First Parish Church of Milton, was taken with a well-developed case of tertian intermittent.

This house, as will hereinafter appear, has been the seat of other cases of the disease. Its rear and westerly sides lie close to the border of a five-acre lot of woodland, mostly of young growth. This lot has had, of late, no visible drainage, though the land is relatively high. The making of Thatcher Street, parallel with and south of Clapp Street, in 1877, without any culvert, has cut off the wood-lot in question, lying between the two streets, from its former drainage into the run, and it has standing-water on a portion of its surface during the cold season, though dry during the heat of summer.

October 15, 1884, case No. 3 appeared on the Dorchester side of the Neponset, in the person of a married woman, aged about thirty, occupying rooms in a house on the northwestern corner of a several acre tract sometimes called the Lava Beds. This is a tract badly drained, like that last mentioned. Years ago it was a marshy meadow. It has gradually been partly filled in causeway fashion, and an open drain, not deep enough for thorough drainage, traverses it from north to south, crossing under River Street to the river. The western side of this tract is cut off from even this poor drain, by the completion, without any culvert, of a causeway or projected street from Sandford to River Street, north to south.

The house occupied by my patient stands on the westerly side of this causeway, and is therefore included in the portion thus cut off from drainage. The filling-up has been gradual during several years, and its effectual completion was perhaps celebrated, not unpunctually, by the appearance of this typical case of intermittent at its gate.

In July, 1885, a seven years' old daughter of Mrs. M., in the Clapp Street house, had a chill followed by fever, but under treatment a second paroxysm was prevented. In August following, a man of fifty years

and more, living in the other tenement of the same house, had a succession of violent paroxysms of the tertian type, characterized by urgent vomiting and prostration in the cold stage.

This man has had a recurrence this year, and his adult son, without chills or fever, has become weak, and has the aspect of one with malarial cachexia. He has tenderness over the region of the spleen. Another child of Mrs. M., three years old, has recently had an attack, also of the tertian type, making the fourth or more probably the fifth case in the same house.

This autumn, the 21st of October, a case presented itself on the southern border of Vose's Grove, in Dorchester, in a new house built close to the northwestern corner of the salt marsh overlooked by Milton Hill. The patient was a boy of three years, and the form of the disease was quotidian. Within a day or two of the beginning of his sickness, an infant of fourteen months, in the same family, died after an illness of several weeks' duration, dating from a blow of a stone against the upper lip. This was followed by abscess and necrosis of alveolar portion of bone. I did not see the babe until a day or two before death, and my diagnosis was pyæmia. The sequel suggests the inference that malarial poison was a factor in the case.

The house stands on the southerly slope of a sandy knoll only recently occupied for dwellings. This knoll is a low promontory, half surrounded by marsh, and the house in question stands within twenty feet of tide-water when high tides cover the marsh.

Ebb and flow is quite unobstructed here, for the rail-road, passing through the grove, runs to the northward of this knoll. The water of the well has a marshy taste and smell.

Dr. Pierce's recent case was a man employed on the coal wharf in Milton, opposite Vose's Grove. He slept in the office at the head of the wharf.

This completes my brief summary of cases and their surroundings.

Two of the localities implicated are at the head of tide-water and near the edge of marsh. The other three present, as the only perceived condition differing from surroundings of an earlier time, artificial obstruction by dam or causeway to the natural drainage of adjacent soil. In the two places where a plurality of cases is recorded, it is probable that the water of the wells in use is injuriously affected.

REPORT ON PROGRESS IN THORACIC DISEASE.

BY FREDERICK C. SHATTUCK, M.D.

SYSTEMATIC MUSCULAR EXERCISE AND LIMITATION OF FLUIDS INGESTED AS THERAPEUTIC AGENTS IN CERTAIN CONDITIONS CHARACTERIZED BY CARDIAC INSUFFICIENCY.

It is more than fifty years since Corrigan advocated the restriction of liquids in cardiac failure; more than thirty years since Stokes, apropos of incipient fatty disease of the heart in relatively young subjects, wrote: "The symptoms of debility of the heart are often removable by a regulated course of gymnastics, or by pedestrian exercise, even in mountainous countries, such as Switzerland, or the highlands of Scotland or Ireland." These suggestions of two of the greatest Irish masters of medicine are likely

now to bring forth fruit more abundantly, thanks chiefly to the labors of Oertel, the third German edition of whose "Handbook of the General Treatment of Circulatory Disturbances" is before us.¹ We cannot but regard this work as marking an epoch in the treatment of certain conditions involving, and more or less characterized by, cardiac insufficiency. While it is impossible here to do more than attempt an imperfect sketch of Oertel's ideas and the manner in which he carries them out, we hope to do our part in calling the attention of our readers to the book, and commending it to their thoughtful study.

The introduction begins as follows: "When the hydrostatic equilibrium of the columns of fluid in the various systems of pipes in the human body is lost; when the amount of blood flowing to the heart is no longer in accurate correspondence with the amount flowing from the organ; when the pump fails to propel onward all the fluid delivered to it, and the fluid is, consequently, dammed back, disturbance of the circulation follows, which must entail serious results to the organism unless they are rectified in some way or other. The immediate causes which underlie these disturbances are to be found either in the pump itself, the heart-muscle, in weakness of its contractile, and hence, of its propulsive power; in imperfect closure of its valves and contraction of its orifices; or else in one or another of the systems of pipes which has been so encroached upon as to be no longer able to hold the amount of fluid which it should, to wit: in feebleness of the muscular structure of the heart, in fatty conditions of the heart and general obesity, in disease of the valves of the left side of the heart, mitral insufficiency, and mitral or aortic stenosis; also in curtailment of the pulmonary circulation, whether due to emphysema, chronic interstitial pneumonia and bronchiectasis, curvature of the spinal column, pressure from pleuritic effusions or thoracic tumors."

To select from these conditions that which will afford the most obvious illustration, let us take the fatty heart, combined with general obesity. Twenty-seven cases have undergone Oertel's treatment, all with brilliant success. The patient has long indulged in larger quantities of nourishment, and particularly of fluids (beer), than he needed to balance equally repair with waste. Thus fat has been abundantly, though gradually, deposited in the overflow basins, the skin and omentum, about the kidneys and heart. The more inconvenient exercise becomes, the more it is curtailed, ingestion going on the same. Fat is deposited between, or even in the bundles of the muscular fibres of the heart. All this time the blood-mass has been slowly increasing, and greater demands are made upon the heart than it is able to meet. Dyspnoea follows the slightest exertion, attacks of palpitation are frequent, oedema appears in the legs, the skin of which may become more or less deeply pigmented as another result of the chronic venous stasis; the urine is diminished in quantity, and is albuminous. In short, the condition of the patient is deplorable, and palliation seems all that can be fairly expected of treatment. Oertel's cases show, however, that an actual cure may be wrought by an intelligent physician in an obedient and courageous patient.

The blood-mass must be reduced by great limitation

in the amount of fluid and careful regulation of the solid ingesta; by systematic exercise, preferably on foot, in the open air, and in a hilly region, and, perhaps, by vapor-baths or pilocarpine. Exercise diminishes the blood-mass, of course, by favoring perspiration and the discharge of water through the lungs; but it also promotes oxidation and nutrition generally, that of the heart-muscle, as well as that of the other organs and tissues. Absorption of the fat takes place, and the newly-formed vessels belonging to it disappear. The hydrostatic equilibrium is gradually restored, and the patient, who, at first, was able to walk only a very short distance on a level without being arrested by urgent dyspnoea, can take long walks, up and down hill, with ease, and is restored to activity and usefulness. Especially during the early part of the treatment, thirst is apt to be more or less painful; but its gratification must be resisted, and the symptom grows less and less prominent as the equilibrium is approached. Relapses are, of course, to be guarded against by the permanent avoidance of excesses.

A study of the cases of general obesity, with weak hearts presumably abundantly enveloped in fat, detailed by Oertel, shows clearly that neither dyspnoea, cyanosis, nor oedema, are contra-indications to muscular exercise. He reports, also, twenty-four cases widely varying in many respects, but all involving more or less serious and permanent organic changes, and all presenting the common features of impaired cardiac compensation and loss of hydrostatic equilibrium. The consideration of these cases forces the question upon us whether physicians generally do not inculcate rest in *some* cases of cardiac debility, where exercise, carefully graduated and carried out, is really indicated? Special emphasis is to be laid on the word *some*. We are fully alive to the vital importance of rest, as a general principle, in the treatment of heart disease. We know only too well that to err is human, and that it is, on the whole, wiser to err on the safe side. Still we must be constantly on our guard against the danger of putting our patients into the Procrustean bed of a general principle. The manner of life of the Germans, especially as regards the consumption of beer, favors the development of a larger number of those cases in which Oertel's treatment scores its most brilliant successes than does our manner of life and climate. Valvular disease, with imperfect compensation, is, however, equally common, and we repeat that, in some of these cases, we are convinced the principle of rest may be, and is, sometimes, carried too far.

The case of the late Lord Idlesleigh is one somewhat in point. For years he led a restricted life, in accordance with the advice of his physicians, on account of mitral disease; in 1855 he determined to disregard the advice, and for thirty years was in the thick of English political life, part of the time as a cabinet minister and leader in the House of Commons, finally dying at the age of nearly seventy. The lesson to be brought home to us in this is the importance of a careful study of each individual case coming under our care, and of a wise adaptation of our physiological, pathological, and therapeutic knowledge to the requirements of that case, considered, as far as is possible, as an individual, rather than simply as one of a class.

Inclosing, it may be of interest to mention that Case I, reported by Oertel at great length, is said to be that of the author himself, who, contrary to the adage, did not have a fool for his patient.

¹ The work constitutes the fourth volume of Ziemssen's "Handbook of General Therapeutics." The first three volumes have already appeared in an English translation, published by William Wood & Co.

THE PNEUMATIC CABINET IN PULMONARY DISEASES.

The æro-therapeutics of lung disease has never received anything like the attention in this country and in England which has been devoted to it on the continent of Europe, and especially in Germany. The invention and introduction of the pneumatic cabinet of Williams and Ketchum has stimulated experiment and research in this direction, and the medical periodicals have, in the last two years, contained many articles on the theory and practical application of the apparatus. I have purposely refrained from any mention of it in these reports up to the present time, in order that results rather than hopes of results might be dwelt upon. It is, of course, still too early for the formation of positive conclusions; but something is to be learnt from the reports which have come in. In the first place, a few words as to what the cabinet is and the claims of its projectors. We can then see how far those claims have been justified.

In using the apparatus of Waldenburg and its modifications, the patient, exposed to the ordinary atmospheric pressure, inspires compressed or expires into rarefied air. In the cabinet the patient is exposed at will to increased or diminished pressure, but breathes from and into air at the ordinary pressure. Pulmonary gymnastics are therefore a common feature of the two systems, and the benefits which are to be derived from increased dilatation and ventilation of the lungs are obtainable from either; whether these benefits are obtainable in equal degree from both systems we do not propose to consider.

The peculiar advantage which is claimed for the cabinet lies in the alleged facility with which, by its aid, medicated sprays can be thrown into the lungs, and compelled to condense within the minute air spaces. Mr. Ketchum, in a short paper on "The Theory of the Pneumatic Cabinet," says, "topical medication was the goal toward which the projectors devoted their energies," a goal which the discovery of the bacillus tuberculosis, like a telescope, brings more clearly into view.

Dr. V. Y. Bowditch,² who during ten months treated twenty-seven cases of various pulmonary diseases with the cabinet, says: "My opinion, then, of the pneumatic cabinet, may be thus briefly stated: that, although in my hands it has not accomplished, perhaps, all I had been led to hope, yet I still feel that it has, at least, shown itself to be a valuable aid to us in pulmonary therapeutics, and I look with hope to see what it can accomplish in the future."

Dr. Sidney A. Fox, of Brooklyn,³ has treated sixty-nine cases, thirty-four of which were phthisis: seventeen of them improved, ten showed no gain, and seven died. He writes cautiously and fairly, and is evidently encouraged to persevere in the use of the apparatus. "Over and over again have patients said to me, after having been told that they could not be cured, 'Doctor, I would like to continue the treatment because it makes me feel better, and you do not know what a relief it is to be able to take a deep breath.' It is a point worthy of emphasis that patients to whom cod-liver oil had been intolerable have taken it without difficulty when exhibited in conjunction with this special method of local treatment."

Dr. Westbrook⁴ says, "In regard to phthisis pulmo-

nalis: I believe that in the early stages of the disease the cabinet is capable of doing much good, and in many cases by arresting the morbid process."

Dr. Platt,⁵ who was associated with Dr. Westbrook in using the cabinet, believes its main action to be, the air about the patient being rarefied, a reduction of pulmonary congestion. He says: "time and time again patients have come into the office complaining of the sputa being blood-streaked, and, almost without a single exception, the use of the cabinet has relieved the symptoms in the course of a few minutes." It may be stated here that all the reports show there is no danger of hæmorrhage being excited when the cabinet is used in the ordinary way—the air contained in it being rarefied.

Dr. A. S. Houghton,⁶ of Chicago, reports on thirty-four cases, twenty-five of which were phthisis in one or another stage. His conclusions are as follows:

"(1) Pneumatic differentiation is of undoubted service in all conditions of primary infiltration.

"(2) When the febrile movement has been unchecked for many weeks before treatment, improvement, if any, will show itself within the first ten or twelve applications; if there is no abatement of symptoms its continuance is of questionable utility, and it may be absolutely contra-indicated.

"(3) That phthisical disease at the apices is more favorably treated than when at the base of the lungs.

"(4) That it is possible by this means to more thoroughly medicate the lungs than by any other known method.

"(5) That the expansion of the lungs by differentiation is itself a therapeutic measure of great merit.

"(6) The peri-and inter-vesicular exudation is capable of cure by this method, and even third stage phthisis is benefited, at least temporarily."

Dr. Herbert F. Williams, of Brooklyn, one of the projectors of the cabinet, furnished the first report as to its clinical use.⁷ A more recent article by him gives a list of all reports up to the spring of 1886.⁸ Of seven cases of phthisis classed as recovered in the first report, five had remained well without further treatment, for a space of nearly ten years.

It will thus be seen that those who have put the cabinet to practical use are unanimous in the opinion that it is of service as a means of exercising the muscles of respiration, expanding the lungs, promoting the absorption of diseased products, and diminishing congestion. They all appear to think, also, that by its aid medicaments in the form of spray can be applied to the mucous membrane of the upper air passages, and perhaps the larger bronchi. With regard to the possibility of topical medication of the air vesicles, however, "the goal toward which the projectors devoted their energies," we do not meet with so much unanimity. Dr. Williams tells us that the toxic effects of quinine, atropia, and mercury have been obtained by the use of the spray; but this does not prove that the air vesicles were reached. Deeper conviction is carried by an experiment he performed on a rabbit, inserting a tube in the trachea through which a spray containing China ink was directed; after ten minutes the animal was killed and the ink was found in the alveoli and sub-pleural spaces. Of course, in the human sub-

⁵ Jour. Am. Med. Assn., November 7, 1885.

⁶ Jour. Am. Medical Assn., November 7, 1885.

⁷ New York Medical Record, January 17, 1885.

⁸ Journal of Am. Med. Assn., August 14, 1886.

² New York Medical Journal, October 2 and 9, 1886.

³ New York Medical Journal, June 19, 1886.

⁴ New York Medical Journal, June, 1886.

ject much of the spray is arrested between the mouth and the upper part of the trachea.

Drs. Westbrook, Platt, and V. Y. Bowditch are all extremely skeptical as to the possibility of condensing a spray within the alveoli, and think that even if such penetration is secured the amount of medicament there deposited must be far too small to exert any germicidal effect, to say the least.

Our readers shall be kept informed as to the results of more extended use of the cabinet. No one will question the desirability of finding more efficient methods of combating a disease so common and so deadly as pulmonary tuberculosis.

THE BACILLI OF TUBERCULOSIS: THEIR ABUNDANCE IN SPUTUM WITH REFERENCE TO PROGNOSIS.

May⁹ has made weekly examinations of the sputum of one hundred and thirty-nine tubercular patients in all stages of the disease, counting the bacilli in the preparations from each patient. The weight of the patients was also noted, and it was observed that decrease in the number of bacilli appeared much later than gain in weight; indeed, in many cases the bacilli increased in number at first, without any other unfavorable symptoms or signs. In two cases the number of bacilli decreased shortly before death, and in two others the organisms disappeared completely while the patients were losing weight and doing badly.

May consequently concludes that we can be sure of a loss of the power of vigorous growth on the part of bacilli in the lungs, only when, during months of observation, they gradually decrease in number—although a temporary increase may take place from time to time—and simultaneously the bodily weight and general conditions are improving.

PLEURISY ONLY A SYMPTOM.

Those of our readers who have studied in Germany must have all been struck with the doctrine there so generally held, that simple primary pleurisy is a very rare affection. This view is not so widespread in France, but has there adherents. Germain Sée, for instance, classes pleurisy among the infectious diseases. Landouzy¹⁰ reports two cases confirmatory of this view, and formulates his opinion on the question as follows:

"(1) All demonstration is wanting of the dependence of acute primary pleurisy with effusion on exposure to cold, as is so commonly held.

"(2) Pleurisy attributed to exposure to cold is not a disease, like pneumonia, by the side of which nosographers persist in placing it, but simply a morbid, and always secondary condition.

"(3) Pleurisy, whether acute in onset and characterized by large effusion, or local, subacute, or chronic, is a symptom of disease.

"(4) Without absolutely denying the occurrence of pleurisy as due simply to exposure to cold, I believe it to be most exceptional, as rare as it is thought to be common.

"(5) The part played by exposure to cold is, in pleurisy, as in erysipelas, pneumonia and zoster, quite subordinate: the true etiological factor lies in a cause which was latent until the day when the exposure took place.

"(6) This genuine etiological factor, this determin-

⁹ Münch Med. Wochschr, 1886. No. 25. Fortschritte der Medicin, 1887, p. 567.

¹⁰ Revue de Médecin, July 10th, 1886.

ing cause is tuberculosis, often masked by the pleural effusion, and thus escaping recognition."

He goes on to say, further: "Any patient with pleuritic effusion is tuberculous, let him be vigorous, young, robust, and fat as you please; let him declare himself otherwise perfectly well and quite free from hereditary or acquired predisposition, unless the pleurisy can be attributed to an infection, (scarlet fever, puerperal fever, etc.), a dyscrasia (rheumatism), or a trauma (fractured rib, infarction)."

If this doctrine be true, all we can say is that tuberculosis is recovered from more frequently than has been supposed.

ACUTE PNEUMONIA IN UTERO.

Dr. Strachan¹¹ of Kingston, Jamaica, writes as follows: A patient, Nancy M., was admitted into the hospital under my care in December last, suffering from acute pneumonia (whole of left lung), and a history of illness covering the four days previous to admission. She was eight months pregnant. On the evening of the day of admission, her temperature was 103.6°, and she was delivered of a female infant. The infant died in less than twenty-four hours after birth with symptoms of acute pneumonia. A post-mortem examination showed acute pneumonic consolidation of the whole of the left lung. The mother made a good and rapid recovery.

[We do not remember having met with such another case in literature. It is to be hoped that the profession will be on the lookout for them in future, and endeavor to obtain autopsies on viable children born during an attack of pneumonia in the mother, but soon after succumbing. The transmission of the disease to the fœtus proves conclusively that pneumonia is a general disease and not, as was so long and so universally held, a local inflammation.—REP.]

Clinical Memorandum.

TETANUS FOLLOWING ABORTION.

BY HOWLAND HOLMES, M.D., OF LEXINGTON, MASS.

I WAS rusty in the literature of tetanus, so far as to have no recollection that it ever followed child-birth or abortion as a cause, till it was forced upon my notice by the following case:

Mrs. M. was the mother of four living children, the youngest being thirteen months old. I attended her in her last two labors, which were quick and easy. They were preceded by a miscarriage between the births of the second and third child. About one o'clock on Monday morning of December 13, 1886, I was called to see her. She had had a quick miscarriage a few hours previous, of a four months' fœtus, but the placenta had not come. It was not easy to deliver it without ether, and as the patient was averse to taking it and had ceased to flow, after losing an average amount of blood, I administered Flu. Ext. Ergot ʒi, and left.

I saw patient again in the middle of the forenoon, and removed the placenta from the cervix uteri. With tepid water mildly carbolyzed, I syringed the womb, and enjoined on patient to syringe vagina every morn-

¹¹ British Medical Journal, 1886, p. 860.

ing with warm, carbolized water. There was no further pain or discharge, with the exception of a final fragment of placenta, Wednesday morning.

I saw her several times in the course of the week, and at my visit on Saturday, I found her so far recovered that my further attendance seemed unnecessary. She had had that morning free action from a dose of castor oil taken for slight headache, and was then anxious to know what her "bill of fare" might be.

The following Monday (December 20th), in the afternoon I was desired to see her quickly—"she could not open her mouth." Examination showed she could not part her teeth to admit a knife-blade or spoon-handle, the muscles of her face and neck were stiff and painful. She said two defective teeth had grumbled somewhat during the last few weeks, and possibly she had taken a little cold, to cause neuralgia from them. She had slept sweetly the night before, (Sunday night), had the best night's sleep she had had since she aborted. She had slept fairly Saturday night, and thought she should relish a piece of broiled steak for breakfast, but on making an attempt to eat it, she first found she could not fully open her mouth, and next that the process of mastication caused so much pain and discomfort that she was obliged to desist.

From that time her jaws became more and more clinched, and the muscles of the face and neck became more and more stiff and painful, till she and her husband lost confidence in her neuralgic theory and sent for me. I tried to believe it was neuralgia, but a horrid misgiving seized me. However, I tried to calm her fears, and prescribed volatile liniment.

She was worse at ten o'clock P.M., and I was again called. I had no longer any doubt I had tetanus to contend with, and asked for a consultation. At 11.30 P.M., a neighboring physician saw the patient with me, and after a thorough examination, reluctantly conceded that it might be a case of tetanus, but, like myself, he could not recall that it ever followed such a cause: Treatment was a continuation of morphine in $\frac{1}{4}$ grain doses that I had commenced. We left her at 1 o'clock A.M., to meet again at 2 o'clock P.M., (Tuesday 21st). I saw her between 8 and 9 o'clock, that morning, finding her without improvement, and consultant saw her with me soon after 2 o'clock P.M. There had been some opisthotonos for twenty-four hours, and pain darted through from the sternum to the spine, extending down the shoulder blades, nearly the whole length of the back. From the first there was no tenderness in her bowels, but they were soft, flat, and natural, and, as they had been so thoroughly evacuated the previous Saturday, no effort was made in that direction. She passed water freely and with ease. Her mind was clear, and she was as calm and placid as her manner always was. By a forced effort she could part her teeth nearly a fourth of an inch on this day, but she sips but a few teaspoonfuls of milk or beef tea. Ether was given her, but the relaxed condition of the muscles of the neck and body only lasted while the influence of ether lasted. We gave nourishment, opiates and stimulants freely, but the patient died about 3 o'clock A.M., Wednesday, December 22d.

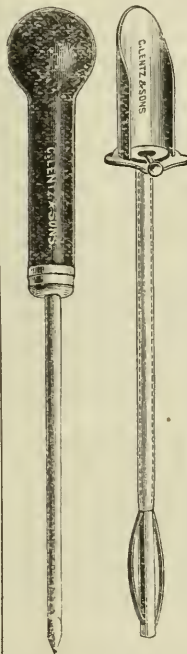
Professor Simpson, of Edinburgh, maintains that traumatic tetanus sometimes supervenes as a secondary obstetrical disease; regarding the interior of the

uterus, after abortion and parturition, as in a state of lesion similar to that of a wound on the external parts of the body.

New Instruments.

IMPROVED NON-OBSTRUCTING CANULA.

BY JOHN S. MILLER, M.D.,
Assistant, Surgical Clinic, Jefferson Medical College.



THE frequent occlusion of the canula by intestine or omentum in the operation of tapping, has suggested the device shown in the cut. The stoppage generally occurs when about a pint of fluid has been withdrawn; and various manœuvres are resorted to, such as the endeavor to float away the obstruction by changing the patient's position; or the dangerous one of introducing a probe through the canula, and generally without success.

The device to which reference has been made is a smaller and longer canula, introduced into that already in position, in case there is a cessation of flow. It is blunt, and provided with two long fenestrae. In the latter are springs, which expand and push away the obstruction on emerging from the original canula, and which are so solidly soldered as to offer no danger of breaking off in the abdominal cavity.

In reply to the query whether or not the gut can become incarcerated and wounded in the springs, it may be stated that, in several operations, no such accident has occurred, nor were efforts successful to bring such about upon the recent cadaver.

The instrument can be used with any trocar and canula above calibre No. 16, French. The instrument is manufactured by Charles Leutz & Sons, No. 18, North Eleventh Street, Philadelphia.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

MEETING December 6, 1886, DR. DE BLOIS in the chair.

DR. J. S. GREENE read a paper upon

THE APPEARANCE OF INTERMITTENT FEVER NEAR THE NEPONSET RIVER.¹

DR. HENRY I. BOWDITCH showed a rough copy of a map of a part of Chelsea, Mass., and gave a brief abstract of a report made by himself and the late Drs. John Ware and Ephraim Buck to the Suffolk District Medical Society, and which the Society ordered to be printed.²

¹ See page 202 of this number of the Journal.

² Boston Medical and Surgical Journal, January 26, 1853.

By said report was demonstrated the fact that four cases of apparently genuine intermittent fever had originated in houses built on land that had been shut from the salt water near the mouth of the Mystic River. This was brought about by the erection of a dam in 1789, for the purpose of reducing the territory to a good arable condition, instead of marsh land, as it had always been. The project was a failure. The territories thus cut off contained two hundred and seventy-five acres, and the town of Chelsea rests, in part, now upon it. In 1816 the Company opened again the gates of the dam, and the territory was again, but less perfectly than before, covered by the incoming tide, and left bare with its outflowing. This continued till 1845, when the Winnisimmet Company again shut the gates, and determined to use the land for building homesteads thereupon. The old windings of the marshes were left exposed. Pools of water still continued, varying from two or three inches to two feet in depth, while the sloping borders were of a hard-baked clay, covered, at times, with dead mollusks or sparse and thin grass. There was no offensive odor perceptible. Several fresh-water springs continued, one of which was not lower than 54° Far. during the year. Within two years after this second closure of the dam, four cases of true intermittent fever were seen and attended by seven physicians resident in Malden, Chelsea, and Boston.

Finally, Dr. Bowditch alluded to a fact related in the journal of the Rev. Noadiah Russell, tutor in Harvard College, in 1682, in which he states that he had been attacked by the disease; and in 1683 he states that it had been very prevalent and fatal, all indicating that, formerly, Eastern Massachusetts suffered from it much more than it has suffered during the past century.

Dr. BUCKINGHAM stated that he had recently seen three cases in his service at the City Hospital. Two of these patients lived on the same street, near the Roxbury line; the third was a child, living near the other two, and who had never been far from this locality.

Dr. V. Y. BOWDITCH called the attention of the Society to the statements made by Crudeli, in his address before the International Congress at Copenhagen, embodying the results of his long study of malaria in Italy, that while a certain amount of moisture was necessary for the development of the fever, yet it is by no means confined to swampy, low regions, but is often met in comparatively high lands. Dr. Bowditch alluded to the case of intermittent fever which had occurred in the village of Elizabethtown, high up in the Adirondack Mountains, and had been reported to him by one of the physicians of that place. The speaker could not state absolutely that the patient had never lived elsewhere, but from the manner in which the case had been reported to him, he had understood it as having developed there.

Dr. WHITNEY thought that it was an important matter to have these isolated epidemics thoroughly investigated by the Boards of Health, especially with reference to the presence of microorganisms in the blood of those affected.

Dr. F. W. JOHNSON said that he had recently attended a case of remittent fever in a gentleman who had never lived elsewhere than in Boston. The case terminated fatally. His diagnosis was confirmed by a consultation.

Dr. FOLSOM had observed that many cases occur in

comparatively elevated localities. In a small town in the western part of the State, *all* the cases were on the top of a hill. The conditions of low land and moisture are certainly *favoring*, but not the only conditions. So far, there have occurred over one thousand cases in this State. Before the disease had so definitely followed up the rivers, there were a number of cases among the students at Williamstown; but, tracing these up, it was found that all the students had formerly lived in a very malarial locality in Staten Island. It was the speaker's experience that persons living for a time in a well-developed malarial region might remain free from the disease, and then have it manifest itself after a year's residence in another place.

Dr. WADSWORTH mentioned a case of malarial fever of a very severe type, which was contracted by a brief visit South, during the war, and did not appear for a year or more after the return North.

Dr. DE BLOIS had had under his care a young woman of Dorchester, who developed the disease in quotidian form, which persisted for a long time after changing her residence to New Hampshire. The only thing that accounted for the disease was that the cellar of the house in which she slept was very wet. Dr. De Blois said, also, that the fact was well recognized, in the West Indies, that moving the soldiers from the barracks, up the mountains, three or four hundred feet, entirely prevented the development of the disease.

Dr. FOLSOM said that the late Dr. Holmes, of Milton, had reported to him the case of a lady who had the fever while living at the South, where she married. Coming North to live, she never had any sign of the disease; but her daughter, born shortly after coming here, when a few months old, had it severely. There could be no question as to the correctness of the diagnosis.

Dr. GREENE, in closing the discussion, said that he had, in the paper of the evening, considered only those cases which had originated in that locality. He had seen other cases in the town, but their origin was elsewhere. He mentioned the case of two young ladies just home from a boarding-school in Providence, one of whom had spent one day and one night in Philadelphia, and the other had made a brief visit near Providence, in a locality where the first cases in that State originated. Both of these ladies had the fever, but neither then nor subsequently were there any cases at their boarding-school.

Dr. J. J. PUTNAM read a paper upon

CHRONIC LEAD-POISONING.³

Dr. BOWDITCH said that a case had come under his observation, where the only discoverable source of the lead was the solder used in kettles in which the water was boiled.

Dr. WADSWORTH mentioned a case of simple optic atrophy occurring in a painter, in consequence of lead-poisoning. Except this lesion, there were almost no other symptoms pointing to this source. He had slight numbness of the hands and rheumatism of the left shoulder. The tendon reflex was not altered. Within a year he had seen a case of optic neuritis, with paralysis of the muscles, from lead.

Dr. SABINE inquired as to the length of time after which it was possible to detect lead after the drinking-water was changed.

³ Publication deferred.

DR. PUTNAM said that it depended upon treatment. As the lead forms an insoluble albumenate with the tissues, it may remain a long time unless eliminated by iodide. In one case there had been a space of over ten months.

DR. SABINE said that he questioned if the introduction of water-meters would not increase the danger of lead-poisoning, as people, to economize, would not allow the water to run and clear the pipes.

DR. FOLSOM said that this class of cases, when simple anæmia and obscure nervous symptoms are caused by lead-poisoning, instead of the typical symptoms, are deserving of most thorough investigation. Sometimes its influence is shown by peripheral neuritis, sometimes by myelitis. The speaker said that *pure* Cochituate water passing through lead-pipes was devoid of danger, as it is so free from soluble nitrates, but since the introduction of Sudbury River into our supply this security has vanished. There requires to be the greatest caution and experience in analysis for lead, and unless one can be sure of these points, results are always doubtful. The speaker also desired to emphasize the caution, that the ordinary period during which iodide is given is entirely insufficient to break up and eliminate the lead, and instanced a case in illustration.

DR. WEBBER reported the case of a woman who had lead symptoms, and the source of the poisoning was traced to the hot-water pipes from which the cook filled the kettle in the morning. One case, still under observation, had been using iodide for more than two years, and lead still is present in the urine. In several cases he has observed loss of the tendon reflex, but not in all. The speaker questioned in certain cases presenting cerebral symptoms, such as loss of mental power, inability to fix the mind, headache, and so on, how much was due to cachexia, or how much to lead deposited in the brain. In one case of complete paraplegia, with lead in the urine, after making a decided improvement, the patient died.

DR. WADSWORTH spoke of the effects of lead-poisoning upon the eye.

DR. PUTNAM inquired as to whether rubber work was to be included among the dangerous occupations. He had had a number of cases.

DR. WEBBER said that he had also had several cases.

DR. PUTNAM, in reply to an inquiry, said that large quantities of litharge were used in the preparation of rubber.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

NOVEMBER 18, 1886, DR. H. R. STEDMAN in the chair.

DR. W. A. GORTON read a paper entitled

TWO CASES OF CHRONIC ALCOHOLISM.¹

DR. BOLAND spoke of a case at the Boston Lunatic Hospital, where a fireman, addicted to alcohol and exposed to cold and wet, had an attack resembling acute mania. On recovery, he suffered greatly from shooting pains in the legs. He was treated with faradism, and made a complete recovery. No diagnosis was made at the time, but, on looking back at the case, it seemed like neuritis.

DR. LANE said that he saw many cases of alcoholism,

but little neuritis. He asked if these patients had the characteristic delirium.

DR. GORTON said that they had not. One man thought that he would be all right if he could get up. Delusions of identity were common to both. In answer to Dr. Channing, he said that there were seven or eight similar, but less pronounced cases at Danvers. Five of them had some ataxia. The patellar reflex was seldom wholly gone, and they seldom had lancinating pains. Most of them recovered more or less completely. The second case was hardly a true myelitis, but it had all the symptoms of myelitis, except that the temperature was low. The patient had some irregular elevations of temperature, due, perhaps, to his bed sore. The first case came under observation a week after giving up alcohol, the second two or three weeks after.

DR. CHANNING said that it was curious to find that the disease could be so far advanced while the patient remained outside of an institution. In the second case syphilis may have had some influence, but it is a question whether it would still modify the symptoms after seventeen or eighteen years. He had, however, recently seen a case where the only explanation was syphilis incurred fifteen years before. The patient could not take large doses of anti-syphilitic remedies. He asked if there were many dipsomaniacs at Danvers.

DR. GORTON said that he had had sixteen in the last year. He tried to keep them sober, but otherwise he could do but little. The periods were usually short, and the friends, who were very annoying, asked for their discharge in from one to seven days after admission. The patient is apt to do as well in a week after getting sober as he is in six months; but, with many cases, it is useless to commit them, as they "celebrate" as soon as they get out. Before the law was passed, he used to get chiefly cases of delirium tremens. The present law says that the patient shall be otherwise of good repute, but this was sometimes disregarded.

DR. J. B. AYER said that the greatest benefit he had seen in any case of alcoholism was in a man who was put on a farm, a long way off, but he now has an occasional spree. He asked what was Dr. Gorton's treatment of delirium tremens.

DR. GORTON said that bromide and chloral did as well as anything. Chloral was pretty safe, although he had seen death follow a dose of fifteen grains in a patient with fatty heart.

DR. AYER thought it well to add something to the bromide and chloral, to avoid the depressing effect; coca, however, causes wakefulness. He asked if Dr. Gorton broke off the use of alcohol at once.

DR. GORTON said that he did except in the restless, typhoidal state, where milk-punch was given freely. Dr. James P. White, of New York, used to control jactitation, restlessness, and discomfort, by half a drachm to a drachm of tincture of lupuline, in addition to bromide and chloral. Coca was little used; in melancholia, patients sleep less well after it.

DR. CHANNING said that he had tried hyoscyamia in two or three cases some years ago, but, at first, it had a bad, exciting action, and later it was depressing, the pulse becoming weak and rapid.

DR. BOLAND said that bromide and chloral were given at the House of Correction *pro re nata*. They also gave a drachm of a mixture containing twenty minims each of the tinctures of digitalis, hops, and capsicum.

¹ See this Journal, page 201.

Dr. AYER said that large doses of digitalis were now abandoned.

Dr. KNAPP said that he had seen digitalis used in doses of one to three drachms without any apparent ill effect. He had taken full doses of coca himself, in order to produce wakefulness, but without the slightest effect; idiosyncrasy, however, might have some influence, as strong coffee never had any effect on him. In his experience, alcoholic neuritis was quite a common disease. Beside the degeneration in the peripheral nerves, some investigators had also found changes in the cortex cerebri. In a number of cases he had seen the characteristic delusion described by Dreschfeld. The patients, who were unable to stand, would tell long stories of visits made that day to distant places, and give details of the people they saw and the conversations they held. They were also very lachrymose and hysterical. He was disposed to doubt the diagnosis of myelitis in Dr. Gorton's second case, as the patient recovered. In a number of cases of alcoholic neuritis, where the mental disturbance was marked, he had seen incontinence of urine; and, in a case of multiple neuritis with no alcoholic history, due perhaps to exposure, which he had seen in the summer, there had been a small bed sore. In some cases of alcoholic neuritis, the mental impairment, the ataxia, and the fibrillary tremor of the face and tongue, were such as greatly to resemble general paralysis; in fact, the French speak of a pseudo-general paralysis of alcoholic subjects.

Dr. STEEDMAN said that the resemblance to a general paralysis—seen, for instance, in Dr. Gorton's first case—was interesting. In some cases reported the resemblance was very marked, the patients having unequal pupils, ataxic gait, ambitious delirium, etc. The only point of distinction was that the alcoholic cases did not have the characteristic disturbances of speech. Large doses of digitalis were not mentioned now, as they had proved too dangerous. He asked if the reader found many cases of the true disease, dipsomania, not mixed with habitual drunkenness, as a result of depravity.

Dr. GORTON said that the cases were hard to distinguish. He had seen one case of dipsomania—a capable man, with every desire to lead a proper life, who had a sudden, inordinate, irresistible craving for drink. He would begin to drink, and keep on until everything had gone; then he would be filled with intense remorse, and would contemplate suicide. He had had two attacks of delirium tremens. He would get better, stay all right for a number of months, and then go on another spree. For a time he worked hard in a gravel-pit, and did not indulge; then he went to Salem, and broke down again. He had no taste or appetite for liquor; it was a solitary habit with him, and the only satisfaction he got from it was to gratify his craving. Other cases—and these make up the bulk of the cases seen—go off on a spree to have a "good time with the boys."

—The population of France, by the census of May last, whose data are just published, shows a population of but 38,218,000, about 10,000,000 less than Germany. The increase for the last five years was but 540,000, against 770,000 in the preceding given quinquennium. The diminution is said to be due to Malthusian principles.

NEW YORK COUNTY MEDICAL ASSOCIATION.

ANNUAL meeting, January 17, 1887.

After the annual reports of the Executive Committee and of the Treasurer had been read, Dr. HERMAN M. BIGGS read a paper on the

HISTORY OF AN EPIDEMIC OF DYSENTERY AT THE ALMSHOUSE, BLACKWELL'S ISLAND, NEW YORK.

In the years 1884 and 1885 there was some dysentery in this institution, though not of an epidemic character; but an examination made by an inspector of the New York Board of Health showed the sanitary condition of the buildings to be good. Some closets, which were undoubtedly the cause of the trouble, were not, however, inspected, as they were somewhat separated from the other buildings, and did not attract attention.

The epidemic in question commenced early in June, 1886, and the cases increased in number and severity until the 15th of July, when Dr. Biggs went on duty. At this time, from twelve to fifteen new cases of severe dysentery appeared each week in the female almshouse, and the weekly number of deaths from the disease amounted to five or six. Believing, as he does, that dysentery in the vast majority of cases is an infectious disease, due to some definite determinable cause, he immediately made a careful inspection of all the buildings in the institution, as well as of the food and water supplied to the inmates; examining thoroughly into all the conditions which might possibly bear upon the development of the disease. Aside from the element of over-crowding, nothing could be found to which importance could be attached as regards the causation of the epidemic, with the exception of one water-closet, in general use by the female inmates. This was separated from the main building by a road-way, and had a large cemented brick vault, with a sewer about one foot in diameter, leading from it to the river below, which was found to be in an exceedingly bad state. On entering the door the stench from it was so strong as to be almost intolerable. The vault was flushed by the water from the bath-house, which is in the same enclosure, and by rain-water from the roof of the main building. At the time of the examination the vault contained two or three feet of semi-solid fecal matter. During the early part of the summer the weather had been very dry; so that the supply of water from either source was very small. As far as could be learned, the closet had not been cleaned since the autumn of the preceding year, and it was ascertained that the outlet into the sewer mentioned was eighteen inches above the lowest portion of the bottom of the vault, which was round. Moreover, the sewer was found to be partly stopped up; and when it was remembered that the closet was in constant use by nearly eight hundred persons, some idea could be gained of the conditions prevailing at the time.

At Dr. Biggs's request, the closet was immediately washed out and disinfected. At the same time orders were given for the careful disinfection of all beds used by patients who had suffered from dysentery, and who had been removed to the hospital; and as each person in the wards was furnished with a separate vessel, a solution of bichloride of mercury was ordered to be placed in the vessels of all who were affected with diarrhœa in any form. The good effect of these

measures was immediately apparent, for while there were thirteen deaths from dysentery in June, and seventeen in July, there were only four in August, and none at all in September, until the 25th of the month. In fact, only one death occurred among those who were attacked with dysentery after the closet was cleaned, and in this case the immediate cause of death was cerebral hæmorrhage. From August 10th to September 25th, no new cases appeared. During the interval between July 18th and September 15th, the closet was cleaned a number of times. For about ten days preceding September 25th, the closet was not cleaned, and at this time a number of new cases and several deaths occurred. Certainly, more conclusive proof could scarcely be desired of the causative relation existing between the condition of this closet and the appearance of the epidemic.

But there were still other facts that pointed strongly in this direction. Among the inmates of certain wards who made use of a closet in the main building, which was provided with school-sinks and was in excellent condition, very few cases of dysentery occurred at any time during the summer; and it was ascertained that among these few in every instance those affected had used the general closet referred to, at least a portion of the time, while not a single case appeared among those who used exclusively the closet in the main building. Again, no cases of dysentery occurred during a period of nearly seven weeks, from August 10th to September 25th (when the closet was kept clean), at a time when a larger number of cases would naturally be expected than in June or July. Thus, in September, 1884, more cases occurred than in any one of the summer months.

In some of the several cases of dysentery, as shown by the post-mortem lesions, there were, so far as could be learned, neither tenesmus nor blood nor mucus in the stools at any time during the course of the disease. A comparatively large number of autopsies were made, and there were always present practically the same lesions, namely, those of a very severe follicular and diphtheritic dysentery. The lower part of the descending colon, the sigmoid flexure, and the rectum, were in the majority of cases the parts most seriously affected; but the ulceration always involved, to a certain extent, the other parts of the mucous membrane of the large intestines, and in a number of instances had extended for almost eighteen inches up into the ilium. In some of the more severe forms of the disease the largest part of the mucous membrane was entirely destroyed by the enlargement and coalescence of the follicular ulcers combined with the ulceration following a diphtheritic inflammation. The process in the portion of the small intestine referred to, was for the most part of a diphtheritic character. In the cases where the disease pursued a more chronic course, the walls of the large intestines were greatly thickened and infiltrated with inflammatory products, while the mesenteric glands were enlarged.

Having described the clinical history of the severe cases, Dr. Biggs said that the treatment which was most successful in all except the later stages of the disease, when it became chronic, consisted in a combination of castor oil and opium with a strictly milk diet. In the later stages, bismuth or nitrate of silver and opium were given. In addition to these remedies enemata of starch and opium were used in some cases. Cocaine was also added to these enemata in a few in-

stances. Enemata would have been used on a large scale had it not been for the fact that they could not be given satisfactorily by the nurses in charge.

This epidemic of dysentery he thought was interesting from the almost conclusive evidence presented of the causal relation existing between the exposure to the emanations of decomposing human excreta and the appearance of the disease. There could be no doubt, in his opinion, that epidemic dysentery was an infectious disease, due to the action of some definite micro-organism. There was much evidence to show that dysentery, under certain conditions, is contagious; but, apparently, like typhoid fever, it was generally a miasmatic contagious disease propagated by the stools of dysenteric patients. The difficulty of isolating from the stools the specific microorganism which causes any disease of the alimentary canal was very great, and Dr. Biggs, in conclusion, expressed his regret that he was not able to make any satisfactory investigations on this point.

The President, DR. CHARLES A. LEALE, said that he had often met with obstinate cases of follicular enteritis and dysentery in some of the most expensive houses in New York, and that in most instances it was ascertained that the cause of the trouble lay in some defect in the drainage. He had known of a number of houses about which there seemed to be a fatality; since several persons who had previously been in good health successively died of this kind of disease, after becoming residents of them.

The Secretary, DR. P. BRYNBERG PORTER, said that a few years since he had occasion, in connection with the State Board of Health, to investigate an epidemic of dysentery occurring in a village on Long Island, in which it was found, by expert analysis, that in every instance the well-water of the premises where the case occurred was contaminated; and, it was ascertained, furthermore, that the position of the privy in reference to the well was such that defilement of the drinking water by human excreta was possible. His report of the outbreak was published in the Second Annual Report of the New York State Board of Health (1882).

DR. J. W. S. GOULEY read a paper entitled,

A PROTEST AGAINST INDISCRIMINATE MEATUS CUTTING.

Of late years, he said, the import of such consequences of urethral strictures of the balanic region such as dysuria, vesical irritation, and reflex neuroses, had been greatly overestimated, and this had often led to very rash and unwarranted surgical interference. Meatus cutting, or to give the operation a proper technical name, porotomy, has become the fashion, and every adolescent and adult who is not afflicted with congenital hypospadias must have his meatus cut; for he is told that the nozzle of his urine-hose must be of greater calibre than the hose itself. The doctrine that the meatus should be the largest part of the urethra, Dr. Gouley contended, was not only unsound, but most dangerous, and it was leading to much evil. It was, therefore, high time to protest against the indiscriminate performance of porotomy, and particularly against those incisions which resulted in deformity of the urethra. The congenitally narrow meatus is very often met with, and yet comparatively few patients were ever inconvenienced by this defect. In many cases the meatus barely admitted a catheter of

the diameter of three or four millimetres; and when this condition of affairs was present it was, of course, necessary to enlarge it by incision to a degree sufficient to permit the easy passage of evacuating catheters, or of a fair-sized lithotrite, should the presence of a vesical stone render necessary the use of such an instrument. But to incise through and through the whole balanic region was, he thought, as unwarranted as it was unsurgical. Many men with an abnormally small meatus would never become aware of that fact but for the occurrence of an attack of urethritis.

Strictures of the balanic region were not ordinarily amenable to treatment by dilatation, but required incision; which was the most prompt and efficient method that could be employed for their eradication.

The incision, however, should be directed and proportioned in accordance with the size of the glans and the condition of the extremity of the urethra. When, for instance, the meatus was normally situated, a sufficiently free central cut along the floor of the urethra answered the purpose of simply enlarging the contracted urethral extremity within proper limits; but when there happened to be a slight balanic congenital hypospadias, this kind of incision only increased the deformity, and failed to relieve the stricture; which could be successfully treated only by bilateral porotomy, performed in such a way as not to increase the hypospadias.

The probable object of these extremely free incisions of the urinary meatus was, that instruments of extremely large calibre might be introduced through strictures of the deeper parts of the urethra. This was another of the many prevalent surgical heresies. The ostensible reason for this over-stretching of the urethra was that the stricture or strictures might not recur; but the careful observation of many cases treated by the introduction of sounds of the diameter of eleven, twelve and thirteen millimetres, into the average human urethra, showed that while the stricture in some instances did not recur, the urethra, as an organic channel, was entirely spoiled. It became, as compared with a normal urethra, what an old, worn-out, hardened rubber-tube was to one which had just come out of the maker's hands. The urethra, when constantly distended, soon lost a very considerable number of its mucous follicles, and became dry, leathery, inelastic, patulous, and no longer capable of successfully propelling the urine, which slobbered out of a wide mouth instead of being forced in a well-formed stream through a narrow outlet. The genital functions were also said to be impaired by this over-distension of the urethral canal. Dr. Gouley considers that it is never justifiable to over-distend the whole urethra. Useful instruments, he said, had been devised to obviate this evil, which were so constructed as to over-distend the strictured part of the urethra only, and save injury to the normal part of the canal, but they were but little used. Dilating instruments of this kind he thought should be occasionally employed during the treatment of strictures in the deep urethra; but the main object of moderate dilating catheterism was to restore the urethra as nearly as possible to its normal suppleness.

At the conclusion of the paper Dr. Gouley presented the photograph of the penis of a patient who had been in Bellevue Hospital for some months, which he said furnished an excellent illustration of these enormous porotomies. In this instance the whole of

the balanic portion of the urethra had been cut through and through; thus constituting a marked case of traumatic hypospadias made with the design of relieving a stricture in the part, which, it was needless to say, had not been accomplished. This was only one out of at least fifty such cases that he had observed; but it would be readily understood that he himself pleaded guiltless of the operation.

The paper was discussed by Drs. John Shradly, Isaac E. Taylor and Alfred L. Carroll. The latter remarked that it had always seemed to him that Divine Providence did not quite intend that the mouth of the urethra should be made to resemble the shape of an old-fashioned blunderbuss. The idea that it should be was opposed to common-sense; and he was glad to have the opinion which he had formed confirmed by so high an authority as Dr. Gouley.

DR. FRANK GRAUER presented a specimen of

EXTRA UTERINE PREGNANCY,

in which the seat of the development of the ovum was in the Fallopian tube, close to its exterior orifice. The patient, a lady of twenty-six years, in her third pregnancy, had died very suddenly from rupture of the cyst, and the diagnosis was made before death. At the autopsy the foetus, which was apparently of the age of seven or eight weeks, was found among some clots in the abdominal cavity. There were three points of special interest about the specimen, namely:

- (1) The presence of a decidua vera in the uterus.
- (2) The sympathetic enlargement of the walls of the uterus.
- (3) The thickening of the posterior part of the Fallopian tube at the point of the rupture.

DR. BIGGS, presented for DR. E. G. JANEWAY, who was unable to be present, a specimen of

PRIMARY CARCINOMA OF THE CYSTIC DUCT,

with abundant secondary carcinomatous deposits in the liver and the stomach. The special points of interest were, the primary growths in the cystic duct, which is a rare location for such trouble, and the marked difference between the primary and secondary growths; the former being so insignificant as almost to escape notice, while the latter was of the most extensive character.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, January 20, 1887.

DR. J. H. RIPLEY read a paper on

THE VALUE OF QUININE AS AN ANTIPYRETIC IN PNEUMONIA.

The experiments on which his observations were based were commenced, in 1877, at St. Francis's Hospital, New York, and had been continued since by successive house-physicians, acting under his direction. Although many more had been made, the experiments available for the purpose designed were forty-eight in number, conducted in patients varying from nineteen to forty-five years of age.

The plan carried out was to give quinine as early as possible in the course of the disease; but only in complicated cases, and in those in which the temperature was, at least, 103°. Each patient was watched for several hours before the experiment was commenced, and all the observations of temperature were taken with

the thermometer in the rectum. The experiment lasted less than four hours, and the majority were continued for from twelve to fifteen hours. The time of day at which the quinine was administered varied; but when a single dose was used in the twenty-four hours, it was given in the morning. In twenty of the experiments a single dose of twenty grains was given; and in eight, a single dose of forty grains. It was usually given in solution; but, in some instances, was used hypodermically. In two of the patients there was no reduction of temperature whatever noted after the use of quinine; and in two a slight elevation occurred. The reduction of temperature effected by the quinine never lasted for more than from two to four hours.

The effect of the remedy on the pulse and respiration was not a constant guide to its effect on the temperature. It varied in different cases, but the pulse and temperature were usually reduced in frequency. In about half the cases, the temperature was lowered between one and two degrees under the use of quinine. In the other half, the reduction was less than half a degree. In many cases the antipyretic effect of the drug was only apparent; and the reduction of temperature was, in reality, due to natural causes.

The conclusion arrived at by the author was that quinine was a feeble and uncertain antipyretic in pneumonia. But this was not all. It had a bad effect on the appetite and digestion, and not infrequently excited nausea and vomiting. In addition, it was liable to produce marked cardiac weakness, profuse cold perspiration, and profound nervous depression. Opisthotonos was noticed in one instance, and in many cases it caused epistaxis. In three cases the urine was examined before and after the ingestion of large doses of quinine; and in one, the urine, previously normal, was found to contain large quantities of albumen, hyaline casts, and renal mucus, after the use of the drug. These bad effects, he thought, more than counterbalanced any good effects that could be attributed to it.

Moreover, Dr. Ripley could not see that it had, in any case, shortened the natural course of the disease. In some instances the pneumonic consolidation had extended under its use. In general, he believed that too much importance was, at the present day, attached to the reduction of temperature in febrile diseases. In typhoid and other fevers, much better results had been obtained at St. Francis's Hospital since heroic measures for reducing temperature had been given up. That quinine had any effect in preventing cell-migration, as claimed by certain authors, he thought was extremely doubtful. In conclusion, he expressed the opinion that large doses of quinine in pneumonia should be abandoned. If an antipyretic effect were required, we possessed much more efficient agents of this class in antipyrine and salicylate of sodium.

DR. MARY PUTNAM JACOBI read an abstract of a paper on the use of quinine in the pneumonia of children, which she had presented at a recent meeting of the Section on Practice. Of one hundred cases of broncho-pneumonia in children, of which she had notes, fifty-nine were available for statistical purposes. They were treated in the out-patient department of Mt. Sinai Hospital, and their average age was two and one-half years. Seven deaths were known to have occurred. She spoke of the effect of quinine on the physical signs and on the fever, and said that no decisive results could be gathered from the cases. Five grains,

night and morning, seemed as efficient as larger doses in children. The conclusion that she arrived at was that quinine was not to be relied upon as an antipyretic in the pneumonias of children; and that it was an efficient remedy only so far as it affected the morbid process present. It did tend, she thought, to limit the secondary extension of the disease.

DR. R. C. M. PAGE, Secretary of the Section on Practice, reported some remarks by Dr. J. Lewis Smith at the meeting of the Section referred to. Dr. Smith said that, as Dr. Mary Putnam Jacobi's cases occurred in dispensary patients, it could not be known whether the quinine was vomited or not. This drug was exceedingly liable to excite nausea in children; and the best way that he had found to administer it was in connection with wild cherry bark. He was in the habit of giving one large dose, with a view to preventing cell-migration, after which he preferred to give it in doses of from one to one-and-one-half grains every four hours. It was a useful tonic, and he thought it prevented secondary lesions.

DR. FRUITNIGHT said that it had been the common practice to give quinine for almost everything; but since the introduction of other antipyretics, he thought the tendency had been to discard it to a large extent. The reaction was like the swinging back of the pendulum, and it seemed to him that it was the part of wisdom to pursue a middle course. This experience with quinine as an antipyretic in pneumonia coincided with that of Dr. Ripley; but, at the same time, he intended to continue to use the drug in this disease, not for its antipyretic, but for its sustaining, effect. To secure this, it should be given in small doses. One great danger in pneumonia was cardiac failure; and, in large doses, quinine was supposed to have a tendency to produce this.

DR. F. A. CASTLE said that his experience fully bore out that of Dr. Ripley, as to the uselessness of quinine in pneumonia. Ten years ago Bing had recommended it in large doses; giving as much as seventy grains in twenty-four hours. Personally he had never carried it to this extent, but he had used it in as large quantities as the stomach would bear. He had found, however, that if the temperature was to be reduced by quinine, it must be at the expense of the nutrition of the patient. In the broncho-pneumonia of children, if carried beyond tonic doses, it had a bad effect upon the stomach, and also tended to produce delirium. For the last five years he had almost entirely abandoned this remedy in pneumonia. As regards sustaining the heart, he thought one had a much more reliable agent than quinine, in digitalis.

DR. BILLINGTON said that, like Dr. J. Lewis Smith, he had found quinine very apt to produce vomiting in children, and he had therefore found great satisfaction in giving it in the form of a suppository. In case any rectal or anal irritation were caused by this method, it could easily be entirely avoided by the use of a simple apparatus provided with a piston-rod, which could now be obtained for the purpose. By employing this, the administration could be kept for any length of time desired without the slightest inconvenience. He therefore considered the method of giving quinine by the rectum one of great practical value. In pneumonia he had been disappointed in quinine as an antipyretic, and he had also found that its use was attended with other bad results. In children the natural tendency was to recover, both in broncho-

pneumonia and in ordinary pneumonia, and a large number of cases would get well without any treatment at all.

DR. L. EMMETT HOLT said that of twenty cases of pneumonia in children, treated by him with quinine or cinchonidia, in twelve the drug was given in sufficient doses, and for a sufficient length of time, to enable him to form some opinion of its action; and in nine it was a total failure, so far as any effect upon the temperature was produced. He gave as much as sixteen to thirty grains a day to children from one to one-and-a-half years old; and in two or three cases the temperature rose steadily after the quinine had been taken. His own feeling was, that as an antipyretic, quinine in small doses was useless, and in larger doses dangerous. When the fever was high much better results could be obtained from the judicious and continued use of the cold pack. By this means he had been able to save a number of children whose cases were apparently hopeless. Unless the temperature reached a very high point, however, he was doubtful about the efficacy of antipyretic treatment in pneumonia. For the past two years he had abandoned quinine entirely in acute pneumonia, as he had found that it almost always gave rise to vomiting and other bad results; and since he had discontinued its use he had met with at least as good, if not better, success in his treatment. Quinine, however, was of very marked advantage in convalescence and in protracted cases of bronchopneumonia, if given in small doses.

The President, DR. A. JACOBI, said that he had seen a number of changes in professional opinion concerning quinine, since he commenced practising in New York, thirty years ago. At that time it was given in doses of half-a-grain or a grain to adults, and in smaller doses to children; and much was expected from it. It was true that a large number of cases got well; but they were the kind of cases alluded to by other speakers in which the natural tendency was to recovery. It was only in the bad cases, however, that we could judge of the real effect of a remedy. At that time, and ever since, he had been in the habit of giving six, eight, ten and twelve grains of quinine to children, and it was his practice to administer it deliberately at certain times of the day. He usually gave full doses in two installments in the morning, when the remission occurred: say five grains at eight, and five at eleven. If it did not affect the stomach unfavorably, however, he would give a single full dose in the morning.

He thought that a good deal of the inefficiency of the remedy which had been spoken of, was due to the condition of the stomach incident to the febrile state, which prevented it from absorbing; and thus the quinine was not digested. The same was true of the condition of the rectum. Therefore, he preferred to give it hypodermically; and when this method was used the good effect of the drug was apparent in a short time. A reduction of temperature could thus be effected, which was impossible with quinine used in any other way. The best preparation for hypodermic injection was the carbamide, on account of its great solubility. There was no use in giving quinine if the temperature did not rise above 102; and it was to be borne in mind that it should by no means be given in every case of pneumonia, but only in occasional instances. In many cases, when the fever was high, antipyrine was excellent.

DR. RIPLEY said that in quite a large number of the cases referred to in the paper, the quinine was given by hypodermic injection; yet the result was the same as in the other cases. The muriate in strong solution was the preparation employed. In many of the protracted cases to which reference had been made in the discussion, he believed that there was an associated pleurisy, and this is often a difficult thing to recognize in children. As to the use of antipyretics in general, he said that in an asylum with which he was connected, sixty cases of measles had recently occurred. A considerable number of them were treated with antipyrin, but it soon became apparent that these children did not do as well as those treated by the ordinary simple methods.

Dr. Jacobi remarked that it was not safe to use too concentrated a solution of quinine for hypodermic injection, and related a case he had met, in which, at the autopsy it was found that the quinine was all deposited in the cellular tissue, the water of the solution only having been absorbed.

Recent Literature.

Clinical Manual for the Study of Medical Cases. Edited by JAMES FINLAYSON, M.D. Second Edition, Revised and Enlarged. With 158 Illustrations. Philadelphia: Lea Brothers & Co. 1886.

Although this book has been revised, re-written in parts and considerably enlarged, it still retains the characteristics of a genuine *manual*, and that is absolutely essential in a work whose aim is to "afford such assistance as students, actually working at clinical medicine, might seem to require."

The volume is practically the product of the Glasgow School of Medicine. There are five contributors beside the editor; all six contributors, with one exception, are connected with the Glasgow medical institutions. Among the contributors we find the well-known names of Drs. W. T. Gairdner and Joseph Coats. To students of clinical medicine this book can be recommended as a convenient and suggestive one.

Handbook of Practical Medicine. By DR. HERMANN EICHHORST. Volume IV. Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: Wm. Wood & Co. 1886.

This is the December number of "Wood's Library of Standard Medical Authors." The title-page gives a quite distinct idea of the scope and contents of the volume; a statement which is not necessarily a truism. The division on diseases of the blood includes diseases of the blood-producing organs, meaning thereby diseases of the spleen. Diseases of nutrition are represented by obesity, gout, diabetes mellitus and insipidus, rickets, osteomalacia, and arthritis deformans.

Infectious diseases are divided into (*a*) those with typical localization, and (*b*) those with variable localization, under which latter head are placed tuberculosis, syphilis, leprosy, diphtheria, and the zoonoses, namely, diseases communicated from animals to men.

The question of treatment is not neglected under the different headings. The illustrations are numerous, well selected and fairly executed.

Wear and Tear, or Hints for the Overworked. By S. WEIR MITCHELL, M.D., LL.D. Fifth Edition, thoroughly Revised. Philadelphia: J. B. Lippincott Co. 1887.

We welcome another edition of this little brochure, which originally appeared as a magazine article fifteen years ago. Its object is to warn the writer's fellow-countrymen against what is still their besetting sin — especially in the northern half of the United States — namely: overwork, excessive haste and excessive waste.

To this physiological iniquity our political and social institutions, as well as our climate, impel, and it will be a long time before the proportion of the population in sore need of the gospel which Dr. Mitchell preaches will be sensibly diminished, notwithstanding certain indications of a tendency in the right direction.

This is the kind of tract we should like to see widely distributed by some society for the propagation of health and happiness at home. We suppose, however, that the legacies will still go to the enlightenment of the distant heathen in regard to everlasting punishment.

Diseases of Tropical Climates. Lectures delivered at the Army Medical School. By WILLIAM CAMPBELL MACLEAN, M.D., C.B., Professor of Military and Clinical Medicine, in the Army Medical School, Netley. London and New York: MacMillan & Co. 1886.

As the title implies, this volume of 337 12mo. pages, is made up of lectures delivered before the students of the Army Medical School at Netley, near Southampton, England. It will most naturally find its readers among the class of men to whom the lectures were originally addressed. The diseases treated of are the fevers, diarrhoea and dysentery, cholera, beriberi, guinea-worm, diseases of the liver, malaria, insolation. In a word, diseases which, though not peculiar to, are all very prevalent in British India.

The lectures are necessarily somewhat elementary, and attention is directed to such points as may be practically useful to the future surgeon in the British army. The very latest and most fashionable medical novelties are conspicuously absent, and an attitude of marked reserve, amounting even to neglect, is exhibited towards specific disease-germs. In connection with beriberi no mention is made of a microbe; in regard to the spirillum of relapsing fever the impression is given that it has not been successfully inoculated upon monkeys, the reverse being the case, and that it is probably simply an epiphenomenon; Kleb's bacillus is mentioned in the lecture on typhoid fever, but the later and better accredited bacillus of Eberth and his followers is not referred to; Marchiafava's investigations are barely alluded to, and his colleague (Celli) in the study of the *plasmodium malariae* is apparently concealed under the name of Valenti.

Dr. Maclean has always held, he states, that typhoid fever can arise *de novo*, but the examples which he gives in support of such a conviction are not very convincing. The absence of an index would be a drawback to the general usefulness of the book.

On Fevers, their History, Etiology, Diagnosis, Prognosis, and Treatment. By ALEXANDER COLLIE, M.D. With Colored Plates. Philadelphia: P. Blakiston, Son & Co. 1887.

Dr. Collie was for many years resident physician in charge of the Homerton Fever Hospital of London,

and is now medical superintendent of the fever hospitals in the eastern part of that city. His field of observation has been a wide one, and his extensive experience has peculiarly suited him for writing instructively about the subject which he has chosen. Dr. Collie regards typhoid fever as a specific disease due to a specific cause. He rejects the idea of a *de novo* origin, but elsewhere exhibits a somewhat inconsistent sympathy for Bastian's views in favor of spontaneous generation in the abstract. The germ theory, in his opinion, may be a good working hypothesis, but cannot yet be regarded as a complete explanation of the acute infectious diseases, and he makes no reference to the latest results of Eberth and Koch in regard to the typhoid bacillus. The typhoid stool he thinks, and probably justly, is infectious from the time of its passage. The Pettenkofer-Buhl theory that the prevalence of this disease is directly dependent upon the level of the ground-water, being in an inverse ratio to that level, does not find favor with him; and again we believe his judgment is sound. Cold water externally, his experience leads him to regard as an occasionally useful adjuvant in treatment, but not as a good *method* of treatment. His remarks upon the uselessness of astringents internally and of the ice-bag externally, in intestinal hemorrhage, are sensible and to the point.

The incubation of scarlet fever he states may vary from some hours to some days; but a case cited (p. 331) to prove that its incubation was only eleven hours seems to us, as reported, by no means conclusive.

The volume, a small octavo, contains 288 pages; the chromo-lithographs, of which there are four, are good.

Surgical Diseases of the Kidney. By HENRY MORRIS, M.A., M.D., F.R.C.S., Surgeon to, and Lecturer on Surgery at the Middlesex Hospital, London. 12mo. 555 pages, with 6 chromo-lithographic plates and 40 engravings. London: Cassell & Co. Philadelphia: Lea Brothers & Co. 1886.

Mr. Henry Morris is a surgeon who has had a large and valuable experience in the surgical diseases of the kidney, and who has won for himself an enviable reputation in the field of renal surgery.

We have been afforded much pleasure in reading this "Manual," which is ideal in the completeness with which the subject is treated. The work contains more than a brief description of the normal regional anatomy of the kidney; a full account of the malformations and other abnormal anatomical conditions of the organ; a systematic account of the injuries and diseases of the kidney; and finally, a fairly full account of the methods of performing the several renal operations. It is arranged systematically, with an excellent index, and has a full reference to the literature of each subject under its appropriate chapter.

The engravings and chromo-lithographs reflect great credit upon the publishers, and must be a source of satisfaction to Mr. Morris.

The work is a full, careful exposition of one of the most important parts of the field of surgery, and its perusal enables a surgeon to be abreast with the times.

How We Treat Wounds To-Day. A Treatise on the Subject of Antiseptic Surgery which can be understood by Beginners. By ROBERT T. MORRIS, M.D. Second Edition. New York and London: G. P. Putnam's Sons. 1886.

As giving the views of the extreme "antisepticians" in an amusing style, we would commend to the notice of the profession this book, which opens with the statement that "this book is modest only in size." The book, if it were addressed to surgeons away from the centres of professional activity, might be said to give in a strikingly clear manner the details of the antiseptic treatment of wounds; but, as it is "a treatise on the subject of antiseptic surgery which can be understood by beginners," we feel that it is somewhat unsafe, from the visionary manner in which it presents the subject.

We sympathize with Dr. Morris in his feelings regarding consultations with surgeons whose brain-cells have become ankylosed, but such sentences as the following (page 132): "Don't call a consultation; because some one may want to wait a little while," or "Don't ask any one's advice, but tell your assistants what is to be done," should be omitted from a work addressed to beginners. We trust that the next edition of this book will have a modicum of caution which will leaven the mass of enthusiasm which pervades the whole.

A Text-Book of Medicine for Students and Practitioners. By DR. ADOLF STRÜMPPELL. Translated by permission from the Second and Third German Editions, by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D., with Editorial Notes by Frederick C. Shattuck, A.M., M.D., with one hundred and eleven illustrations. New York. D. Appleton & Co., 1887.

The first edition of this book by Dr. Strümpell appeared in 1883, when the author was professor at the Medical Polyclinic of the University of Leipsic. It immediately achieved a deserved popularity as a text-book in Germany, where it has passed through three editions. We do not doubt that a very cordial reception and intelligent appreciation, proportioned to its merits, await it in this country.

It is a work of one octavo volume of 981 pages, of good clear type, and not unwieldy; the translation is remarkably well done; and moreover, the translators have allowed themselves some slight liberties calculated to increase its worth for American readers. The editor has, with the same end in view, added occasional notes which are incorporated in the text and bracketed. This was a wise step, and has been judiciously executed.

Dr. Strümpell's book is full, but concise and very practical; hypotheses have been omitted; it does not remind one in any way of the *Schreibtsch*, but it carries an easy conviction that the author has been a persistent and accurate observer of the sick. His clinical conclusions are built upon a firm foundation of anatomy and pathology. The chapters on diseases of the nervous system are especially complete and satisfactory.

The book, in a word, as a text-book, exhibits the merits of the best American books of a similar character, as well as those German recommendations which we should expect to find in a high degree; and the author has, at the same time, known how to avoid those defects to which his countrymen are prone when they sit down to write. We believe both practitioners and students of medicine will find this translation of Dr. Strümpell's work a very useful and valuable acquisition.

The Emancipation of Massachusetts. By BROOKS ADAMS. Boston and New York: Houghton, Mifflin & Co. 1887.

Aside from its interest for the general reader which this book possesses as a vivid description of early New England life, it claims special attention from students of anthropology, as an important application of the laws of nerve action to mental phenomena.

The writer, without making any claim to be considered an expert in natural science, points out facts and suggests relations which cannot fail to awaken the interest of the ethnologist, the physiologist, and the psychologist.

Starting from the observation that "there would seem to be a point in the pathway of civilization where every race passes more or less completely under the dominion of a sacred caste," Mr. Adams seeks to discover the means by which this dominion has been secured, as well as the circumstances which have led to its subsequent overthrow. The origin of the priestly power he traces to the discovery of some valuable secret (for example, a cure for the bite of the rattlesnake), which gives to the finder, and those to whom he imparts it, a character of peculiar sanctity. Societies formed of individuals possessing knowledge of this sort, and claiming for it the authority of divine revelation, soon develop into hereditary priesthoods, administering elaborate rituals, which exert over the mind the same coercive power that firmly-established physical habits maintain over the bodily movements.

As military commanders seek, by the constantly-repeated evolutions on the drill-ground, to convert their armies into "machines wherein subjection to command is instinctive, and insubordination, therefore, practically impossible," so a priesthood endeavors to establish its authority over the minds of men by exacting, from the earliest childhood, an unquestioning compliance with complicated forms and ceremonials, whereby mental processes are rendered as automatic as the motions of a well-trained soldier.

Emancipation from this ecclesiastical control can be effected only when the intellectual faculties are sufficiently developed to hold in check this mental automatism; and, on this theory, original thought must be regarded, from a physiological standpoint, as the inhibition of a mental reflex. The individuals who first manifest this tendency to intellectual variation are, of course, recognized by the priests as their deadliest foes, and are persecuted with relentless severity.

The reason why the early history of New England exhibits, in a condensed form, many of the phenomena which usually belong to a more primitive stage of development, is that the early colonists, having taken the Bible for their literal guide in all the affairs of life, actually undertook to reproduce, as far as was possible in the 17th century, the social condition existing among the Jews of the 7th century B. C.; and really did succeed in establishing "a theocratic despotism, which lasted, in full force, for more than forty years."

In this connection, no attempt can be made either to weigh the historical evidence which the writer brings to the support of his thesis, or to point out certain objections which may be urged. It is safe to say, however, that Mr. Adams has pointed out an important analogy between mental and physical evolution, and has illustrated it in a very vivid and effective way by examples drawn from the early history of this community.

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THE PATELLAR REFLEX.

IN 1875 Erb and Westphal¹ published simultaneously the results of their independent studies on the shock of the tendons, and the patella-tendon in particular. Light taps with the finger or side of the hand made over the tendinous insertions of certain muscles (quadriceps femoris, the crural muscles, the triceps in the upper arm), cause a peculiar starting of those muscles, likened to a kick or a jerk. Westphal gave the name of "lower leg phenomenon," "foot phenomenon," to what Erb had designated as "patellar reflex," "reflex-ankle clonus," and while the latter regarded these as reflex acts, due to excitation of the tendons, the former considered the muscular contractions as produced directly by mechanical stretching and shock of the muscular substance. Westphal's view has been supported recently in this country by Drs. S. Weir Mitchell and M. J. Lewis,² and by Dr. Warren P. Lombard, in the *American Journal of Medical Sciences*, for January, 1887, in an article: "Is the 'knee-kick' a reflex act?" Their studies led Drs. Mitchell and Lewis to believe that the knee-jerk and other like responses to tendon taps are direct muscular acts, which cannot exist without that spinal contribution known as "tone," a contribution capable of increase from a variety of causes, and they hold that these muscle responses to a pull on the tendon, cannot be reflexes, because the latter are inhibited by violent sensory stimulations which they find increase the knee-jerk. The great argument against the theory that the "knee-kick" is a reflex act, and which is well stated by Dr. Lombard, and is fortified by his experiments, is "that the time elapsing between the moment of the blow on the ligament, and the beginning of the contraction of the quadriceps muscle is too short for a reflex action." "Thus the majority of observers find the interval to vary between 0.030 of a second and 0.040 of a second, except under abnormal conditions, when — in lateral sclerosis for example —

it has been found as short as 0.016 of a second. Such intervals of time are compared with the presumable reflex time, and are found to be three times as short as they should be, were the action a reflex process."

The advocates of this view do not deny the participation of the spinal cord in the tendon-phenomenon, but regard this influence as concerned in regulating the "tonicity" of the muscles, whose contraction causes the characteristic jerk. When the functions of the cord are exalted — as in the erethism of lateral sclerosis — the phenomenon is more pronounced, for the "muscle tonus" is exaggerated; when the vital properties of the cord are depressed, or the nerve conductors by which the "tonus" is imparted are incapacitated by traumatism or by disease, (some cases of locomotor ataxia, sections of the cord in the lumbar region, sections of certain nerves), the tendon-phenomenon is wanting. Practically it makes but little difference which theory be entertained. If the "knee-jerk" be found to have all the characteristics of a reflex act, the ordinary medical mind will be inclined to think that there is some mistake about the "time argument," especially when it is admitted that the time required for reflex acts of all kinds is not absolutely determined.

It is worthy of note in this connection that Burckhardt and Tschiriew, as well as Ter Meulen, Gowers and Brissaud have arrived at views differing from those of Lombard, concluding from their experiments "that the time which separates the shock of the tendon from the contraction of the triceps is sufficient in order that this contraction may be effected by reflex mechanism."

The arguments chiefly relied on to prove the reflex nature of the knee phenomenon are as follows:

(1) Experimenters, as Lewinsky, have noted that under the influence of excitation of the tendons, when the reflex properties of the spinal cord are exalted, there is contraction, not only of the muscles whose tendons are excited, but also of the antagonist muscles.³ Here the intervention of the spinal cord is evident.

(2) The shock of one patellar tendon sometimes causes contraction, not only of the quadriceps muscle on the side of the percussion, but also of the adductor muscles of the opposite side. Erb has witnessed this in hemiplegic patients.⁴ Tschiriew and J. L. Prévost have observed the same phenomenon in their experiments on hares.⁵

(3) Experiments on animals seem to teach the reflex nature of the muscular contraction in question. The first experiments were those of Schultze and Furbringer,⁶ who found that after section of the crural nerve in hares, the knee-jerk failed to appear. This shows that "the contraction of the triceps is not the result of a direct arousing into activity of the fasciculi of this muscle by mechanical shock, and that reflex

¹ Archiv, f. Psychiatr. v. 792-802, 803-831.

² Physiological Studies of the Knee-jerk, etc. Medical News, February 13, 20, 1886.

³ Lewinsky in Archiv. f. Psych vii-i. (Cited by Vulpian, Maladies du Syst. Nerv., t. ii, p. 140.)

⁴ Erb in Ziemssen. Vol. xiii, p. 49.

⁵ Vulpian, loc. cit.

⁶ Schultze and Furbringer, Centralblatt, f. d. m. w., 1875, p. 929.

innervation plays an indispensable rôle in the production of the phenomenon." Schultze and Furbringer have also shown that the percussion of the patellar tendon on one side in the hare may provoke a contraction of both triceps muscles, the contraction on the side receiving the shock being considerably stronger than that of the opposite side. This phenomenon has also been witnessed by Burckhardt and Prévost. It is hard to explain this fact on any other theory than that of reflex action.

An interesting fact in this connection is communicated by Tschiriew.⁷ If section of the crural nerve abolishes the possibility of the patellar reflex, section of the sciatic nerve at the upper part of the thigh exaggerates this reflex. "It would be impossible," says Vulpian, "to explain this influence of the section of the sciatic, if the spinal cord did not play an important rôle in the production of this phenomenon, for the sciatic has absolutely nothing to do with the innervation of the triceps femoris muscle." Why section of the sciatic should cause exaggeration of the patellar reflex is not known, unless the paralysis of the muscles which antagonize the triceps, and which are supplied by the sciatic, and the consequent exaltation of the functions of the triceps, be a sufficient explanation.

These considerations, among others which might be adduced, go to show that the term "tendon-reflex," cannot yet be regarded as discredited.

ENLARGEMENT OF THE THYROID GLAND IN PREGNANCY AND PARTURITION.

IN the present state of uncertainty regarding the function of the thyroid gland we can hardly expect to attain much definite knowledge as to the connection which, from a period at least as remote as that of the poet Lucullus, this gland has been supposed to possess with the generative function in woman. That there is some such connection seems to be shown by the testimony of obstetric writers, such as Simpson, Barnes, and Lusk, that enlargement of the thyroid gland occurs not unfrequently during pregnancy. This, of course, may be simply a phase of the generally increased glandular activity which characterizes the puerperal state, or it may be the direct effect of the enhanced action of the heart, whereby blood is forced into the abundant vascular channels of the gland which lies so near it. The tumor, however, in at least one recorded autopsy, represented a true follicular hypertrophy, a multiplication of the normal elements and not a vascular enlargement.

Dr. Natalis Guillot seems to have been the first to draw attention to bronchocele as an accompaniment of pregnancy, an occurrence which he noticed at first incidentally in the wards of the Necker Hospital, the patients not complaining in any way of the enlargement. Ollivier, in his "*Etudes sur les Maladies Chroniques d'origine Puerperale*," described various

forms of the affection: first, a subacute and transitory form, appearing at the third or fourth month of pregnancy. Here there is no pulsation as in vascular goitre and no exophthalmos. Second, a rapidly growing variety, especially dangerous through suffocation; third, an enlargement, slow in pregnancy, stationary after delivery, liable to undergo a slight increase in size with each succeeding gestation. This variety is the commonest.

There is a wide divergence between various authors in the frequency which they assign to tumefactions of the thyroid in pregnancy. Freund, who measured the necks of a number of pregnant women, came to the conclusion that forty-five out of fifty had an increase in the volume of the neck as the result of pregnancy. Burine believes that goitre is very frequent in pregnant woman, though often overlooked through lack of careful measurements. Tait, in a communication to the Obstetrical Society of Edinburgh, in 1873, reported some twenty cases which had come under his own observation. Of these all but one occurred in one locality, at and near the town of Wakefield. After removing to Birmingham, in a very large hospital clientèle, he saw only one such case. Hence, he concludes there is some endemicity to the affection. The speakers who discussed Mr. Tait's paper had none of them apparently seen as many cases as Mr. Tait, though one, Mr. C. Bell, had seen three cases in one family in Lanarkshire. These were in a cottage situated low and surrounded by trees. Dr. Matthews Duncan and Dr. Keiller had seen the affection in pregnancy, but did not consider that its uterine relation was solely with pregnancy, but as well with the general condition of the glandular structures of the uterus, so that menstruation, as well as other modes of activity in the generative function, might determine an enlargement of the thyroid. Thus even diseases of the uterus and ovaries may be accompanied by bronchocele.

Of Mr. Tait's cases, the first occurred at Drymen, in 1863, the goitre first appearing at the fifth month of the first pregnancy. It went away after the first and the second pregnancy, but persisted after the third. In the fourth it grew rapidly and diminished slightly after the pregnancy terminated. Its renewed development later was the woman's first indication that she was pregnant for the fifth time. In all the other cases but one the goitre showed itself first during the first pregnancy. The locality is described as physically well situated, the ground gently undulating, with a deep subsoil of loose drift on porous sandstone. The drinking-water is from springs, or surface wells, except in the town, which uses river water, containing considerable lime, so that bladder calculi were common. The trade was wool-spinning. There was no goitre in this locality among men nor among non-parous women.

The latest contribution to this subject is in a thesis by Dr. A. De Burine.¹ After a general review of the subject he cites three cases, in all of which the goitre

⁷ Vulpian, loc. cit.

¹ Archives de Tocologie, January 15, 1887.

seemed dependent on the act of parturition rather more than upon the condition of pregnancy. The cause for a bronchocele developing during labor is largely mechanical, and it seems probable that vascular stasis, passive congestion, amounting sometimes under the severe strain of labor to apoplexy of the gland, is essentially different in character from the hypertrophy above considered. The former phenomenon is merely mechanical, while the latter depends upon some as yet unknown physiological relation between the gland and the various epochs of the genetic function.

Dr. Burine gives three instances from his personal observation of goitre beginning at or near delivery in women who had no history of bronchocele either in their family or their neighborhood. The first was a woman, first pregnant at twenty. Gestation and delivery were both normal, but in the second week after confinement a small enlargement of the neck was noted. After each successive delivery (nine in all), the tumor gained in size though it remained without further growth during the pregnancies and the intervals between them. By the fifth pregnancy the tumor was one-half the size of a fist. In the fortnight succeeding the seventh confinement, the goitre rapidly increased to the size of the fist, and began now to cause dyspnoea. During the eighth labor the dyspnoea became urgent, and continued after delivery so that the nights were miserable. The ninth labor came on at seven months, after a gestation characterized by increasing dyspnoea. All work was impossible as was also the swallowing of food other than milk. During the labor the patient became asphyxiated and a dead child was delivered by forceps. The tumor at this time extended beneath the sterno-mastoid muscle on each side and from the supra-sternal notch above the hyoid bone. Despite the urgent symptoms the patient improved in her breathing a few days after the labor, and subsequently came to operation for the removal of the goitre.

A second patient passed through three pregnancies with no sign of goitre, but during the third labor she noticed a swelling of the neck and a tumor of the size of a walnut was left, which remained unchanged and caused no difficulty until she again became pregnant a year and a half later. Then at once attacks of dyspnoea and dysphagia began to occur, though the tumor did not further enlarge till the labor began. The labor was long, but despite an increase in the goitre there was no corresponding exaggeration of the symptoms. After the labor the tumor slightly diminished and then again remained stationary.

A third patient developed her earliest signs of goitre after her first labor at the age of twenty years and a half. It increased for the next six months, and underwent no further modifications in three subsequent labors at the ages of twenty-three, thirty, and thirty-two years.

It is to be hoped that further observations may throw light on the frequency of bronchocele in preg-

nancy, and the question whether the graver cases have some endemic character, as well as upon the general relations of the thyroid with the uterine glands.

RIGHT-HANDEDNESS. — II.

By a rather curious coincidence, an article on left-handedness appeared in *Science* practically simultaneously with the remarks on right-handedness in our issue of February 17th. The occasion for the former article was a paper by the learned Dr. Daniel Wilson in the "Proceedings of the Royal Society of Canada," in which he gives the weight of his support to Gratiolet's view that the cause of right-handedness is the greater development of the left side of the brain, and that, in left-handedness, the right side of the brain is preëminent.

The writer in *Science* endeavors to prove that what is now the cause of the preference for the right hand was originally an effect. For certain reasons, to be discussed presently, the right arm had attained preëminence, and this had reacted on the brain. This is a good instance of the quite independent reiteration of the same thing to which we alluded. We had written that, accepting the theory that the right arm is the strongest because it is used most, "there is no difficulty in supposing that the left side of the brain becomes more developed in consequence; and further, that these characteristics are inherited." So far we are at one with *Science*, assuming, for the moment, that it has been shown why the right side was originally the most used. The explanation suggested by *Science* is another of those jacks-in-the-box which it is hopeless to suppress. In short, it is that the warlike progenitors of the human race used the right arm for fighting and the left for protection, as they had perceived that wounds on the left were more dangerous. "Those who neglected this precaution would be most likely to be killed," and natural selection would do the rest. Nothing could be more simple!

There are, however, one or two criticisms we shall venture to make: We are told by *Science* that there is no right-handedness in lower animals, which is in direct contradiction to the well-known observations we mentioned. We would next ask: Are we seriously called upon to believe in the wound theory? What anatomical support is there for it? Two-thirds of the heart, to be sure, are to the left of the median line, and the left lung reaches a little farther down than the right. On the other hand, the superior vena cava is on the right; and so is almost the whole of that great reservoir of blood, the liver, which far more than counterbalances the left lobe of the liver and the spleen. Anatomists might dispute which side offers the greater danger to the attack of an enemy; but, according to our credulous writer in *Science*, not only did ignorant savages settle the matter, but, apparently, they had the same experience all over the world.

To show farther the childishness of such a theory, we must mention that, even in the warfare of primi-

tive rates, the opposing armies did not face each other like two companies of wooden soldiers, so that statistics could easily be collected to show the number and severity of wounds of either half of the body. They had a way of attacking from the side, or even from behind or obliquely; and, consequently, their weapons often pierced the foemen's bodies without the slightest regard to symmetry. There is reason to fear that severe, even fatal, wounds of the viscera on the left were inflicted by arrows entering on the right, and *vice versa*.

In view, therefore, of the great doubt whether there is any appreciable difference in the danger of wounds of the two sides of the body, and in view, also, of the deplorable irregularity with which we must suppose the wounds were given, we cannot accept this theory till we shall have had time to peruse the tabulated reports of pre-historic surgeon-generals.

This wound theory, as we have said before, is no new one, but we must give the ingenious writer in *Science* credit for an original explanation of the occasional occurrence of left-handedness. The survival of the fittest makes the race right-handed, "with occasional reversions, of course, by 'atavism,' to the left-handed; or, more properly, the ambidextrous condition." Now we well know that "atavism" is a very powerful *deus ex machinâ* to account for the unaccountable; but it passes our comprehension to see how the right-handed descendants of ambidextrous ancestors can become left-handed by atavism. Indeed, our author appears to have had his doubts about it, for he adds: "or, more properly, the ambidextrous condition." Very much more properly, we agree. But then the ambidextrous condition is not left-handedness, and the explanation appears to have melted away.

To return to the starting point, namely, Dr. Wilson's theory that the greater development of the left side of the brain is the cause of right-handedness, we can only say that the learned Professor appears to us simply to have changed the difficulty, for we agree fully with the implied criticism of *Science*, that there must be a cause for this greater cerebral growth; and further, we think it very likely that this cause is itself an effect, though we cannot accept the puerile theory that *Science* offers us to account for it.

The number of deaths from "zymotic" diseases was 1,644 or 17.7 per cent. of the total mortality, and far less than in any previous year, the rates from 1885 to 1872 having been 19.5, 23.7, 26.2, 25.3, 26.9, 27.2, 26.2, 26.2, 25.9, 25.8, 29.6, 30.0, 24.3, 33.4, 34.9.

Diphtheria, which may be considered endemic in Boston, shows a falling off in the number of deaths, and a decrease yearly. The deaths reported during the year were 329; while the average for the five years previous was 436. The prevalence of scarlatina, for some years past, has been fast decreasing; the past year shows about half the number of deaths as compared with the year before, and with over 500 less reported cases. The percentage to the total mortality was 0.87, the number of deaths being 81. Typhoid fever shows a decrease of 17 deaths from the previous year, and the smallest number for any year during the past five years. Measles has comparatively the largest falling off in its mortality, the deaths being 40 per cent. less than those in the year 1885. There were 705 deaths from diarrhœal diseases, a less number than in any year since 1870.

The total number of deaths of children under five years during the past year was 3,146, and, as compared with the previous year, shows a falling off of 248 deaths. It also shows a reduction of 384 as compared with 1884; and 441 from 1883, notwithstanding an increase in the population, and the least proportionate number of deaths of any year since the creation of the Board of Health.

There were 3,152 cases of infection-diseases reported, including only one from small-pox. The cases reported in the three previous years were 3,706, 4,487 and 3,718, a sufficient proportion to render measures of sanitary examination and control important and useful, but not enough to render statistics of cure-rates of any value.

The daily routine work of the Board is illustrated by the record of nuisances abated as follows:

House drains repaired . . .	2,802	Receptacles provided for garbage . . .	36
Vaults cleaned and repaired . . .	2,407	Passage-ways cleaned . . .	130
Traps supplied . . .	869	Stables put in order . . .	25
Yards cleaned . . .	545	Swine removed . . .	45
Stagnant water removed from vacant lots . . .	76	Sundry nuisances . . .	69
Water-closets repaired . . .	753	Manure removed . . .	75
Cellars cleaned . . .	653	Roofs repaired . . .	39
Cesspools cleaned . . .	299	Sheds cleaned . . .	48
Privies repaired . . .	93	Tenements whitewashed . . .	68
Vacant lots cleaned . . .	78	Supply-pipes repaired . . .	62
Fowls removed . . .	57	Goats removed . . .	2
General want of cleanliness of premises . . .	108	Dead rats removed . . .	21

The number of houses ordered to be vacated during the year was 148, of which number only 37 were actually vacated. The other houses having been put in proper condition before the expiration of the time specified in the notice, the tenants were allowed to remain.

There were 1,630 complaints examined in the usual way, and no cause for action was found.

We congratulate the Board on their having abolished 1,557 privy vaults in 1886 and 783 in 1885, and we regret to learn that the services of the Odorless Excavating Company were required to empty 3,853

THE BOSTON HEALTH REPORT FOR THE YEAR 1886.¹

THERE were 9,268 deaths in Boston during the year 1886 as compared with 9,618 in 1885, 9,622 in 1884 and 9,740 in 1883. Guessing the population to have been 400,000, the estimated death-rate is put at 23.17 per thousand of the population, against 24.04 in 1885 with a State-census population of 390,393 in that year.

¹ Fifteenth Annual Report of the Board of Health, of the City of Boston, for the Year ending 1886. Boston: Rockwell and Churchill, 1887.

within the limits of the city, during the year. There were 80,998 places disinfected in 1886, including 25,170 vaults and 13,732 cesspools. The number of rooms fumigated was 4,190.

Of 15 wells examined only 3 were found fit for use. At the abattoir 63,651 cattle were inspected, 22,308 calves and 449,465 sheep. Six calves and 4,189 pounds of beef were condemned.

At the public baths the record is of 714,514 baths for men and boys, and 194,886 for women and girls.

MEDICAL NOTES.

—The *Medical Press* publishes the following interesting extract from Mr. Greville's recently-published journal of "The Reign of Queen Victoria," vol. iii., p. 110: "I went, yesterday (1818), to St. George's Hospital, to see the chloroform tried. A boy, aged two and a half, was cut for a stone. He was put to sleep in a minute; the stone was so large, and the bladder so contracted, the operator could not get hold of it, and the operation lasted above twenty minutes. . . . A curious example was shown of what is called the *etiquette* of the profession. The operator could not extract the stone, so, at last, handed the instrument to Keate, who got hold of the stone; thereupon the first surgeon begged to have the forceps back, that he might draw it out, and it was transferred to him; but, in taking it, he let go the stone, and the whole thing had to be done over again. It was accomplished, but not, of course, without increasing the local inflammation and endangering the life of the child. I asked Keate why, when he had got hold of the stone, he did not draw it out. He said the other man's 'dignity' would have been hurt if he had not been allowed to complete what he had begun."

—The *Archives de Tocologie* quotes an interesting statement made by Rev. C. Wilson in "Uganda and the Egyptian Soudan," which seems to give some credibility to one of the theories regarding the determination of sex in offspring. After alluding to the predominance of females among the population as due in part to deaths among the males in battle and to the capture and bringing home of female slaves in war, he says that the children of Uganda women are not more generally of one sex than the other, but that the first births of women captured in war are largely females, in the proportion of 403 to 79 males. To the assumption that the more *able* of the parents determines the sex of the offspring to the opposite sex, this writer finds support in the fact that the men are happy in their victory and are cheered by feasts and drinking, while the women are depressed by sorrow at the defeat and death of their husbands and friends and the loss of their liberty. In the later pregnancies of these women, he adds, the proportion is changed to 100 boys to 137 girls. Again he says that the women of Central Africa, captured by slave hunters and carried along beside the train, if they become pregnant during their journey, usually give birth to girls.

BOSTON.

—The Committee on Public Health have reported to the Massachusetts Legislature, Senator Gleason, of Plymouth, and Mr. Bird, of Framingham, dissenting, a bill to regulate the practice of dentistry in the Commonwealth.

NEW YORK.

—Up to February 25th, ninety-two cases of small-pox have been reported during the present outbreak.

—For some time past diphtheria has been very prevalent in the vicinity of Fishkill-on-the-Hudson, and the mortality from the disease has been extremely large. In the last annual bulletin of the State Board of Health, the Hudson Valley District, which comprises all the counties, except Westchester, on either side of the river, is placed second in the State in mortality. For the entire State, the ratio per 1,000 deaths, from all zymotic diseases, to the total mortality for 1886, was 217.23, against 222.17 in 1885, and 269.12 in 1884. The conjoined death-rate per 1,000, from typhoid fever and diarrhoeal diseases, was 146.40 in 1884, 104.07 in 1885, and 94.44 in 1886, showing a continued reduction. On the other hand, diphtheria, which, it is claimed by the Board, is caused more by insanitary conditions of households, and is not so susceptible to public hygienic improvements, has prevailed more extensively; having had a death-rate, in 1884, of 47.65 per 1,000; of 56.06 in 1885; and of 64.48 in 1886. In each 1,000 deaths in the Hudson Valley District there were, in 1885, 62.63; and, in 1886, 64.63 from diphtheria. The total number of fatal cases in this district, last year, was 597.

—The King's County Supervisors have decided to build a new wing to the insane asylum, at Flatbush, which has so long been overcrowded, and have appropriated \$50,000 for the purpose.

—On February 22d, Professor Lancing gave a lecture on "Mummification," at Suydam Hall Chapel, New Brunswick, which belongs to the Rutgers' Theological Seminary; and afterwards, with the assistance of Dr. Van Vranken, of Albany, unwrapped a mummy in the presence of the audience. It was that of a royal priestess of the Nineteenth Dynasty, who lived about 1400 B. C., and was probably contemporaneous with Moses. The unwrapping occupied about two hours. There was, first, a layer of carefully-painted linen; and then hundreds of yards of narrow linen bandages, with an occasional sheet of linen, all the dressings smelling strongly of bitumen.

—During the past two years the experiment has been tried, in consequence of the large mortality that existed at the Randall's Island Nursery, of placing a number of the children from that institution under the care of nursing mothers, at their homes in and near Mount Vernon, Westchester County. The Commissioners of Charities and Correction now keep from fifty to sixty of them in the country, and the death-rate has been reduced among these infants from thirty per cent. to about five per cent. The cost *per capita* is \$13.50 a month, while at Randall's Island it is \$7.73. The

children are under the personal supervision of Dr. Robert T. Howe, of Mount Vernon; and, once a month, the paymaster from the City Comptroller's Department pays off the women at his office. Additional provision is also to be made at Randall's Island, where a pavilion adjoining the present buildings is to be erected, at a cost of \$25,000. This will accommodate from 1,500 to 2,000 adults and infants, and will relieve the present overcrowded condition of the Nursery.

Miscellany.

THE BOSTON HERALD AND THE RAG QUESTION.

We copy from the *Sunday Herald*, of February 27th, the following paragraph, and, in so doing, are not able to compliment our esteemed contemporary on its fairness, a fairness which we are accustomed to expect from it in other matters:

"The theories advanced by scientific authorities during the rag hearings last year, that contagious diseases are not carried by old rags, rather gets a setback by the discovery of four cases of small-pox among the rag-sorters of the Holyoke paper mills. How is this?"

In reply to the question, "How is this?" we would say that, to our knowledge, no such theories were "advanced." The fact was stated, and we repeat it now, that no case of cholera in this country had ever been clearly, or even presumably, traced to *foreign rags in bale*, as its source. The fact was also stated that small-pox had probably been conveyed in *domestic rags*, the very town of Holyoke having been instanced as an illustration of that statement; although it is, of course, not to be assumed that every case of small-pox occurring among rag-sorters is *ipse facto* evidence that the rags were the source of infection. There are among these rag-sorters many Canadian immigrants: out of a population of thirty thousand, eight thousand are French Canadians; moreover, small-pox has again been prevalent in the City of New York this winter, ninety-five cases having been reported to the health authorities up to Feb. 25th. We shall await further advices with reference to the source of the disease in these cases.

There was, previous to and during the rag hearings, last year, before the Committee of the Boston City Government, altogether too much of the sort of falsification and misrepresentation, of which the above is a specimen: it is creditable neither to interested individuals, to paid counsel, nor to newspapers reflecting their views.

Correspondence.

PLAGIARISM OR TELEPATHY.

BOSTON, MASS., February 21, 1887.

MR. EDITOR,—Permit me to make use of your columns to call to the attention of those interested in psychical research a most remarkable instance of direct (or indirect) transference of ideas which has recently come to my notice. I received, a few days ago, a sample copy of the "Annals of Hygiene," the Official Organ of the State Board of Health of Pennsylvania, edited by Joseph F. Edwards, A.M., M.D., with an urgent appeal for a subscription.

On inspection of its pages I was much struck by the somewhat familiar appearance of many of the illustrations, which latter, according to an editorial in a former number which I have found, "we have decided to call to our aid to enable us to make clear the lessons of hygiene that we preach," for the very good reason that "that which is photographed upon the retina is much more lasting than that which is impressed upon the tympanum."

Referring to a little book published in London in 1881, called "Dangers to Health," by J. Pridgin Teale, M.A., I was surprised to find the exact counterparts of the illustrations to eight separate articles. Nor does the similarity stop here; the text of many of the eight articles is an almost exact reproduction of that in connection with the cuts in Mr. Teale's book. In the previous number already referred to, are four more illustrated articles, also counterparts of some of Teale's.

This, it seems to me, is one of those most extraordinary examples which cannot very well be explained by any theory of muscle-reading, since, as anybody will admit, the distance from Philadelphia to London is so great that even though the percipient were connected by wire—in this case the cable—the muscular impulses could not be of sufficient force to be of any assistance.

It would of course be highly discourteous to even suppose that the editor took the articles and illustrations bodily from Teale's book, since in that event he doubtless would have given proper credit. Will somebody kindly explain? Yours very truly,

CHARLES HARRINGTON, M.D.

ON AXILLARY LUMPS.

ROXBURY, BOSTON, Feb. 21, 1887.

MR. EDITOR,—It is, of course, possible (as Dr. Boxall thinks) that I was wrong in the impression I formed from the scanty data at hand as to the similarity of Velpeau's five cases of axillary tumor to Champney's cases of axillary lumps. Dr. Boxall explains away very satisfactorily to himself all but one of the cases, that of Von Siebold, whose perfect resemblance to Johnson's case, and almost perfect resemblance to Champney's, even Dr. Boxall substantially admits; and, be it observed, if Siebold's case alone stands, Champney's claim of priority falls.

But now let us go a little deeper into this claim of Dr. Champney, and see where the question of the "Lumps," as a pathological entity, now stands. The facts in the case are these:

Dr. Champney read before an English Society a paper entitled "The Development of Mammary Functions by the Skin of Lying-in-Women." This memoir contains a report of some thirty cases of a peculiar kind of axillary tumor, believed by the author to be described for the first time in his paper, and all occurring in a single hospital in London. Having delineated their clinical features, he proceeds to speculate on their nature. He conceives them to be sebaceous tumors, and "to prove that in lying-in-women the sebaceous follicles of the skin are capable of producing true mammary secretions," also to "confirm the opinion that the breast is a highly specialized aggregation of highly specialized sebaceous follicles."

The paper ended, Dr. Pollock endorses the originality of Dr. Champney's observations, while Dr. Creighton expresses his belief "that the lumps or glands were not derived from sebaceous glands, but from another cutaneous structure," described by Sappey, Kölliker, and Frey, as well as by himself, in a paper before the same Society; in plain language, the axillary sweat-glands. Hereupon Dr. Champney changes his previous opinion and becomes "inclined to accept Dr. Creighton's view of the origin of these lumps." They differed, he said, from lipomata in the fact that they secreted milk.

Finally, on this side the water, comes Dr. Johnson, with

¹ See *Journal*, December 9, 1886, pp. 547-8; December 16, 1886, p. 583; February 10, 1887, p. 146.

an account of a case in his own practice, which he supposes to be either an axillary lymphangitis with lymphorrhagia, a supernumerary mamma with lacteal secretion, or possibly a lipoma.

Now it did seem to me, Mr. Editor, that all this loose theorizing, by so many different gentlemen, was very unscientific and childish, and, moreover, failed to lend confirmation to the view either expressed or implied by all hands that they were dealing with a wholly new species of tumor. No man in these days can come forward as the discoverer, or even in a rigid sense, the describer, of a new tumor without a distinct demonstration of its pathological structure. It was the omission of such demonstration which I criticized, or intended to criticize, in Dr. Champney's investigation. Certainly it would not have been difficult for Dr. Champney, had he so chosen, to procure

some specimen, or cutting, or minutest possible shred of diseased tissue, for microscopic examination. In view of the uncomeliness and uncleanliness of a constantly oozing tumor of the armpit, it would have been perfectly fair practice to lay open one or more of them, pack with lint, and at the same time excise a small portion for examination. Possibly a Duchenne's trocar, which is nearly painless, might have brought away tissue enough for the purpose, without any operation at all. Then we should have had exact knowledge in place of so many conflicting and valueless hypotheses.

The plain truth is, Dr. Champney's description is really no description at all. It is a description which does not describe. It is a conundrum still unsolved, and awaiting some new *Edipus* for an answer. Yours respectfully,

EDWARD T. WILLIAMS, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 19, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	742	321	22.32	19.60	2.10	8.12	7.84
Philadelphia	993,801	394	123	9.62	14.56	.78	4.16	1.56
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	745,108	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	167	50	6.58	13.16	.60	2.39	1.20
Boston	400,000	189	49	10.60	25.44	1.59	4.24	1.59
New Orleans	242,750	—	—	—	—	—	—	—
Buffalo	225,000	—	—	—	—	—	—	—
Cleveland	210,000	78	20	11.52	—	3.84	—	—
District of Columbia	210,000	87	43	29.75	22.61	—	13.09	9.52
Pittsburgh	210,000	—	—	—	—	—	—	—
Montreal	186,257	40	26	—	—	—	—	—
Providence	121,000	41	14	19.52	21.96	—	9.76	4.88
Richmond	100,000	31	12	9.66	—	—	—	—
New Haven	80,000	28	7	7.14	—	—	—	—
Nashville	65,000	16	6	12.50	18.75	—	—	—
Charleston	60,145	36	8	2.78	5.56	2.78	—	—
Portland	40,000	17	3	5.88	—	—	—	—
Worcester	68,383	33	14	3.03	24.24	—	3.03	—
Lowell	64,051	41	17	24.39	17.08	7.32	2.44	4.88
Cambridge	59,660	13	5	—	7.69	—	—	—
Fall River	56,863	26	8	7.70	15.10	—	—	—
Lynn	45,861	13	2	7.69	23.07	—	—	—
Lawrence	38,825	15	4	—	13.33	—	—	—
Springfield	37,577	8	0	—	—	—	—	—
New Bedford	33,393	8	4	25.00	50.00	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	15	3	6.66	—	—	6.66	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	7	1	—	14.28	—	—	—
Taunton	23,674	8	0	12.50	12.50	—	—	—
Haverhill	21,795	5	2	—	20.00	—	—	—
Gloucester	21,713	5	2	—	20.00	—	—	—
Brockton	20,783	10	3	—	10.00	—	—	—
Newton	19,759	2	2	—	50.00	—	—	—
Malden	16,407	4	4	75.00	75.00	—	25.00	—
Fitchburg	15,375	2	1	50.00	—	—	—	—
Waltham	14,609	2	0	—	50.00	—	—	—
Newburyport	13,716	4	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,055; under five years of age 788; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 326, consumption 362, acute lung diseases 350, diphtheria and croup 115, measles 80, diarrhoeal diseases 34, scarlet fever 22, typhoid fever 22, erysipelas 12, whooping-cough 11, cerebro-spinal meningitis nine, puerperal fever nine, malaria fever six, small-pox (New York) six. From scarlet fever, New York eight, Philadelphia and Pittsburgh, three each, District of Columbia two, Boston, Baltimore, Cleveland, Milwaukee, Providence and New Bedford one each. From typhoid fever, Philadelphia four, New York and Boston three each, Richmond and District of Columbia, two each, Pittsburgh, Milwaukee, Providence, New Haven, Lowell, Lynn, Taunton and Fitchburg one each. From erysipelas, New York seven, Philadelphia two, Boston, Milwaukee and Fall River one each. From whooping-cough, New York three, Pittsburgh and Malden two each, Philadelphia, Richmond, Boston and Nashville, one each. From cerebro-spinal meningitis, New York four, Lowell two, Philadelphia, Milwaukee and Fall River one each. From puerperal fever, New

York, Philadelphia, Baltimore, Cleveland, New Haven, Nashville, Lowell, New Bedford and Fitchburg, one each. From malarial fever, New York, Baltimore and District of Columbia, two each.

In the 20 cities and greater towns of Massachusetts, with a population of 960,404 (population of the State 1,941,465) the total death-rate for the week was 20.52 against 20.89 and 18.95 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending February 5th, the death-rate was 19.6. Deaths reported 3,470: infants under one year of age 770; acute diseases of the respiratory organs (London), 279; whooping-cough 111, measles 104, scarlet fever 54, fever 40, diphtheria 29, diarrhoea 27, small-pox (Manchester and Blackburn one each), two.

The death-rates ranged from 13.5 in Nottingham to 28.4 in Plymouth; Birmingham 20.7; Bradford 25.3; Hull 18.6; Leeds 18.3; Leicester 18.6; Liverpool 20.8; London 18.4; Manchester 26.3; Newcastle-on-Tyne 21.9; Sheffield 20.8; Sunderland 19.3. In Edinburgh 17.6; Glasgow 23.8; Dublin 29.7.

The meteorological record for the week ending February 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, Feb. 19, 1887.																				
Sunday,...13	20.663	13.0	18.0	8.0	60.0	46.0	58.0	55.0	N.W.	W.	N.	14	20	11	C.	C.	C.	—	—	
Monday,...14	30.733	18.0	26.0	6.0	58.0	73.0	74.0	69.0	N.W.	S.E.	S.	10	8	6	C.	C.	O.	—	—	
Tuesday,...15	30.009	42.0	48.0	23.0	85.0	87.0	82.0	85.0	S.	S.W.	S.W.	10	18	10	R.	O.	O.	—	—	
Wednes.,...16	29.759	40.0	46.0	36.0	81.0	65.0	71.0	72.0	W.	E.	W.	10	6	10	C.	C.	O.	—	—	
Thursday,...17	29.978	37.0	44.0	31.0	64.0	37.0	54.0	52.0	W.	W.	N.	15	12	10	C.	C.	C.	—	—	
Friday,...18	29.923	36.0	46.0	25.0	70.0	93.0	100.0	88.0	N.	E.	S.W.	8	22	9	C.	N.	R.	—	—	
Saturday,...19	29.809	40.0	47.0	36.0	94.0	46.0	63.0	68.0	S.W.	W.	W.	4	24	17	G.	F.	C.	26	1.47	
Mean, the Week.	30.125	32.3	35.0	23.0				69.8												

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 19, 1887, TO FEBRUARY 25, 1887.

BARROWS, CHAS. C., first lieutenant and assistant surgeon. Resignation accepted by the President to take effect February 17, 1887. S. O. 42, A. G. O., February 9, 1887.

BLACK, CHAS. S., first lieutenant and assistant surgeon. Ordered from Fort Clark, Tex., to Fort Davis, Tex. S. O. 23, Department of Texas, February 18, 1887.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, March 9th, at 7.45 o'clock. Papers: "A Case of Chronic Arsenic-Poisoning of supposed Criminal Nature, with especial Reference to the Medico-Legal Aspects," by Drs. Ernest Cushing and Morton Prince. Prof. E. S. Wood, and Drs. F. W. Draper, E. N. Whittier, L. F. Warner, of Boston, and Dr. A. F. Holt, of Cambridge, will take part in the discussion. Dr. Harold Williams, "A Case of Hodgkin's Disease." Dr. C. P. Putnam will open the discussion.

ALBERT N. BLODGETT, M.D., *Secretary*.

F. I. KNIGHT, M.D., *Chairman*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, March 7th, at eight o'clock. Readers: Dr. H. C. Haven; Dr. E. D. Spear, "A Few Remarks about the Drum Membrane, with Cases."

CHARLES P. STRONG, M.D., *Secretary*.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next meeting will be held at No. 19 Boylston Place, on Thursday, March 10th, at 4 o'clock, P. M. Paper: "The Truths of Nature demanding Similar Truths from Science and Art," by Dr. Horatio R. Bigelow of Leipzig.

H. J. HARRIMAN, M.D., *Secretary*.

DEATH.

Died in Charlestown, Mass., February 25, 1887, Jonas Angus-tus Marshall, M.D., M.M.S.S., formerly of Fitchburg.

BOOKS AND PAMPHLETS RECEIVED.

Fifteenth Annual Report of the Board of Health of the City of Boston for the Year 1886. Boston, 1887.

Eleventh Annual Report of the Boston Water Board for the Year ending December 31, 1886. Boston, 1887.

Follicular Amygdalitis. By A. Jacobi, M.D., President of the New York Academy of Medicine. New York, 1886. (Reprint.)

Vesical Irritation in Women. By Virgil O. Hardon, M.D., Lecturer on Operative Gynecology, Southern Medical College, Atlanta, Ga. 1886. (Reprint.)

The Census of Massachusetts: 1885. Prepared under the Direction of Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Volume I. Population and Social Statistics. Part I. 1887.

On Fevers, their History, Etiology, Diagnosis, Prognosis and Treatment. By Alexander Collie, M.D. (Aberd.) M.R.C.P., London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son & Co. 1887.

Bibliographie des Sciences Médicales Index Methodique et Catalogue Descriptif des livres et Journaux Anciens et Modernes, français et étrangers sur les Sciences Médicales. Paris: Librairie J. B. Baillière et fils. 1887.

Refraction of the Eye: the Diagnosis and the Correction of its Errors. By A. Stanford Morton, M.B., F.R.C.S., Ed., Surgeon to the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son & Co. 1886.

Novel Methods of Treating Diseases of the Middle Ear. By Seth S. Bishop, M.D., of Chicago, Attending Surgeon to the Illinois Charitable Eye and Ear Infirmary and to the South Side Free Dispensary, etc. Read at the Annual Meeting of the Illinois State Medical Society. Chicago, 1887.

Nervous Diseases and their Diagnoses: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with Especial Reference to the Recognition of their Causes. By H. C. Wood, M.D., Ph.D., Member of the National Academy of Science. Philadelphia: J. B. Lippincott Co. 1887.

The Source of the Mississippi. Comprising I. Letter from Messrs. Ivison, Blakeman, Taylor & Company. II. Report of Hopewell Clarke, Chief of the I. B. T. & Co. Expedition to the Headwaters of the Mississippi, October, 1886. Ivison, Blakeman, Taylor & Company: New York and Chicago. (Reprint.)

A Contribution to the Climatological Study of Phthisis in Pennsylvania. By William Pepper, M.D., LL.D. Presidential Address delivered at the Third Annual Meeting of the American Climatological Association, held at Philadelphia, May 10 and 11, 1886. New York: D. Appleton & Co. 1887. (Reprint.)

Medical and Surgical Memoirs: containing Investigations on the Geographical Distribution, Causes, Nature, Relations and Treatment of Various Diseases, 1855-1886. By Joseph Jones, M.D., Professor Chemistry and Clinical Medicine, University of Louisiana. Volume II. New Orleans: Joseph Jones, M.D. 1887.

Leçons sur les Maladies du Système nerveux faites à la Salpêtrière par J. M. Charcot, Professor à la faculté de médecine de Paris, etc. Recueillies et publiées par MM. Babinski, Bernard Féry, Guinon, Marie et Gilles de la Tourette. Tome Troisième (Deuxième fascicule.) Paris. Aux Bureaux du Progrès Médical, 1887.

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromolithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York City. Volume IV. New York: Wm. Wood & Co. 1887.

Diseases of Women: a Handbook for Physicians and Students. By Dr. F. Winckel, Professor of Gynecology and Director of the Royal University Clinic for Women in Munich. Authorized Translation by J. H. Williamson, M.D. Under the supervision and with an introduction by Theophilus Parvin, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

The Surgeon's Pocket Book: an Essay on the best Treatment of Wounded in War, especially adapted for the Public Medical Service. By Surgeon-Major J. H. Porter, Late Assistant Professor of Military Surgery, Army Medical School. Netley. Third Edition. Revised and Edited by Brigade-Surgeon C. H. Y. Godwin. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

THE RÔLE OF THE OVARY.¹

BY SYMINGTON BROWN, M.D.

I ASSURE you, gentlemen, that I thought twice before adopting this title, — one which exposes me to a double cross-fire of criticism, and may possibly end in depriving me of the chance to perform any rôle myself in this learned Society. Let me hasten to explain that I do not mean anything disrespectful to the ovary. If this important organ only acts a part, what then? Do we do any more? And as I believe that it plays a leading part in the great drama of Life, — a part which men are only too glad to support in a subordinate rôle, — of course there can be no disrespect intended. This comes of introducing metaphysics into a gynæcological society.

The minute studies of pathologists are often useful. I do not decry them; but it seems to me that pathological minutiae are like the scaffolding put up for the workmen during the erection of a building, intended to be removed when the building is finished. In fact, we cannot see the building in its fair proportions until the scaffolding has been removed.

In other words, I think that we have depended too much on morbid phenomena, and too little on the experiments which Nature kindly performs for us. More can be learned by careful observation of natural processes and guarded deductions therefrom, than from the twisted facts which disease presents us with. Naturally we cry up disease, for that is our business; but, I am happy to say, that the tendency in our day is to place more stress on the investigation of natural processes, so that we may be better able to recognize them when they become abnormal. We have hitherto put the cart before the horse, and our partial progress has been attained by pushing instead of drawing. It is on this account that I attach comparatively little importance to vivisections as a means of discovery. Experiments on living animals may corroborate or test a great disclosure; they seldom or never find one out. It is the recollection of what we have previously observed, passed through our mental alembic, which enables us to discriminate differences and recognize agreements. While I despise the senseless, sentimental outcry now being raised against vivisections, I think it is our duty not to overestimate them, and to make such experiments the exception, not the rule. Sir Charles Bell, in his classical work on the "Nervous System," asserts that if he had commenced with experiments, they would have misled him. He made his great discovery by means of dissections and clinical observations.

The extreme period during which the ovaries are active may be set down as forty years, say from twelve to fifty-two years of age. In the great majority of women, this period is limited to thirty years, say from sixteen to forty-six years of age. Before twelve and after fifty-two the possession of procreative power in women rarely exists; although a few recorded cases point to its possibility. Men may retain their virile power to extreme old age.

In childhood, the ovaries only contain microscopic ova; and after the menopause these organs become

atrophied, and all traces of germs finally disappear. In reproductive processes, nature seems to be ultra generous. The number of ova in each ovary is out of proportion to the number of possible children. Many of these ova, no doubt, remain undeveloped; but even of those which reach the surface, and are capable of impregnation, how small a portion ever fulfil their function! Then, again, during each month there is a period during which the ovary is quiescent, and another period during which it is active. These may be called the cycles of involution and evolution. When the latter attains its maximum force, the ovary becomes nearly twice as large as at the close of involution, and is so sensitive to pressure that a tyro might conclude that it was inflamed.

Strictly speaking, the ovary is a gland which secretes free cells. It maintains an intimate connection with many other glands — a relationship more marked during pregnancy, but also noticeable during menstruation. More unsolved problems are probably connected with this relationship than is generally supposed. Jaundice, albuminuria, salivation, and mastodynia, may all be connected with, or dependent on, changes in the ovary. One reason why robust women (corresponding to the peasant class in Europe) recover more readily from puerperal diseases than pampered ladies, is the greater activity of the glandular system in that sort of patients. If we take puerperal albuminuria as an illustration, I think there need be no doubt that the affection does not arise from organic disease of the kidney, but is simply a functional disorder, following sympathetic changes in one or more of the reproductive organs. Anything which interferes with a single link of the chain affects the whole.

If we except syphilis, perhaps no other disease pursues a more insidious course, or fathers so many obscure symptoms, as gonorrhœa. Dr. Noeggerath, of New York, long ago directed our attention to this subject, and his assertions were generally met by the profession with almost scornful scepticism. I think that the sweeping verdict he passes upon commercial travellers is exaggerated; but the longer I live I meet with more and more cases which can only be satisfactorily explained on his theory — the existence of latent gonorrhœa.

When I was a medical student, in 1841, I asked our professors of anatomy and obstetrics, separately, this question, Why do prostitutes so seldom conceive? The answer from both was substantially the same; they said, they are driven beyond conception by their mode of life. For many years, I could get no better answer than this from anybody. But modern gynæcology has demonstrated that the gonorrhœal discharge passes from the vagina through the uterus and Fallopian tubes to the ovaries, and, exciting periuterine inflammation, is the true cause of sterility in prostitutes, and also, I am sorry to say, in many virtuous married women. Among the latter class especially this is not always preceded by an acute attack. The affection may be communicated by a mild, concealed gleet, which the husband himself is not cognizant of. As Dr. Noeggerath has pointed out, poisonous mucus may lie in a shallow cul-de-sac, near the bladder, and be discharged along with the semen, during coition, months or even years after the patient has seen any discharge at the meatus.

I suppose that bacteriologists, if they admit the premises, would explain the infection by the presence of

¹ Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, December 15, 1886.

a specific germ, which the attending physician had failed to dislodge. I do not express any opinion on that head. As the accommodating showman says: "You pays your money and you takes your choice." But whether caused by wicked germs or more ancient pathological processes, there can be no doubt about the widespread mischief resulting. The fibrous ovarian sheath becomes thickened, the Fallopian tubes are filled with muco-pus or closed, and it is highly probable that the ova themselves never become fully developed. If this happens to both ovaries or both oviducts, sterility is inevitable. We should also recollect that in many cases where the epididymis has been inflamed, spermatozoa are not to be found in the so-called semen, and the male is also sterile.

This brings us to the absorbing question. Should the ovaries ever be removed on account of metrorrhagia, salpingitis, long-continued agonizing pain or intractable pelvic disease? I refer, of course, to Battey's and Lawson Tait's operations. Many conservative physicians aver that removal of the ovaries unsexes a woman, changes her soft voice to a harsh, masculine tone, produces a beard and mustache, and takes away her sexual appetite. I believe that all, or nearly all, of these charges are baseless. We have good reason to conclude that sexual desire is not annulled within a period of at least four years after either operation. The only thing they annul is the ability to conceive; and, in our day, that is not reckoned much of a curse by many women. I am inclined to think that both the advocates and the opponents of female castration have been guilty of exaggeration. It is too true that the modern surgeon, like the American base-ballist, is apt to go to extremes. I have no doubt that some ovaries have been sacrificed which might and should have been saved, and I am also quite sure that many women have been left to drag out a miserable existence for years,—an opprobrium to the healing art, and a terror to their relatives,—who might have been spared untold mental and bodily suffering by a simple surgical operation, if the medical attendants had not been befogged by the ancient dogma of unsexing their patients. For sex is not lodged in either ovary or testicle: if in one part more than another, it is in the brain.

A long series of observations has convinced me that insanity in women often depends on sexual disorders, and, in such cases, can only be cured by treatment applied to the reproductive organs. The first case which impressed this conclusion on me occurred in Blackstone, Mass., in 1852. The patient was a young married woman, of Irish extraction, under the care of the late Dr. Kimball. She manifested signs of melancholic insanity, and attempted to commit suicide by striking her head with a dull hatchet in more than twenty places. We dressed her wounds, and got a neighbor to watch her, but on the second night she got out while the watcher dozed and drowned herself in the river. As it was a case for the coroner, we were allowed to make a post-mortem examination, and found inflammatory disease in the left ovary, with pus in the corresponding oviduct.

In cases of hystero-epilepsy, where the fits are prolonged and the mental powers are beginning to deteriorate, in consequence of ovarian disease, the best treatment is to perform Battey's operation. This is one of the grounds where even the most conservative gynaecologists admit that the operation is justifiable.

It seems to me that in cases of long-continued severe pain, after the usual remedies have failed, we would be blameless if we removed the offending organs. There are other kinds of work besides childbearing which women can acceptably perform.

I have only seen one case where I thought that their removal was vindicable. The patient was an unmarried lady, about thirty years of age, who had suffered for several years from pelvic neuralgia so agonizing that latterly she had to give up work entirely. She was attended by Dr. Barss, of Malden, who called me in consultation. The operation was performed while I was absent in Europe, more than two years ago, and has proved successful. I learned recently that, although both ovaries were removed, she has menstruated regularly since the operation.

General practitioners are more interested in another class of patients, in whom the symptoms arise from suddenly-arrested menstruation, and there is no good ground for believing that the ovaries are seriously diseased; and yet, in the great majority of such patients, sterility results. A brief description of a typical case will illustrate what I mean. Five years ago I attended an unmarried lady, nineteen years of age, in whom menstruation was suddenly arrested by sea-bathing. Severe pelvic pain, sympathetic vertex headache, and a sense of constriction near the diaphragm, continued at intervals for a year, notwithstanding active treatment. Finally, she recovered, got married six months later, but has never become pregnant. To this day the diaphragmatic constriction remains, and the menstrual flow is gradually becoming scantier. Whether a sufficient degree of low-grade inflammation occurred to close the fimbriated extremities of both tubes, or, what is more probable, the nervous shock arrested the development of ova, I cannot say. Only this, that in all such cases I feel warranted in telling near relatives that sterility is highly probable.

I have only time left to state several questions relating to my subject, without attempting to discuss them. Is menstruation inseparably connected with ovulation? To give a correct answer, we should bear in mind that rare instances have occurred where three ovaries existed in one person; and also, that single ovisacs may be abnormally implanted in the human parovarium, following the type of certain lower animals. In most cases, removal of the ovaries arrests menstruation within a few months. In Dr. H. R. Storer's celebrated Malden case, where he removed everything except an inch of the cervix uteri, the menses appeared eighteen days after the operation, lasting thirty hours, and were attended by the usual feeling of lassitude, backache, etc. The patient was forty-seven years old, unmarried, and had never conceived. The explanation seems to be, that the original menstrual impetus, in some cases, continues for a time after removal of the ovaries.

Negrier believes that the ovaries act alternately, one ovary active one month, perfecting ova, while the other is quiescent; the latter active next month. This somewhat fanciful theory receives a slight support from the circumstance that, when only one ovary is diseased, the pain sometimes returns every alternate month. Ovariectomy has decided one problem for us: it has proved that the sex of the fœtus does not depend on the particular ovary which furnishes the germ; that is, that the right ovary does not furnish males, and the left females, exclusively, or *vice versa*.

Sir Spencer Wells tells us that ten patients, from each of whom he removed one ovary, afterwards conceived and bore children of both sexes. A woman with one ovary may even have twins of opposite sexes.

The proportion of male and female children born all over the world is so constant that we cannot help concluding that it must be regulated by a law as yet undiscovered. Here is a promising field for ambitious gynecologists. Whoever does make the discovery is as sure of fame as William Harvey. If I might be allowed to hazard a suggestion, it would be this,—that the determination of sex does not depend on anything done by either father or mother, but occurs long prior to conception in the ovary or testicle. That is to say, I believe that the agency which determines sex depends on peculiarities in the ova or spermatozoa, existing before coition.

One of the most interesting problems waiting solution is the sympathetic or metastatic affections connected with disease of the ovaries or uterus. Thus it is quite common for patients with ovarian disease to be troubled with intolerance of light, double vision, and some other eye-disorders. The same thing is often observed during pregnancy. Have we a correlation of diseases as well as one of forces? The first time that my attention was forcibly directed to this subject, strange to say, was among soldiers. In 1864, we had an epidemic of mumps in the 55th Regiment Massachusetts Volunteers, (colored), followed in eight or ten of the cases, by orchitis. The assistant surgeon thought that it was merely a coincidence, and I was at first inclined to concur with him; but soon became satisfied that the two diseases were more closely related. Dr. Goodell, of Philadelphia, has an article on "Inflammation of the Parotid Glands following Operations on the Female Genital Organs," in Volume X, Transactions of American Gynecological Society, which will amply repay perusal.

The only other example of sympathetic reaction I shall allude to to-night, is the increase of sexual desire in young women affected with phthisis. I have only seen one well-marked instance; but experienced medical friends say that they are convinced of its occurrence. What is the cause? Is it an illustration of the tendency of plants to run to seed when debilitated through a deficiency of nourishment? Does the fact throw any light on the greater fecundity of poor families as compared with rich ones? Perhaps some member will be kind enough to solve, or try to solve, these problems for us.

DERMATITIS VENENATA CAUSED BY LEUCANTHEMUM VULGARE.

BY JAMES S. HOWE, M.D.

LEUCANTHEMUM vulgare is the name of one of our common plants, which is known in different localities as white weed or field daisy. It is not indigenous in America, but was naturalized from Europe, being accidentally brought to this country by means of its seeds, which were mixed with those of other plants. It is most plentiful in New England, being still abundant in the Middle Atlantic States; and occurs more or less commonly all over the country, including Canada. It is spreading rapidly, and may be expected anywhere in cultivated lands. It is found throughout

the greater part of Europe, excepting in the extreme North and South, extending even to the Ural Mountains and Southwestern Siberia. It is not found in Portugal, Southern Spain, Sicily, Greece, Lapland, or Finland, and only in the southern parts of Norway and Sweden. Botanists say that the same limitations of distribution which exist in Europe will probably govern the spread of the plant in this country. Here in New England it is very abundant in the fields and meadows, being particularly noticeable during the months of June and July, when it is in full bloom. That it is capable of producing a very intense and troublesome form of dermatitis, and that this fact is not generally known to the profession, has induced me to present several cases of poisoning from this source which have come under my care.

My observations thus far have led me to suppose that it will prove harmful only to those who have a decided susceptibility to the poisonous effects of other plants. In fact, I can go so far as to say that I have yet to see a single case where the patient has not already had one or more attacks of dermatitis, caused by some of the well-known plants which produce the same results as the daisy. I am led to record these cases, not that I can add anything to our present knowledge of these forms of dermatitis and their treatment, but in the hopes of pointing out a source of dermatitis venenata, which, I believe, is not yet recognized by the profession at large.

CASE I. Mary B., aged six years. Two brothers and a sister of this little girl went out into the country, in the month of June, to a picnic; and gathered, while there, a large number of white daisies from the fields, and brought them home to their sister, who was confined to the house by some slight ailment. She was playing on the floor, minus her shoes and stockings, when the flowers were given to her; and remained there for half an hour, holding them in her lap and playing with them, as any child naturally would. The following morning her feet, legs, genitals, hands, and face were the seat of a severe dermatitis, with marked œdema of the legs below the knees, and also of the genitals. When I saw the case again, late in the afternoon, vesicles of small size, and closely aggregated, had formed in various-sized groups and patches upon the affected parts. These were accompanied by intense pruritus, and within the next twenty-four hours nearly all the vesicles had ruptured. This was followed by a gradual subsidence of all the troublesome symptoms, and also by excessive exfoliation of the skin; and, in about ten days, all the affected surfaces had returned to a normal condition. This child had been twice before poisoned by rhus, according to the mother's statement, neither attack being very severe; but it is doubtful if the child had handled the ivy so freely as she had the daisies.

CASE II. Willie D., aged five years. I saw this case in July, early one morning. I found a very marked efflorescence on the backs of the hands and between the fingers, with small, closely-aggregated vesicles in the latter position. What particularly attracted my attention was a well-defined band of a decided erythematous character, extending around the forehead and across the tips of the ears. Upon close inspection, I found this same region to be the seat of a very fine, papular rash, with here and there an already-formed vesicle, while the papules all showed a marked tendency to vesiculation. Upon the face and chin were also small patches of a fine, papular eruption, varying

in size and shape, and particularly marked upon the upper lip and the tip of the nose; also under the right eye, which was partly closed, owing to the œdematous condition of the lower lid. The only one of these patches where vesiculation had taken place was on the upper lip, which presented a condition closely allied to that of herpes labialis. On careful inquiry, I found that the child had, the day before, picked an armful of white daisies; and its mother had woven them into a wreath, which the child had worn upon its head for some time, with the above result.

Within twenty-four hours the fine papules on the forehead had nearly all changed to vesicles, presenting, in the form of a vesicular band, a very peculiar and unusual appearance. The mother was not poisoned, although I inspected her hands and face regularly for several days. She had never had any form of dermatitis resulting from poisonous plants, although, the year before, the child had suffered from a severe attack of a similar nature to this as regards symptoms, caused, as her physician told her, by ivy, although there is no proof that it might not have been caused by white weed.

This case yielded readily to treatment, excepting on the forehead, where, two weeks later, there was still decided redness and desquamation.

CASE III. Miss F. H., aged eighteen, had been poisoned by rhus a number of times when young, each succeeding attack being of less severity than its predecessor, until she had come to believe that ivy, so far as she was concerned, was comparatively harmless. While on a visit in the country she went out one morning to gather flowers in a garden, in one neglected corner of which was a large patch of white weed. After picking some flowers, the daisies attracted her attention; and she picked a basketful of them, and took them into the house and arranged them in a vase. That night she frequently awoke, always finding herself afflicted on the hands, forearms, and face with an intense burning and itching sensation, to relieve which she naturally scratched and rubbed the parts affected. The next day, when I saw her in the afternoon, there was a decided swelling of the hands and fingers, which, with the forearms and face, presented as complete a case of dermatitis as I ever saw.

Between all the fingers, and on the forearms, were many fine, closely-aggregated vesicles, the backs of the hands and face presenting only a fine, papular rash, with marked swelling and redness. The agony caused by the burning and itching was so marked, that the patient could only be kept quiet, and secure sleep, for three successive nights, by the use of opiates. The next day vesiculation took place inside the hands, beneath the thickened epidermis, both hands presenting the appearance to the sight and touch of a typical case of cheiro pompholyx. Relief was not long delayed, and desquamation followed in a few days. This patient rather doubted my statements when I told her that the white weed was the cause of all her trouble, and warned her, in the future, to carefully avoid it. The remembrance of her trouble kept her, the rest of that season, from making any further experiments with daisies; but the following year she again gathered some, with a similar result to the former one, only this time she escaped more luckily than before, all the symptoms being less severe than in the first case, although sufficiently so to call for active treatment.

CASE IV. I have, myself, been twice severely poi-

soned by white weed, the first case being the only one I had ever seen or heard of until I saw the one which is first described in this paper. As a boy, I had been often and very badly poisoned by ivy and dogwood, sometimes twice or three times in the same summer; hardly a season passing from my eighth to my sixteenth year without an attack, each of which was less severe than the former one. From my sixteenth year to the present time I have never been poisoned by dogwood or ivy, although I have often been in close proximity to them both, and even frequently brushed against them. Six years ago, while in the country, I gathered a large number of daisies, and carried them to the house where I was staying, never for a moment thinking what the result might be. That night I awoke, feeling upon my face and hands the most violent pruritus, and wondering what could have caused it; and such was its severity, that my sleep was very broken during the remainder of the night. In the morning I found that my hands and arms, as far up as the elbows, were covered with a very fine, papular eruption, the papules being arranged in groups of various sizes, while the entire surface was of a livid, angry-red color. My face revealed, on inspection, the same appearance, while both eyes were partly closed, the under and upper lids being œdematous. By evening of the same day the papules on my arms and hands had become vesicles, although it was another twenty-four hours before the vesicles appeared on my palms and the palmar surfaces of my fingers. The heat and itching was very troublesome, while my whole face was much swollen, feeling very hot and tense; and within forty-eight hours after exposure to the white weed, both eyes were so tightly closed that I could not see out of them at all. Strange to say, no vesicles appeared on my face, with the exception of a few on the chin. Sleep was only secured for several nights by the use of opium, until the acute symptoms had gradually subsided. Desquamation took place over the entire surface affected. The vesicles on the palmar surfaces, instead of rupturing externally, gradually coalesced, and the thickened skin came away in large stripes and patches, as is seen in so many cases of cheiro pompholyx. I had never heard of dermatitis before caused by daisies; and a physician who saw me at the time felt sure it was caused by rhus, although I insisted it was not, and could only attribute it to the white weed.

I have never touched a daisy since then until this past summer, being very careful to give them a wide berth. Last July, however, while out in the country, I passed through a field where there was some white weed; and, without thinking what I was doing, I caught the stem of one of the larger flowers between my second and third fingers, and snapped off the flower at the top. That night I awoke, and found myself scratching these two fingers, and immediately surmised the cause of pruritus. The next day, on the inner surfaces of these same fingers, was a group of fine vesicles, extending from the tip to the base of each finger; and rupture of the vesicles, with subsequent desquamation, was the result of this very mild attack. It is my rule now to warn all my patients with dermatitis caused by plants, to be very careful with regard to white weed; and, in the future, I expect to see more cases from this same source.

How many of the cases of dermatitis venenata attributed to rhus, dogwood, and sumach, may have

been really caused by white weed we shall never know; but, with an increased knowledge of poisonous plants, our diagnosis in the future will, of course, be more accurate.

RECENT PROGRESS IN ANATOMY.

LY THOMAS DWIGHT, M.D.
Parkman Professor of Anatomy in Harvard University.

THE THIRD TROCHANTER.

THE occasional appearance of this process in man is familiar to all anatomists, but there are several questions connected with it that deserve study. One of these is in which sex it occurs most frequently. A discussion arose at a meeting of German anthropologists at Breslau in 1884, between Professors Albrecht and Török, the former maintaining that it appeared chiefly in females, which the latter was disposed to dispute. Albrecht had on his side a work on the subject by Dr. Houzé, of Brussels. The latter holds that the development of the third trochanter is in direct ratio to that of the gluteal region, which he says is more developed in Caucasians than in Africans, and in women than in men. Although he recognizes that fat has much to do with the formation of the nates, he seems to think that the muscles are also more developed in women. We must say, in parenthesis, that this is surely a mistake. Dr. Houzé found the third trochanter three times out of ten female femora, and only once among ten male ones, all from inhabitants of Brussels. This author describes a depression for the insertion of the gluteus maximus, which he calls the *fossa hypotrochanterica*. It is only occasionally present. This fossa is situated externally to the outer continuation of the *linea aspera*, between it and the outer margin of the bone which may be developed into a ridge. When this fossa is present the bone is usually broader than in other cases. This is an important observation, as showing how the same muscle may have very different surfaces for its attachment.

The gluteus maximus may be attached to a knob, a ridge, or a depression. Houzé examined bones of different periods, and found that bones unearthed in Belgium belonging to the reindeer period have rarely a third trochanter; but that it occurs in thirty-eight per cent. of those of neolithic times, and in thirty per cent. of to-day's inhabitants of Brussels. The converse is true of the *fossa hypotrochanterica*. In the reindeer times it was very common, less frequent in the neolithic era, and now very rare. We are indebted to the recent paper by Professor Török¹ for this account of Dr. Houzé's monograph. Török examined fifty-four skeletons, thirty-eight male, and sixteen female. He declares that the third trochanter is not most common in women, and that the fossa is not so rare in modern times. He found the third trochanter twenty-eight times in the seventy-six male thigh-bones, and eleven times among the thirty-two female ones, to wit: 36.81 and 34.32 per cent. respectively. He found the fossa in twenty-five femora, of which all but two were male ones. We would observe that while it is evident that Houzé's series are absurdly small to establish the relative frequency of the occurrence of this process in the two sexes, Török's are by no means sufficiently large.

Török makes the observation that while the great

and the small trochanters are each developed from an epiphysis of its own, the third trochanter is not. This brings us to the question, which we believe is quite a new one, whether every prominence at this point has the same significance. It is well known that some of the most striking instances of a third trochanter are found in delicate femora. In strong bones, with great rough lines for muscular insertions, more or less of a prominence is frequently found in the same place, but perhaps it may be questioned whether the former is not an instance of an analogy to lower animals (like the supra-condyloid process) and the latter merely an accidental elevation. Between these extremes all degrees are found. We have seen some examples of the third trochanter which it would be hard to believe did not arise from a separate centre of ossification, and Professor Török gives us no data showing how extensive his observations on this point may have been.

Our author concludes his paper with a table showing the relative frequency of the different forms of insertion of the gluteus maximus, namely, into a ridge, a depression, a tubercle (the third trochanter), and into combinations of these. The one hundred and eight cases were divided as follows.

SIMPLE INSERTIONS.

1. The ridge,—25 male and 19 female bones.
2. The tubercle,—4 male and 5 female bones.
3. The fossa,—14 male and 1 female bones.

COMPLEX INSERTIONS.

4. The tubercle and the fossa,—14 male and 1 female bones.
5. The tubercle and the ridge,—10 male and 5 female bones.
6. The fossa and the ridge,—9 male and 1 female bones.

In this connection we would mention an observation by Mr. Treves² of two remarkably-developed third trochanters observed during life on a man of fifty. "Following precisely the gluteal ridge of the femur was a bony outgrowth four inches in length. It was quite smooth, projected directly backwards, and appeared to be about one inch in height and half an inch in width. It was no wider at the base than at the free border; and this edge was perfectly distinct, even, and rounded. When the gluteus maximus was brought out into action, the fibres of the muscle were found to be inserted into this ridge, and during the contraction the free border of the bony mass was rendered indistinct. Both femora were marked by like projections, and the symmetry of the two abnormal ridges was in every respect complete."

THE DEVELOPMENT OF THE MASTOID PROCESS.³

Symington remarks that, while the anatomy of this part of the mastoid has been well worked up in the infant and the adult, but little attention has been paid to it in childhood. In fact, the mastoid process does not exist in the infant; but there is a cavity extending back from that of the tympanum. It is separated from the cranial cavity by a very thin plate of bone. The mastoid process becomes distinct at about the end of the first year; and the walls of the cavity become thicker and thicker, till, at puberty, a process of absorption begins, and the fine, cancellated tissue becomes cavernous. The mucous membrane, of course, makes its way into these cells. It is well known that the inside of the adult mastoid presents considerable diversities, which must depend on the process of absorption. The cavity in the mastoid is of about the same size in infants and in children, but in the latter it

² Journal of Anatomy and Physiology, Vol. xxi, January, 1887.

³ "The Mastoid Portion of the Temporal Bone," Edinburgh Medical Journal, October, 1886.

¹ Anatomisches Anzeiger I Jahrg. No. 7, September, 1886.

has much thicker walls. The author calls particular attention to a thick layer of fine, cancellated bone between the mastoid cavity and the lateral sinus, which, in childhood, keeps them well apart; but which, in the adult, may be changed into air-cells, some of which are separated from the sinus only by very delicate partitions.

THE SUPERCILIARY MUSCLE.

Henle, in his great work on anatomy, divides the *orbicularis palpebrarum* into three portions: The palpebral part proper, in the eyelids; the orbital part, around the margin of the orbit (in which he includes the so-called *corrugator supercilii*); and the malar portion, consisting of fibres from the outer and inner sides of the orbit, which converge as they descend, and end in loops or in the skin. Merkel⁴ now proposes to further subdivide the *orbicularis*, and to make a superciliary muscle above the orbit, which shall correspond to the malar one below it. We should mention that Merkel does not recognize loops in the malar muscle, but represents it as of two convergent portions ending in the skin. To balance this, therefore, the superciliary muscle is divided into parts running upward and converging. The inner of these is our old friend, the *corrugator*; the outer is less distinctly defined.

THE PROSTATE MUSCLE.⁵

Mr. Reginald Harrison of Liverpool, has an idea of the prostate which certainly is not in accord with the usually accepted one. By the term "prostate muscle," he means the prostate itself, and apparently considers its glandular function as secondary to its work as a sphincter. He believes that, during life, the prostate never presents its post-mortem appearance of a hard body, of about the shape and size of a chestnut, excepting for the few moments when the bladder is completely empty. At other times, he holds that it is spread out like a funnel, supporting the bladder; the degree of expansion of the prostate varying, of course, with the distension of the bladder. Mr. Harrison goes on to say: "Hence the action of the prostate may be said to be just as continuous as that of the heart." Mr. Harrison invokes, in support of his views, the results of rectal examination when the bladder contains a certain amount of urine. If the shape of the prostate were what it is commonly supposed to be, one would find the greatest hardness and prominence in the median line; but Mr. Harrison points out that the centre of the prostatic area is softer and more yielding to the touch than the sides where there is a marked ridge presenting more or less tonicity.

THE UMBILICAL FASCIA.⁶

Richet called particular attention to this fascia in 1856-57, although its occasional appearance had been previously alluded to. He described it as a fibrous layer attached, at the sides, to the posterior sheath of the rectus, and having a superior concave edge a little above the inner aspect of the umbilicus. Between this and the *linea alba* ran his so-called umbilical canal, which, in its relation to umbilical hernia, he endeavored to make analogous to the inguinal canal. His views, in France, at least, received no great support. Tillaux finds the umbilical fascia of rare occurrence, and the canal an imagination.

Dr. W. Sachs, of Dorpat, has investigated the question anew, and has had the advantage of examining a large amount of material. He has studied the arrangement of the fascia in the first month of life and at later periods. He finds it no rarity at the earliest part of extra-uterine life. It was well marked in two-thirds of the children, ten days old or less, that he examined. It showed, however, much variation. The upper and lower borders were by no means always to be made out; and when they could be, it was far more common to find the lower border opposite or near the umbilicus than the superior one, as according to Richet. At the end of the first month the fascia and the peritoneum are, perhaps, more closely connected, but no important change has occurred. Sachs examined the bodies of 92 children who died during the first year of life; and found this fascia more or less clearly marked in 58, and wanting in 34. Of the 58, the fascia presented no definite boundaries in 33; the lower edge was sharp in 22, and the upper in only 3. In 35 cases the fascia ended above the umbilical ring, or close to it. It was well developed behind the ring in 23.

The outer coat of the bloodvessels, or what remains of it, is now converted into a number of cords; but, as the child grows, these become less and less important, and, for the most part, do little to support the umbilical ring. The relation of the umbilical fascia now becomes of consequence. If it be well developed directly behind the ring, it materially strengthens this weak point in the abdominal wall. If, on the other hand, the lower edge of the fascia is above or opposite the umbilicus, a pocket of peritoneum may pass under the edge of the fascia; and this form seems to be considered a predisposition to umbilical hernia.

METHODS OF PRESERVING THE BRAIN FOR DEMONSTRATION.

The first of these is recommended by Schwalbe⁷ for making dry and hard preparations of the brain. The brain is first hardened in chloride of zinc, or in alcohol. After the removal of the pia, the necessary cuts are made, for this method is apparently applicable to parts of the brain, rather than to the whole organ. If chloride of zinc has been used, it is washed out with water; and then, in either case, the preparation, carefully supported, is put into strong alcohol. How long this is continued is not stated; but, as the object is to remove all water, it probably requires some time. We are told that, for whole hemispheres, it is desirable to change the alcohol often. The specimens are then transferred to turpentine, in which the larger ones remain for eight days, and the smaller for a shorter time. The next step is to thoroughly impregnate the pieces with paraffin. Schwalbe chooses a kind that melts at 45° to 50° C., and keeps the fluid paraffin in a hot-box, in which the temperature is kept at 60° C. The specimen remains in the paraffin-bath from five to eight days, after which it is taken out and allowed to dry, precautions being again taken to preserve the shape. Paraffin that melts at a higher temperature is likely to cause shrinking. The longer the preparations are kept in the paraffin, the darker they grow. The same paraffin may be used repeatedly, but it, unfortunately, grows darker. The specimens, when finished, are hardly at all shrunken, which seems to be the great merit of the method. They resemble paraffin models.

⁴ Anatomischer Anzeiger, II. Jahrgang., No. 1, January, 1887.

⁵ The Lancet, December 4, 1886.

⁶ Virchow's Archiv., Bd. 107, 1887.

⁷ Anatomischer Anzeiger, I. Jahrgang., No. 12, November, 1886.

and can be cut into slices or dissected with a knife or a heated spatula.

The other method, devised by v. Lenhossék,⁸ is likewise intended to prevent shrinking of the brain. It has the advantage over the other that it does not change the color, but the disadvantage that the specimen must be kept in alcohol. The brain is first hardened by any of the usual methods, alcohol, chloride of zinc, Müller's fluid, etc., but it is necessary that it should pass some time in alcohol before the special procedure is begun. This consists of painting the brain, which has been carefully and thoroughly dried, with a solution of medium thickness of celloidin dissolved in equal parts of alcohol and ether. This painting should be carried to the bottom of all the fissures, which should have been kept open during the hardening by cotton wool or filtering paper. This coating dries in a few minutes, and, as above stated, does not change the color of the brain, but gives a gloss to it. Though the brains must be kept in alcohol they may be removed from it and used for perhaps two hours without injury.

THE ANATOMY OF THE LIVING STOMACH.

The recent great progress in abdominal surgery calls for a kind of anatomical knowledge that is by no means general nor easily gained. Not only is it necessary for a surgeon to know the appearance of organs *in situ*, but he must know how they look during life. It may be questioned whether this can be thoroughly learned in any other way than by actual experience, but attention must now be paid to points of visceral anatomy that have been passed over as unimportant. This is well shown by the case reported by Dr. Meinhard Schmidt.⁹ The essential points of the case are that for certain obscure symptoms, pointing to the stomach, he opened the abdomen of a woman of about forty. He was puzzled to find near the duodenum two distinct circular constrictions of the stomach. The one to the right was recognized as the pylorus, but the other, about one and a half finger-breadths from it, was more marked in its upper part, and almost as small. On the anterior surface of the pylorus he saw a patch of tendinous-looking tissue with radiating processes. As there had been a suspicion of ulceration in this region, and as it seemed not unlikely that this patch was the result of inflammatory changes at the base of the ulcer, an opening was made in the stomach and everything found perfectly healthy.¹⁰ Dr. Schmidt points out that this tendinous appearance, though not constant, is normal, and is described by Heule. We give a few lines of the description which embraces another point of interest: "Two bands, the *ligamenta pylori*, are formed by the longitudinal muscular fibres, one on the front, the other on the hind side of the stomach, which (like the *ligamenta coli* to be described later) cause by their relative shortness the folding in of the other layers of the wall of the stomach which forms the entrance and exit of the *antrum pyloricum*. The tissue of the peritoneal coat is sometimes thickened over them, having a tendinous look and being richer in elastic fibres."

Professor Windle¹¹ has written a paper on "Sacculation of the Human Stomach," which concerns us in

this connection. Apart from constrictions due to pathological causes he finds that there are both temporary and permanent ones. Temporary ones are, of course, those due to the contraction of a part of the muscular coat, and we have no doubt that such occur, but we feel great hesitation in accepting, as temporary, some that Prof. Windle describes as such. He quotes a case reported by Struthers in which the stomach was examined the day after death, and presented a considerable contraction which resisted moderate distention with air for *several days*, till finally it yielded to greater force and no sign of the constriction remained. Surely we cannot suppose that a band of muscular fibres remained contracted for several days; and if we do not so suppose, why is it a case of temporary contraction? Prof. Windle admits that there are undoubted cases of permanent contraction making a reduplication of the stomach, and reports a case in which there were two such constrictions. We fully agree with him that the pouch, when there is but one, is sometimes at least only a high degree of separation of the *antrum pylori*. He holds also that there are intermediate stages between the antrum and this sacculation. For a description of the antrum we turn again to Heule. "The *antrum pyloricum* is separated from the rest, or the body, of the stomach by a constriction near the pylorus, which is more marked on the upper than at the lower border." Quain has the following passage in small type: "There is sometimes a distinct constriction near the pyloric end of the stomach, imperfectly separating it into two parts. This condition may be in great measure the result of local contraction of the muscular coat, but is occasionally of a more permanent character (Struthers)."

Professor Windle refers to several authors who have written on this subject, but does not appear to be acquainted with the paper by Retzius,¹² to which Dr. Schmidt refers, and which is a very satisfactory one. It has no place, perhaps, in a report on *recent* progress, but none the less it deserves to be recalled to remembrance. The learned author discusses the *antrum* in man and in some of the lower animals. We shall refer only to his human observations, and to those very briefly. He finds that there are three classes of *antra*. The first is, perhaps, the more common one. It is bounded by the pylorus on one side and a constriction about one inch from it on the other. The second kind is a peculiar one. The pyloric end of the stomach is long and slender, so that it is sometimes mistaken for the duodenum. There may be two constrictions in the greater curvature and but one in the lesser. The third is the conical form.

Therapeutical Memorandum.

"TEMPERANCE DRINKS."

ABSTRACT OF REPORT TO THE MASSACHUSETTS BOARD OF HEALTH BY THE BOARD'S ANALYST.

THE provisions of the Food and Drugs Acts of Massachusetts give authority to the State Board of Health to make inquiries as to the purity of drugs sold in the State, and also as to any other matters of a sanitary significance in connection with the subject. Much work has been accomplished and a better condi-

⁸ Anatomischer Anzeiger. II. Jahrgang No. 3, February, 1887.

⁹ Zu der Anatomie des Magens am Lebenden, etc. Berliner Klinische Wochenschrift, No. 33, 1886.

¹⁰ The patient made a good recovery.

¹¹ Proc. Birmingham Philosophical Society, Vol. I, Part I, Session of 1885-6.

¹² Müller's Archiv., 1887.

tion of affairs secured in regard to the official or pharmacopoeial preparations.

Inquiry has also been made as to certain non-official, or empirical articles such as the so-called opium cures, all of which were shown to be grossly fraudulent; and also as to certain cosmetics of an actively injurious character. Further work has also been done in the examination of empirical tonics or bitters, with reference to the amount of alcohol contained in them.

Some of these are recommended as remedies for intemperance. The following report was recently made by the analyst of the State Board of Health, and the results obtained would seem to show that the inebriate would fare better by giving to all such nostrums a wide berth.

"Of the forty-seven following samples of proprietary tonics and bitters, I here give the detailed results of their assay for the percentage of alcohol contained, and the admissions of the presence of, or claims of the absence of alcohol, as given upon their labels and wrappers. The per cent. of alcohol is given by volume:"

TONICS.

- Carter's Physical Extract, Georgetown, Mass. Dose 1 teaspoonful, 3 times daily. 22 per cent.
 Hooker's Wigwam Tonic, Haverhill, Mass. 1 tablespoonful, 3 times daily. 20.7 per cent.
 Hoodland's German Tonic, Philadelphia. Admits Santa Cruz rum. Wineglass, 4 times daily. 29.3 per cent.
 Hop Tonic, Grand Rapids, Mich. 1 tablespoonful to wineglass, 3 times daily. 7 per cent.
 Howe's Arabian Tonic, New York. "Not a rum drink." Tablespoonful to wineglass, 4 times daily. 13.2 per cent.
 Jackson's Golden Seal Tonic, Boston. Admits Marsala wine. Half wineglass 3 times daily. 19.6 per cent.
 Liebig's Co.'s Coca Beef Tonic, New York. "With sherry." 3 teaspoonfuls to wineglass, 3 times daily. 23.2 per cent.
 Mensman's Peptonized Beef Tonic, New York. "Contains spirit." 1 tablespoonful to 3, 3 times daily. 16.5 per cent.
 Parker's Tonic, New York. "A purely vegetable extract," stimulus to the body without intoxicating. "Inebriates struggling to reform will find its tonic and sustaining influence on the nervous system a great help to their efforts." Dose as tonic 1 to 2 teaspoonfuls, 1 to 3 times daily. 41.6 per cent.
 Schenk's Sea Weed Tonic, Philadelphia. "Distilled from sea weed after the same manner as Jamaica spirits is from sugar cane. It is therefore entirely harmless and free from the injurious properties of corn and rye whiskey." Dose, half wineglass, 3 times daily. 19.5 per cent.

BITTERS.

- Atwood's Quinine Tonic Bitters, Boston. Dose, half tablespoon to wineglass, mixed with water, wine or spirit, 3 times daily. 29.2 per cent.
 L. F. Atwood's Jaundice Bitters, Portland, Me. Half tablespoon to wineglass, 1 to 6 times daily. 22.3 per cent.
 Moses Atwood's Jaundice Bitters, New York. Half tablespoon to wineglass, 1 to 6 times daily. 17.1 per cent.
 H. Baxter's Mandrake Bitters, Burlington, Vt. 1 to 2 tablespoonfuls. 16.5 per cent.
 Boker's Stomach Bitters, New York. Dose not given. 42.6 per cent.
 Brown's Iron Bitters, Baltimore, Md. "Not a substitute for whiskey." Tablespoonful. 19.7 per cent.
 Burdock Blood Bitters, Buffalo, N. Y. Teaspoonful to tablespoonful, 3 times daily. 25.2 per cent.
 Carter's Scotch Bitters, Georgetown, Mass. Tablespoon to wineglassful. 17.6 per cent.

- Colton's Bitters, Westfield, Mass. Teaspoon to 2 tablespoonfuls, 3 times daily. 27.1 per cent.
 Copp's White Mountain Bitters, Manchester, N. H. "Not an alcoholic beverage." Wineglassful. 6 per cent.
 Drake's Plantation Bitters, New York. "Contains St. Croix rum." Wineglassful, 3 times daily. 33.2 per cent.
 Flink's Quaker's Bitters, Boston. Teaspoonful, 6 times daily. 21.4 per cent.
 Goodhue's Bitters, Salem, Mass. Half wineglassful. 16.1 per cent.
 Hartsborn's Bitters, Boston. Tablespoon to half wineglassful. 22.2 per cent.
 Hoodland's German Bitters, Philadelphia. "Entirely vegetable and free from alcoholic stimulant." Tablespoonful, 4 times daily. 25.6 per cent.
 Hop Bitters, Rochester, N. Y. 1 to 3 tablespoonfuls, 3 times daily. 12 per cent.
 Hostetter's Stomach Bitters, Pittsburgh, Pa. Wineglassful, three times daily. 44.3 per cent.
 Kaufmann's Sulphur Bitters, Boston. "Contains no alcohol." Tea to tablespoonful. It contains no sulphur, but has 20.5 per cent.
 Kingsley's Iron Tonic, Northampton, Mass. 1 to 2 teaspoonfuls, 3 times daily. 14.9 per cent.
 Langley's Bitters, Boston. Half wineglass or more, 3 times daily. 18.1 per cent.
 Liverpool's Mexican Tonic Bitters, Boston. Half to full wineglassful, 3 times daily. 22.4 per cent.
 Oxygenated Bitters, New York. Tea to tablespoonful. Acid but no alcohol.
 Pierce's Indian Restoration Bitters, Boston. Up to wineglassful and to 6 times daily. 6.1 per cent.
 L. Porter's Stomach Bitters, New York. Tablespoonful or more. 27.9 per cent.
 Rush's Bitters, New York. Wineglassful, 4 times daily. 35 per cent.
 Dr. Richardson's Concentrated Sherry Wine Bitters. Wakefield, Mass. Tablespoonful to half wineglass or more, 3 times daily, "or when there is sensation of weakness or uneasiness at the stomach. 47.5 per cent.
 Secor's Cinchona Bitters, Providence, R. I. Half wineglassful, 3 times daily. 13.1 per cent.
 Shonyo's German Bitters, Concord, N. H. Table to wineglassful. 21.5 per cent.
 Job Sweet's Strengthening Bitters, New Bedford. Tablespoonful to wineglassful, 3 times daily. 29 per cent.
 Thurston's Old Continental Bitters, Lynn, Mass. Tea to 2 tablespoonfuls. 11.4 per cent.
 Walker's Vinegar Bitters, New York. "Free from all Alcoholic stimulants. Contains no spirit." Half to full wineglass. 6.1 per cent.
 Warner's Safe Tonic Bitters, Rochester, N. Y. Table to wineglassful. 35.7 per cent.
 Warren's Bilious Bitters, Boston. Teaspoon to 2 tablespoonfuls, 1 to 3 times daily. 21.5 per cent.
 Wheeler's Tonic Sherry Wine Bitters, Boston. 2-3 wineglass, 2 times daily. 18.8 per cent.
 Wheat Bitters, New York. Desert to wineglass, 3 times daily. 13.6 per cent.
 Faith Whitcomb's Nerve Bitters, Boston. Tablespoonful, 3 times daily. 20.3 per cent.
 Dr. Williams's Vegetable Jaundice Bitters, Lowell, Mass. Half to full wineglass, 1 times daily. 18.5 per cent.

Clinical Memorandum.

THE AMBLYOPIA OF SQUINT.

BY O. F. WADSWORTH, M.D.

IN the *Journal* of February 24th, Dr. Hasket Derby attempts to give a comparison of the vision found in his cases of convergent strabismus with that which I had given in a paper with the above title

(JOURNAL, January 20th). The attempt seems to have been not altogether successful. In the first place he says, "I rejected all cases of alternating strabismus." Why these cases, universally admitted to possess a higher degree of vision than the average, should have been thrown out, and then the remainder compared with my series, in which such cases were included, does not clearly appear. Then, a table based on this remainder, the class with highest vision having been eliminated, is given, which table does not show the amount of vision in the squinting eye, and we read, "By comparing these results with Dr. Wadsworth's a considerable difference will be at once apparent." No even approximately accurate comparison is possible under the circumstances.

There follows, "Deducting his [Dr. Wadsworth's] cases of alternating strabismus, he found vision equal in both eyes in 20.4 per cent., and 1 in only six per cent. of the cases." No statement of the number of cases with vision 1, is to be found in my paper. I said of my cases of convergent strabismus with vision precisely the same in each eye, "in seven of these (two alternate, one periodic), $V. = \frac{1}{10}$ to $\frac{1}{2}$." This gives, if the alternating cases are thrown out, 9.6 per cent., if both alternating and periodic cases are thrown out, 8.3 per cent. with vision *greater* than one. There was evidently an error in Dr. Derby's calculation.

The next sentences read: "Both he and Schweigger find thirty per cent. of their patients to have vision less than 1-7 (0.14) in the squinting eye. I find however, fifty-seven per cent. to come under this category. Out of my 160, 91 had vision less than 0.14 in the eye that converged. Moreover, half of Dr. Wadsworth's cases had, in the squinting eye, vision from 14-20 to 14-30; or putting it in decimals, of very nearly 0.5. I find only 11 per cent. (18 cases out of 160), to have this amount of vision."

In both these comparisons, with Schweigger's statistics and my own, Dr. Derby compares the vision of his cases of convergent strabismus, the alternating cases thrown out, with that of a series of cases which comprised both convergent and divergent strabismus, the alternating cases included. No wonder he found the results "startling."

I hasten, however, to fully acquit Dr. Derby of any intentional unfairness. Probably he was misled by his enthusiasm in defence of a theory in which he believed.

That there would be found a difference in the amount of vision in Dr. Derby's cases and my own, when properly compared, I think extremely probable. Such difference would naturally be found in the comparison of any two small series of cases. But I have already emphasized the importance of the greatest care in the determination of the vision of a squinting eye, and I believe that the comparatively high vision that I have found is in part due to the, perhaps from a practical point of view excessive, care and time that I have devoted to these cases.

That Dr. Derby should feel unable to explain the amblyopia of squint except on the suppression theory is perhaps explained by his statement in the discussion at the meeting of the New England Ophthalmological Society, that in his experience monocular amblyopia without visible cause and without squint is extremely rare. In my own experience it is by no means uncommon, and my experience does not stand alone in this regard.

In one respect at least, the effect of operation on vision, I am glad to find, there is no wide discrepancy between Dr. Derby's experience and my own views.

There is one other point on which a misunderstanding might possibly arise. I am quoted by Dr. Derby as observing with regard to cases of alternating strabismus "the suppression is not constant and therefore amblyopia does not result." For those who have read my paper explanation is unnecessary. The opinion quoted was not put forth as my own, but in the course of my statement of the views of those who, with Dr. Derby, believe in *amblyopia ex anopsia*. The very next line in my paper reads: "This is, I believe, a fair statement of the theory." And in the discussion at the meeting of the New England Ophthalmological Society I said that I thought it probable that in all cases of squint the squinting eye, at least when its amblyopia was not excessive, was occasionally brought into momentary use, but that I had employed the term "alternating" in its usual significance, that is, to denote only those cases in which the alternation was evident.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

DECEMBER 15, 1886. DR. JAMES R. CHADWICK in the chair.

The proceedings opened with a discussion upon a paper read at a former meeting by DR. E. W. CUSHING, of which the following is a *résumé*.

EROSIONS OF THE CERVIX UTERI.

illustrated by microscopic preparation, and microphotographs as well as by photographs from life and from various authors, all of which were projected on a screen by means of a stereopticon.

First calling attention to the classifications of erosions by the older writers, he referred to the changes of opinion caused by modern microscopic research and to the mistakes made in not distinguishing post-mortem changes from pathological processes, and then referred to the labors of Ruge and Veit, not readily accessible to American practitioners.

The substance of the work of these authors shows that what are called erosions, ulcerations, etc., are various degrees of one process, which consists essentially in a new formation of glandular tissue, on the surface of the vaginal portion, or in the cervical canal.

The glands are formed by a reduplication, or sinking inwards, of the lowest layer of the cells of the rete malpighi, which are developed into a delicate cylindrical epithelium, forming a layer which everywhere lines the glands as well as the parts between them.

The latter forming partitions grow upward, while the glands grow downward, but still the projections are everywhere covered with a continuous layer of cylinder epithelium. The process goes on under the layer of flat epithelium which naturally covers the cervix, outside of the cervical canal; this layer is then lost, but no proper erosion occurs; what was formerly considered as such is a patch where the flat epithelium has been replaced by glandular formation.

The follicles and cysts are not usually enlargements of preëxisting ducts, but are newly formed glands without ducts. In ectropium there is essentially the same process going on in the cervical canal, thus everting the lips.

The above described active formation of glandular tissue may spread over the outer surface of the vaginal portion, where few, if any, glands normally exist; it may even extend to the vagina.

In exaggerated cases it resembles cancer so closely that the best experts cannot make a diagnosis without the aid of the microscope. In a comparatively large number of cases cancers of the cervix are preceded by this condition of gland-formation, or, to state it otherwise, these so-called erosions, when inveterate, not infrequently become cancerous.

A pathological condition of this kind, where normal tissues are wholly supplanted by new-formed glands is at best suspicious, and, considered pathologically, it is no wonder that it often serves as the starting-point of cancer.

These propositions Dr. Cushing proceeded to explain and demonstrate by some twenty slides and photographs, showing step by step the growth of the so-called erosions in virgin and parous and lacerated cervixes. The micro-photographs were mostly the work of Dr. M. Greely Parker, of Lowell, and were made by lamplight. The stained sections from which the micro-photographs were prepared, were made by Dr. Cushing in the Harvard laboratory. The photographs of patients etherized ready for operation, showed very clearly the appearances of erosions of various degrees as seen through the speculum.

In regard to ectropium in lacerated cervixes the reader stated that, if he understood Emmet aright, he thought the latter erred in considering the erosion as directly a consequence of the laceration of the cervix, in fact as only an exposure to sight of a not very abnormal cervical mucous membrane.

Dr. Cushing considers the process as just the opposite, that is, the mucous membrane becomes diseased from some cause not at present fully understood, but personally he believed the irritation to be due to some form of bacterial growth. Where there is a laceration, of course the cervical canal is more accessible, and more ready to take on diseased action, but without lacerations, and even in virgins, as previously shown, the same glandular endometritis goes on.

Where there is no laceration, the growth is more compressed, and spreads more or less evenly in a ring round the os uteri, actually supplanting the flat epithelium, normally clothing the vaginal portion. The condition of laceration permits of an eversion of the swollen lips rolled asunder by the thickened mucous membrane and the swelling glandular tissue and cysts. The latter, moreover, even go over on to the surface of the vaginal portion, sometimes even on to the vagina.

In the matter of treatment of erosion, the reader stated that everything depends on the condition of the uterus; for the erosions are merely to be considered as a symptom of a glandular endometritis, which has become visible, either by spreading beyond the normal limit of the cervical columnar epithelium or by everting a more or less patulous os, or by a combination of both processes.

For convenience the cases may be divided into:

(a) Those of so-called simple erosion, in virgins or

nulliparæ, associated with antelexion of the uterus, or with stenosis of the os, or with elongation of the cervix, or with various combinations of these conditions, in most cases causing dysmenorrhœa.

(b) Erosions and endometritis of moderate degree, with subinvolution following parturition.

(c) Erosions with ectropium, as complications of a lacerated cervix; in either of the last two classes there may be a more or less complete rupture of the perineum; in any case there may be parametritis, salpingitis, adhesions, etc.

(d) Inveterate cases with induration of cervix and suspicion of commencing malignant degeneration.

In all these cases except in the second class, and provided there is no inflammatory trouble in the parametrium, the most satisfactory results are to be obtained by surgical measures. Even where parametritis, so-called, is present, with our present knowledge of salpingitis, we can frequently remove the whole focus of inflammation in the form of a diseased Fallopian tube.

The reader then described the medical treatment of the first form of cases, mentioning the good results obtained by the method of douches, dilatations, tampons with cotton and boroglyceride, etc., with intra-uterine applications as elaborated by Dr. Wylie; but considered it rather a serious matter to condemn a virgin to such continued local treatment and advocated a thorough dilatation of the cervix, under ether, a curetting of the diseased endometrium, all under strict antiseptic precautions and sublimate irrigations; straightening the uterus if antelexed with an intra-uterine stem, removing part of the cervix by the methods of Schroeder and Martin, if hypertrophied, and thus at once, without danger, if properly performed, doing more for the patient in an hour than can be done by months of local applications, more in fact than can usually be accomplished at all by the latter method.

In the second class of cases where after parturition, although there is little laceration of the cervix, the uterus remains subinvolved, with endometritis and erosions, Dr. Cushing believed that the subinvolution is caused by the endometritis, and not *vice versa*, that is, they are the result of a mild sepsis or bacterial infection; and precisely these cases when not too inveterate, are susceptible of cure by antiseptics, such as nitrate of silver, tincture of iodine, or strong carbolic acid. Of these the latter applied thoroughly on a cotton holder is the most effective. Of course, hot douches, ergot, strychnine, etc., may also be indicated. Even in old cases, where the uterus is enlarged and hardened, much good can be accomplished by this sort of treatment, but the results are usually not very satisfactory, and in the next class of cases, where there is cervical laceration the indications for surgical interference are even more imperative.

Nevertheless, where want of courage or opportunity, on the part of the patient, or a want of faith in surgical measures, on the part of the physician, exclude operative interference, the patient can be made comfortable, and with patience, apparently cured sometimes, even in cases of ectropium, by puncturing the cysts, scraping off as much of the glandular tissue as is possible under the influence of cocaine, and applying, at intervals, strong carbolic acid to the mucous membrane.

The dry treatment with iodoform and iron-cotton,

as used by Dr. Englemann, was described; also the use of strong, constant currents of electricity, by Dr. Apostoli, of Paris.

Nevertheless, Dr. Cushing thought it more scientific and satisfactory to give the patient ether, scrape out the uterus, after thorough disinfection; remove the glandular hypertrophy at once; repair the lacerations; make a good os, covered with flat epithelium; and thus cure the patient.

At the same time, if, as is very frequently the case, there is a rupture of the perineum, possibly complicated with cystocele or rectocele, the perineum can be repaired, and the appropriate colpography performed to remedy the other lesion.

How much more, then, in cases where there is any symptom of malignant degeneration of the erosions, is it the plain duty of the attendant physicians to recommend thorough removal of the suspected tissues?

The consensus of authority all over the world asserts that inveterate cervical erosions are peculiarly liable to cancerous degeneration; and every one who is in a position to see many cases of cancer of the cervix, knows that it is the saddest part of his mournful duty to tell the patient that it is "too late to remove it all."

In no one thing is a greater advance to be hoped for than in the early recognition and removal of whatever seems either malignant or doubtful; or so inveterate as to be likely to be an early stage of that most dreaded of all the ills to which the sex is subject, namely, a cancer of the womb.

Dr. FITZ, in opening the discussion, said that he had but little to add to the statement of the reader concerning the pathological changes which are to be found, as the basis of erosions. The investigations of Ruge and Veit had immediately attracted general attention, all the more readily, perhaps, from the repeated opposition of Fischel. The latter observer did not dispute the nature of the anatomical changes, but claimed a different method of origin. He regarded the erosions as an extension outwards of the cervical mucous membrane, and the replacement by it of the vaginal membrane. He subsequently discovered that, in a large fraction of new-born children, a physiological erosion was present; and assumed that the eroded cervix of the adult represented the exposure of depressions existing at birth, which had subsequently become covered with pavement epithelium. Unfortunately for this theory, the intervening stages have not been discovered. The occasional presence of ovula nabothi in the uterine lips is not to be regarded as the persistence of congenital conditions, but as the permanent remains of an erosion which has disappeared.

The use, by the reader, of the term glandular endometritis, as synonymous with erosion, seemed inappropriate. The former affection is usually considered to be limited to the body of the uterus; and to represent a simple hyperplasia of the normal constituents of the uterine mucous membrane. The erosion, on the other hand, is found in the vaginal portion of the cervix; is essentially vaginal, and represents the transformation of a normal tissue into one abnormal to the part. Cellular infiltration, vascular injection, and hæmorrhages are common to both processes.

Two questions suggest themselves as important in connection with the future history of erosions: the one as to their cause, especially in virgins; and the other as to their relation to cancer. The former view,

that erosions were the result of the macerating effect of secretions flowing from the uterus, was no longer to be maintained.

The possibility of other causes than an endocervicitis or an endometritis was obvious, and clinical observations must be largely relied upon for their discovery. Dr. Fitz expressed a decided doubt, from the structural point of view, as to the importance of erosions in the etiology of cancer. The structure of cancer in various parts of the body simulates that of the epithelial surface with which it is in most intimate relation. Cancers of the body of the uterus are likely to be of the cylindrical-celled variety, while cancers of the cervix are usually pavement-celled. Were the latter the result of the inversion of an epithelial surface covered with cylindrical epithelium, which is admitted to be the method of production of the erosion, the resulting cancer, from all analogy, should prevent cells of a similar type.

Dr. Fitz desired to say another word with reference to the origin of cancers from erosions. It is the popular view that cancers are the result of local irritations, and popular views are not likely to be scientifically accurate. Like Dr. Chadwick, he had heard nothing this evening but opinions and beliefs concerning this relation; and, however valuable they might be, were still not to be regarded as evidence. The woman with a mammary tumor is sure to have been struck on the breast, or might have been injured there, if the cross-examination is sufficiently searching. Certain pipe-smokers have cancers of the lip; therefore, the irritation of the pipe-stem must be the cause. There were too many possibilities and uncertainties in the etiology of cancer for the recognition of local irritation as anything more than a possible cause. It was just as important to determine the number of cases of erosions not followed by cancer as to record those of cancer preceded by erosions. Pipe-smoking is much more prevalent than are cancers of the lip; and the latter may occur in persons unaccustomed to carry pipes, or even tooth-picks, in the mouth.

Dr. W. H. BAKER said that he considered erosion a cause of cancer of the cervix. In the majority of cases, cancer affects the lower part of the uterus, and in the majority of cases where there has been injury to the cervix. Undoubtedly, local irritation has considerable influence in the cause of cancer. It is important that the general practitioner should be able to recognize cancer of the cervix, for they see the cases generally before the specialist; and treatment, to be beneficial, should be given early. Erosions, even when slight, are important, and should be treated then and there; and, possibly, cancer might be obviated. In the cases of virgins, he did not agree with Dr. Cushing that it was best to apply operative measures early. These erosions are found in virgins suffering from constitutional disease; and, in these cases, more benefit would be derived from constitutional rather than local treatment, the latter being a shock to her, both nervously and physically. She can use, perhaps, hot-water injections and constitutional treatment; and if, after some months, these fail, then we should operate, instead of trying prolonged local treatment.

In cases of subinvolution without any decided laceration of the cervix, but erosion, one will get much benefit by operating. Both Dr. Seth Gordon, of Portland, and Dr. A. P. Dudley, of New York, have obtained

good results, by operating, in reducing the size of the uterus.

In cases of lacerated cervix, benefit from an operation is unquestionable. It is necessary to operate when the laceration extends beyond the crown of the cervix; and good may often, also, be obtained by operating where the tear does not extend to the crown, because the laceration intensifies the glandular secretion. He has seen, in a few virgin uteri, this condition, without any cause other than disease of the endometrium, which produced increased size and pointing out of the endometrium. An operation is needed in these cases; and, generally, one will give good results.

In the class of cases where there is beginning malignant disease, an operation should be performed. By so doing, life may be prolonged, and, possibly, the disease eradicated. The microscope should be used to decide whether all the disease has been removed.

DR. MARCY had little to offer except in commendation of Dr. Cushing's valuable paper.

Before Dr. Emmet had published his views, now so generally accepted, upon laceration of the cervix as the great fundamental cause of so-called erosions, Dr. Marcy had operated upon a case, diagnosed by several experts, as a probable epithelioma. There was a large mass of cellular proliferation which proved to be only glandular, and the removal was performed in a manner nearly identical with that of Dr. Martin, of Berlin, called after his name.

The turned-in vaginal flaps united perfectly, and later pregnancy supervened. The delivery was normal and the patient remains well.

Dr. Marcy repeated this operation successfully for a number of years, until he adopted that of Dr. Emmet as an improvement. However, in doing so, he underrated the factor of glandular hypertrophy, and had many partial failures because the removal was not thoroughly effected.

In 1876 Dr. Marcy accidentally saw the prize essay of Prof. Ercolani, of Bologna, upon the "Utricular Glands of the Uterus," and repeated many of the studies of this master. His other contributions upon this subject and its relation to the reproductive processes, were found in the Transactions of the Academy of Bologna, in the University Library, and translated for the benefit of the English readers; the second edition, enlarged, appeared in 1880, under the title of "The Histology and Pathology of Reproduction."

These studies brought clearly into prominence the importance of the glandular structures, not only of the endometrium, but also of the cervical canal. In their pathological changes are found many of the causes of dysmenorrhœa, leucorrhœa, of sterility, etc., which swells the long catalogue of woman's ills. He had for a considerable time believed the changes of circulation, innervation, nutrition caused by these growths, had much, probably more, to do as cause of epithelial cancerous development than the fact of pregnancy, or injury resulting therefrom.

The cause of this glandular hyperplasia is obscure. It certainly does not depend upon sexual activity or childbearing. It is not uncommonly met with in the virgin, and often in a very marked degree in the sterile, not seldom as a cause of sterility.

These enlarged glands can be reduced in their activity by the more ordinary means of treatment, hot water douches, tampons of glycerine, carbolic acid,

nitrate of silver, etc., but, when let alone, they usually take on increased activity. For a considerable period Dr. Marcy had operated surgically upon a large class of the severer forms of the disease, removing the hypertrophied glandular tissues and restoring the parts by modified plastic operation as seemed best suited to restore the parts to a normal condition. In no instance had he seen cause to regret so doing. These measures were in very large degree devoid of danger when done aseptically, a few days rest in bed, almost without suffering, gave a cure at once radical and effective.

Few subjects of a greater practical importance had been discussed before the Section, and our thanks were due to Dr. Cushing for his beautiful illustrations clearly showing a phase of disease certainly not generally recognized.

DR. C. M. GREEN said he could add nothing to what had been already said, except to emphasize the importance of thoroughly removing all hyperplastic tissue, in the operation for restoring a lacerated cervix, before closing in the cervix with sutures. Some operators make only a very superficial denudation; and although a shapely cervix may be the result, much cystic tissue is left which will be likely to cause trouble in the future.

DR. STRONG said that the operation proposed by Schroeder seemed to him the most perfect, theoretically, of any, for by it the whole mass of diseased gland tissue was removed; but there were some practical difficulties that make trouble in carrying out the details of the operation; first, it was impossible to slit the cervix up high enough to remove all the glands without the risk of involving the peritoneum or causing hæmorrhage; second, the stitch was almost certain to tear out at its upper part, near the os internum, as the parts were thrown together, as it could not be passed deeply. The speaker also alluded to the influence of laceration of the cervix in causing epithelioma, stating that in the large number of cases of malignant disease of the cervix that he had observed in his clinics at the Massachusetts General Hospital, and the Free Hospital for Women, not one occurred except where pregnancy had formerly existed. The experience of those present was asked upon this point, which seemed to the speaker an important one, as, if virgins are not predisposed to epithelioma as a consequence of erosions, much more time can fairly be given to an attempt to cure these by constitutional treatment, instead of at once adopting local measures.

DR. J. W. ELLIOT considered that erosions in the virgin were due to ill health. If erosions are found in the new-born child, why may they not be from congenital non-development? So far as operating goes Dr. Emmet's operation is not always applicable, but Dr. Schroeder's is more to the point. In virgins when the anterior lip rolls out he does not think the operation should roll in the diseased part, and removes a healthy wedge. He has operated on several virgins (?). He has seen three cases of cancer in virgins.

DR. J. R. CHADWICK said that he had for many years been familiar with the views as to the so-called erosions of the os to which Dr. Cushing had so ably drawn attention this evening. He had no doubt as to their correctness in a large proportion of cases, but had been unable to satisfy himself that every case was to be explained on the theory of glandular hypertrophy. He was still disposed to attribute a few of the

cases to simple erosion. These views were, however, based upon clinical and not upon histological researches.

He had never seen the *slightest evidence* that laceration of the cervix predisposes to the subsequent development of cancer. He had had in his practice quite a number of multiparous women affected with cancer. Dr. Fitz's statement, made this evening, that the common form of cancer, originating in the cervix is composed of such histological elements as to show that it does not develop from the glandular hypertrophy under discussion gives unexpected weight in opposition to the generally prevalent ideas to which Dr. Baker had just given expression. Dr. Chadwick consequently never recommends the repair of a lacerated cervix from any fear of subsequent malignant growth. The importance attributed to what has been hitherto known as erosions of the cervix has, in his opinion, been greatly exaggerated. He has never been able to connect any symptoms with this condition except leucorrhœa, and in rare cases hæmorrhage, or local tenderness. He has never discovered any reflex phenomena, although he has sought them persistently. Retroversion, subinvolution, hypertrophy, congestion and all other conditions commonly attributed to the laceration, he thought much more naturally explained by referring them to the same cause as produced the laceration, namely, a difficult or unduly rapid labor.

Dr. W. SYMINGTON BROWN, of Stoneham, read, by invitation, a paper, entitled,

THE RÔLE OF THE OVARY.¹

THE NEW YORK ACADEMY OF MEDICINE.

STATED Meeting, February 3, 1887.

The President, Dr. A. JACOBI, delivered his

INAUGURAL ADDRESS

on entering upon a second term of office; and, in the course of it, alluded particularly to the successful working of the various Sections of the Academy, several of which are now in active operation; and to the urgent need of a new building, with more ample accommodations than the present hall.

A COMMITTEE ON BUILDING SITE

was appointed, which consisted of Dr. George A. Peters, Dr. F. A. Castle, and the President; representing, respectively, the Council, the Board of Trustees, and the Academy at large.

Dr. JOHN H. GIRDNER read a paper on

THE DETECTING AND LOCATING OF METALLIC MASSES IN THE HUMAN BODY BY THE INDUCTION-BALANCE AND THE TELEPHONIC PROBE.

The induction-balance, the invention of Prof. Alexander Graham Bell, first suggested itself, he said, in the summer of 1881, after the shooting of President Garfield. The attempt was made to locate the ball in his case by this means; but, owing to the crudity of the apparatus, the lack of experience in its use, and the disturbing element of a large steel mattress on which the patient lay — a fact unknown at the time — the result was unsatisfactory.

Dr. Girdner then proceeded to describe the appara-

tus, which, he said, would be indispensable in time of war. An ordinary bichromate battery of six cells was used, and it was necessary that there should be an interrupted current; about six hundred interruptions per minute having proved the most useful for the purpose. For the induction-balance two currents were required, the primary and the secondary, or induced; and each current passed through two coils of wire, one of which was twice the size of the other. The larger coils were called the exploring coils, and the smaller ones the adjusting coils. The former, which were simply laid one upon the other, were secured to a large disc of wood, provided with a handle, which was called the *explorer*; and the coil of the induced current was connected with a telephonic receiver.

When no metallic substance was in the vicinity of the explorer, no sound whatever was heard by the ear placed at the telephonic receiver; but when the explorer was brought near a metallic mass, the presence of the latter was indicated to the ear by the sound heard in the receiver, this sound increasing in intensity as the explorer approached nearer and nearer the mass. The greatest intensity of sound was reached when the centre of the explorer approached the nearest to the metallic body. Fortunately for the successful application of the instrument, experiment had shown that living tissue was the best conductor of the sound.

The telephonic probe was also the invention of Professor Bell. A telephonic receiver was connected with a piece of steel laid upon the surface of the body, and also with a long needle, which was to be inserted into the flesh at the point indicated by the explorer as that at which the sound in the telephonic receiver of the induction-balance was most distinct. As soon as the point of the needle came in contact with the metallic mass, a sharp click was heard in the receiver.

Colonel Clayton, a gentleman who was shot in the breast at the Battle of Cedar Mountain, during the late war, and still retains the ball in his thorax, presented himself as a subject for illustrating the *modus operandi* of the induction-balance; and, by means of this apparatus, the location of the ball was readily determined to be at the junction of the clavicle with the sternum, although the scar of the wound made by the missile was at some distance. In order to demonstrate the working of the telephonic probe, Dr. Girdner employed a piece of beef, in which a mass of lead was deeply imbedded; and the experiment of detecting its precise location was entirely satisfactory to all who had the opportunity of personally testing the apparatus.

Dr. NEWTON M. SHAFFER read a paper on

THE USE OF TRACTION IN THE TREATMENT OF CLUB-FOOT, WITH A CONSIDERATION OF SOME OF ITS MECHANICAL PRINCIPLES INVOLVED; AND A DESCRIPTION OF THE ANTERO-POSTERIOR AND LATERAL TRACTION APPARATUS.

He said that, more than ten years ago, he commenced a series of experiments in connection with the treatment of traction; and that the results of these early experiments were embodied in a paper which he had published in the autumn of 1878. This was, however, merely a professional paper; and since the time of its appearance, he had made many improvements in the apparatus he employed. Further experience had fully convinced him of the great importance of the "fresher" principle.

¹ See page 225 of this number of the Journal.

Dr. Shaffer illustrated the normal foot-movements by a series of diagrams. There was only one centre of antero-lateral rotation in the ankle-joint, he said; and this centre of motion was situated below the malleoli. In order to correct the deformity of talipes equinus, the heel must be made to move downwards and forwards, and the toes upward and backward. The neck of the astragalus rotates around the same centre of rotation as the heel and toes, and it rotates upward and backward. The normal movements of the foot should be exaggerated, on account of the resistance which is met with.

In the conventional clubfoot apparatus there were various defects. Thus, as the anterior part of the foot rotates upon its artificial ankle-joint centre, or, in other words, as we crowd the *os calcis* into the heel-cup, and attempt to flex the foot, the heel, unless restrained, slips forward. The attempt is made to control this movement by tying the heel down to the foot-plate, and in the heel-cup, with the heel-strap. If after this heel-strap is tied, a considerable pressure be applied in the direction of flexion (even, in many cases, after tenotomy), the further tendency of the heel (being restrained in front by the heel-strap), is to slip upward and backward away from its artificial annular ligament, ultimately, in many cases, resting on the top of the heel-plate which forms the cup. When this occurs, all control over the foot is lost, as it turns toward that side upon which the contractions exist. One of the direct effects of mechanical flexion, as applied in the customary forms of apparatus, to overcome either a post-tibial or a plantar contraction, is to crowd the tarsal bones together.

Dr. Shaffer then described his antero-posterior traction apparatus, by means of which, through the agency of a worm and screw, any desired angle of flexion or extension could be secured. The Scarpa heel-cup, which had been so long and universally employed, he said, was not necessary here, and a semi-circular opening was provided for the descent of the heel. In connection with the traction heel-strap, an astragalar strap was worn over a pad, and this astragalar strap was to be loosened in order to allow of rotation. When plantar contractions were to be overcome, however, the astragalar strap should not be loosened.

In equinovarus the lateral pushing force had many advantages over a lateral pulling force. The lateral traction apparatus, which he also described and exhibited, acted, he said, as a lateral pusher (everting the foot), brought the foot up into a position of flexion, and caused the anterior portion of the foot to rotate outward.

When we had to do with confirmed deformity, it was necessary that sufficient force should be used to overcome the resistance present, and he spoke of the great benefit which he had seen derived from the employment of *exaggerated* traction, maintained for a few seconds or minutes, according to the degree of tolerance present, and repeated at frequent intervals. In his experience, excoriations occurred only as the result of neglect on the part of the attendants. When the traction apparatus was used, the knife was unnecessary in many cases when it would ordinarily be required. There were, however, a certain number of rare cases which did not yield to simple traction, and in these tenotomy was demanded. In such instances, however, the patients were much more liable to complain of pain and discomfort from the wearing of the

apparatus, (after tenotomy), than in those which were treated by means of traction only. While there were a few cases which would not yield to traction, either with or without tenotomy, Dr. Shaffer said that he knew of no apparatus so efficient and complete as these traction shoes. In conclusion, he stated that nine years ago he had predicted that tenotomy would be much less frequently resorted to than formerly, and he was glad to say that this prediction had been verified.

DR. RIDLON said that he had not been able to get as good results with the lateral shoe as Dr. Shaffer himself, who was remarkably skilful in applying his traction apparatus. Again, there were certain cases in which the use of traction was not followed with good results. We should be able, he thought, to judge at the beginning whether in any case traction would be beneficial or not, and the test of "point-pressure" enabled us to say whether or not tenotomy was called for. Dr. Shaffer, on the other hand, was in the habit of first trying stretching for a time, and then, if the result was not satisfactory, he performed tenotomy. It was better in his opinion to cut at once in those cases where the operation was required at all.

DR. KETCH said that he had had an experience of over nine years with the traction shoe, and he desired to call attention to two points: (1) the possibility of treating many cases of club-foot without an operation of any kind, and (2) the fact that the benefit to be derived from the principle of the use of intermittent force, to the credit of the introduction of which Dr. Shaffer was entitled, was not sufficiently appreciated. As early as 1883, Dr. Shaffer had found that the danger of relapse after tenotomy was much less if the traction apparatus was employed.

DR. A. B. JUDSON said it was clear that this apparatus of Dr. Shaffer was capable of exerting great force, and therefore it was especially necessary that it should be in careful hands. If, however, cases of club-foot were well managed from the first, this violence would not be required. By this he did not mean to reflect in any way upon the method of treatment described; but simply to refer to the desirability of an enlightened opinion in the community upon such subjects.

DR. SHAFFER said that he was at a loss to understand the want of success in the use of the lateral shoe to which reference had been made. The application was simple, and it was only necessary that the shoe should accurately fit the deformity. The trouble was, he thought, that too much was attempted at first. The process of treatment must be a gradual one, with no haste and no violence. This method was a very easy one when the apparatus was properly adapted to the case, and just as much or as little power as was required, could be used with it. In regard to the matter of "point-pressure," he said that some of his best results with traction alone, had been obtained in cases in which this so-called test indicated tenotomy. For his part, he knew of no guide by means of which we could decide at first whether cutting would eventually be required or not.

—The *Annales de Gynécologie* which lost Dr. Courty from its editorial staff a year ago, has again been afflicted in the death of Dr. Gallard, one of its founders, physician at the Hotel Dieu, and one of the prominent gynecologists of France.

NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting, February 1, 1887.

The President, DR. C. L. DANA, in the chair.

Dr. C. L. Dana reported a case of

PACHYMEINGITIS HÆMORRHAGICA, WITH LARGE MENINGEAL HÆMORRHAGE PRESSING CHIEFLY ON LEG CENTRE; RIGHT HEMIPLEGIA, TOTAL PARALYSIS IN LEG, APHASIA, HEMIANÆSTHESIA, CONVULSIONS LIMITED TO ARM AND FACE. DEATH. EXHIBITION OF SPECIMEN.

The patient was a woman about sixty-eight years old, and came into the hospital with complete motor aphasia, and unable to give any previous history. She had no paralysis at first, but three days after admission she had a general convulsion followed by right hemiplegia; total in the leg, and some right-sided anæsthesia; on the second and third days she had a series of brief localized convulsions involving the face bilaterally and the right arm. These were carefully observed. The movements were clonic, beginning in the muscles of the lower jaw. The other peculiarities were these: (1) The pupils remained small during the convulsions. When wider convulsive centres are discharging, as in general epileptic convulsions, the pupils are dilated. It is not probable that in this case there was some uræmic element, because the post-mortem disclosed a sufficient cause for them. (2) The conjugated deviation of the eyes was at first, and very temporarily, toward the side of the lesion, and away from the paralyzed side. The head also was turned toward this side. When this occurs, it is ordinarily spoken of as a paralytic deviation. This does not explain it here, since almost immediately the head and eyes were turned strongly to the opposite and paralyzed side.

The speaker suggested that the first deviation is due to an inhibition of the activity of the associated nuclei of the third and sixth nerves that innervate the external and internal recti of the two eyes. There are many facts which tend to show that the first stage of convulsion is a transient paralysis due to a sudden discharge of inhibition centres. These are of a higher, more developed class than the centres for motor discharges, and would be affected first. We would have, then, loss of consciousness, inhibition of motion and muscular relaxation; then motor discharges and tonic and clonic convulsions. (3) The temperature on the paralyzed side was one degree higher than normal and higher by a degree than that of the other side. This is the rule in intracerebral hæmorrhage and hemiplegia, but the speaker was not aware that it has been established in cortical hemiplegias. In meningeal hæmorrhages the temperature is often below normal, according to Minot. (4) The presence of hemianæsthesia.

The patient died on the third day. Post-mortem showed chronic pachymeningitis over both convexities, but more on the left side. On the left convexity there was a very extensive fresh meningeal clot pressing upon and flattening especially, the upper half of the central convolution. Brain substance normal.

CORTICAL EPILEPSY WITH TEMPORARY APHASIA. SYPHILITIC GUMMA COMPRESSING THE LEFT SECOND FRONTAL CONVOLUTION IN ITS LOWER POSTERIOR PART. RECOVERY.

Dr. M. ALLEN STARR related the history of the

case. Charles S., aged thirty-two, had always been healthy and a hard worker. He had an attack of sciatica four years ago, and three years ago had a hard chancre. He had never had convulsions or nervous affection. Family history good. During November, 1886, and the first two weeks of December, he did not sleep well, was slightly dizzy, his head ached a good deal, chiefly at night. December 15th, while walking with a pail in his right hand, he suddenly let it drop, losing all power in the hand and arm. There was numbness in the hand. He was unable to speak to his companions. He did not feel dizzy or notice any pain in the head: he did not lose consciousness nor fall. He understood his friends' questions, but could not answer. Power in the hand and arm, and speech returned within half an hour. The next morning he went to work, as well as usual. Two days later a second attack occurred, beginning with a numb feeling in the tips of the fingers, gradually extending up the hand and arm. Then the fingers became rather forcibly flexed and stiff, but by a voluntary effort he could straighten them. No clonic spasms of the fingers, and wrist and elbow were not bent. The numbness and stiff feeling soon extended to the face, which was drawn to the right side with some force. Speech was again lost. No loss of consciousness. The attack lasted about twenty minutes. Such attacks had occurred every other day, then every day, and finally twice a day up to January 3d, and during this time the headache and insomnia were increasing steadily. The character of the attacks was not uniform. Sometimes the spasm would begin in the face, though usually the arm was first affected. Both were involved in every attack, but the spasm and numbness never reached the leg. The hand felt cold during the attack, though warm to the touch. On one occasion he had for four days great difficulty in making himself understood by words. Examination by Dr. Starr showed slight paresis, and slight tactile anæsthesia in right hand, no affection of face or speech. No cardiac symptoms. Though suffering from headache, percussion of skull did not reveal any tender spots. Thrombosis, endarteritis syphilitica, diffuse encephalitis with sclerosis were excluded, and the diagnosis was reached of gumma in the membranes, resting upon the brain surface, giving rise to irritation and consequently to an occasional nervous discharge, but not of sufficient size to cause any destruction. Location of tumor was equally clear: the relative situations of the cortical centres for the arm, face, and for the movements of speech in the lower two-thirds of the anterior central convolution and in the posterior part of the third frontal convolutions, were likened to a reversed L. All these centres were irritated during the attacks, the irritation sometimes beginning in one, sometimes in another. If the tumor pressed upon the lowest posterior part of the second frontal convolution, which would lie inside of the L, an irritation radiating from it might reach all three centres equally. The total intermission of the local symptoms might be explained by such a location since no symptoms were known to occur from injury of this part. The fact that numbness in the hand and face uniformly accompanied the attacks of spasm seemed to indicate that the areas for these parts coincide with the motor areas.

Another point of interest was the distinctly motor character of the aphasia.

The treatment ordered was first, inunction of mercury, and second, iodide of potash, daily in divided doses. He had one attack two days after beginning treatment, but since that time he had had no return of the symptoms. Iodide of potash was still being taken.

DISCUSSION ON DR. STARR'S PAPER.

DR. SEGUIN had seen several cases where symptoms resembled those of the case recorded in Dr. Starr's paper. The prognosis of even non-syphilitic cortical lesions with this symptomatology was not absolutely unfavorable. One of the cases to which he referred was that of a Cuban, who came to his clinic about nine years ago. He had never had syphilis, yet he described epileptic attacks of the true cortical kind, such as have been obtained by experiments upon animals during the last few years. The hand would become numb, and then the seat of a vibratory sensation; finally contraction would occur in the hand, then the face, and almost simultaneously the leg, would be affected, and he would lose consciousness. According to his friends' account general convulsions then occurred. He had had quite a number of these seizures, yet examination showed no anæsthesia, no affection of the optic nerve, and so far as the speaker could recollect, no motor impairment. The patient had received a preparation composed mostly of the bromide of potassium to which a little of the iodide was added. He improved immediately, and four years ago the attacks ceased. Once in a while he has the sensation of wires in the hand, and the hand becomes stiff, but the face is never affected. The case was a beautiful illustration of the localization of a lesion in the centers for the hand, the discharge radiating to those of the face and leg of the same side, then to the opposite side, with loss of consciousness.

The patient had also been the object of the bracelet experiment. He was a powerful man, and had exerted great force, arresting many attacks in this way. The speaker was satisfied that syphilis was absent, while the amount of the iodide was too small to explain a cure upon the ground of a syphilitic affection.

DR. STARR had been much interested in the case which Dr. Seguin had related. He had recently had a case of unilateral convulsions in his office. The patient was a small boy. The attack commenced in the eyes and face. The eyes turned to the right, then the head turned to the right, then the arm, then the leg became affected. During the attack the speaker had asked suddenly, "What is your name?" the boy promptly replied, "Arthur," and then relapsed into the convulsion. He supposed that the reply was reflex, as the boy was unconscious at the time and did not afterward remember the occurrence. He would like the opinion of the members upon the point.

DR. DANA asked what Dr. Seguin had considered the lesion in his case.

DR. SEGUIN had never ventured to surmise, beyond the fact that there was a nerve lesion and that there was no syphilis in the case.

DR. STARR asked Dr. Seguin whether in localized convulsions numbness were not the rule.

DR. SEGUIN replied that it was, but he did not know that the reason was yet sufficiently established, although Von Monakow had associated anæsthesia with lesions of the motor zone.

DR. SHAW referred to a case seen first four years ago. While at work as a jeweler the patient fell off

his bench in a convulsion. The face and the left arm were convulsed; the leg was not affected. Sometimes only the side of the face was affected. He had seen many of these attacks limited to the side of the face in his office. The patient complained of numbness in the arm and the side of the face. And the speaker felt sure that the tactile sensibility was not as good upon that as upon the other side. The patient denied syphilis. Upon ophthalmoscopic examination the nerves were found pale, and the visual field restricted in its upper part. There was no change until about six months ago, when, without loss of vision, he was found to have choked disk. This had gone on to atrophy, and the man was now blind. There was no paralysis. From the choked disk of course the speaker had now diagnosed a tumor, but he referred to the case on account of the anæsthesia and the spasms, and their resemblance to those in Dr. Starr's case.

DR. SACHS referred to the case of a man who, some years ago, while working upon the capitol at Albany had fallen some distance, was found unconscious, but recovered. A few weeks later he developed symptoms which alarmed his friends, and he had now some of the physical and nearly all of the mental signs of general paresis, — the irregular pupils, the facial tremor, the tremor of the tongue, and the deteriorated mentality. The speaker referred to the case because of the traumatic incident, and because every three or four weeks this man had an attack of numbness beginning in the fingers and creeping up the right arm to the face. There never were convulsions, but both the patient and his wife, who is a very intelligent person, say that there is paralysis. After three or four hours both the paresis and the numbness disappeared, and he has a very severe headache, lasting one or two days. The speaker thought there was a question of chronic meningitis with encephalitis possibly in this case. It was evidently a cortical affair.

DR. DANA thought that cortical epilepsy might develop like idiopathic epilepsy without an appreciable lesion. He recalled a case, that of a young man who was kicked in the front of the thigh by a horse. Twitching of the leg developed, similar to that of cortical epilepsy. Thrilling and numbness of the arm and face followed. In a year true hemiepileptic attacks, during which he lost consciousness, developed, and, upon giving him ether for stretching the nerve he went into the status epilepticus. There was no history of syphilis. Apparently cortical epilepsy was developed, just as true idiopathic epilepsy in other cases.

(To be continued.)

— The *Northwestern Lancet* (St. Paul) contrives to get in a sharp rap at a sister city, in acknowledging the first number of a new medical journal published at Chicago, by saying that "there is no city in the country where there is more room for good medical journals than in Chicago."

— At the end of the year 1885-86, the number of cinchona plants on the four Madras plantations of the British Government was nearly 2,000,000, while those of the Bengal Government, at Sikkim, number nearly 5,000,000. The former plantations produced, in the year, 113,300 pounds, and the latter 339,201 pounds. The profits have been so great that private enterprise is beginning to be attracted to the business.

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IODOFORM NOT AN ANTISEPTIC.

THE universal use of this drug, and the satisfactory results obtained, especially in operative surgery, have inspired great confidence in its power to arrest the development of the omnipresent, much-dreaded germ, and to ward off septic infection, with its attendant disastrous consequences. But this confidence has been dealt a staggering blow by the results of an investigation recently completed, the object of which was to determine the true value of iodoform for this purpose.

Although, perhaps, a suspicion of the real truth may have been the incentive to the series of experiments, still the results obtained must have formed a most startling and unexpected conclusion to the work of the investigators.

Iodoform, during the past few years, has held a position second only to sublimate and carbolic acid. It has been used externally and internally. It has been powdered on surfaces; injected in solution into cavities; or employed in the antiseptic covering of injuries and operation wounds, as the agent which was to hold in check the development of septic processes.

This wide-spread use of the drug in modern surgery as a germicide, or (according to the more generally accepted theory) as a substance which effectually prevented germ development, either by the liberation of free iodine,¹ or the formation of iodides;² and also the scanty authentic proof, by actual experiment, of its real antiseptic power, recently attracted the attention of MM. Heyn and Rovsing, of Copenhagen. A review of the work, already published, soon showed that the reputation of iodoform rested mainly on clinical data, the only real work on record being represented by the indefinite results of Kouig,³ Mikulicz,⁴ Rummo,⁵ and Meyer.

This, and the knowledge that the clinical evidence

was not wholly trustworthy, since iodoform is rarely used without other antiseptics of known value (carbolic acid, thymol sublimate, usually in solutions for irrigation), led to an investigation,⁶ the results of which have recently been made public. In a series of plate-cultures, iodoform appeared to have no power in retarding the growth of the *staphylococcus aureus pyogenes* or *bacillus subtilis*. Various experiments with a mixture of sterilized gelatine and iodoform, with iodoform and olive oil (four per cent.), and a solution of iodoform in blood-serum, showed an unchecked growth of the above-mentioned germs in these media. It was found that the *staphylococcus aureus pyogenes* preserved its vitality, at least a month in dry iodoform powder; and experiments on rabbits, where inoculated fluids were prepared with iodoform, gave similar results.

The above data, it is claimed, show that iodoform, no matter how many other excellent properties it possesses, is, as an antiseptic in surgery, valueless. It is also a dangerous substance, since there is a possibility that the drug itself may even contain pathogenic organisms; and that, even if it can itself be kept aseptic, it does not destroy or prevent the development of microorganisms, which may obtain access to a wound with it, as, for example, when it is applied with an unclean brush or spatula, or introduced by a spray. The full details of the experiments accompany the original publication of the experimenters, who recommend that iodoform, if used where aseptic conditions are necessary, should be disinfected with sublimate as carefully and thoroughly as sutures, ligatures, or instruments.

Johan Olsen's⁷ investigations with reference to the influence of iodoform on the bacillus of osteomyelitis (*staphylococcus aureus pyogenes*?) confirm the above results.

It is unnecessary to comment on the value of such results, if true; and their importance to the surgeon and his patients demands an immediate confirmation or refutation of such statements. This may prove to be another instance where a substance, whose reputation rests on clinical evidence, not corroborated by the results of scientific investigation, has really a certain empirical value. But, however this may be, the attention of bacteriologists cannot be too forcibly called to the necessity of an early investigation of this subject; for, if the conclusions noted be confirmed, lives of patients are daily exposed to an unknown danger, since, with the same drug, on which the surgeon relies most to protect the patient from the dreaded germ, he introduces into a wound the very elements of septic invasion he seeks so anxiously to shun. His most trusted ally proves to be not only inert to destroy the enemy, but even the disguise under which the latter enters unseen and unsuspected; and again, through a sense of false security, the employment of other means by which dangers might be avoided are neglected.

¹ Binz, Arch. f. experim. Path. u. Pharm., 1878, Bd. viii.

² Högyes ibid., 1879, Bd. x.

³ Centb. f. Chir., 1881, 48.

⁴ Archiv. f. Klin. Chir., 1881, xxvii., 1.

⁵ Centb. f. Klin. Med., 1883, 50.

⁶ Das Iodoform als Antisepticum. Fortschritte der Med., 1887, Bd. 5, No. 2.

⁷ Norsk Magazin for Lægevidenskaben, 1886, No. 4, § 244.

THE EXTRA-ASYLUM DEPENDENT INSANE.

I. THE BOARDED-OUT INSANE.

IN the Eighth Annual Report of the Massachusetts Board of Lunacy and Charity there is much matter for reflection and scrutiny on the part of the medical profession. It concerns the present and future welfare, more particularly of the dependent insane of our State, cities, and towns who are not under asylum protection, treatment, and care. To consider, first, the lot of a few of this class, whose condition, we may safely say at least for the present, is a matter for congratulation, let us turn to the progress of an innovation, in this country, in the way of providing for certain of the chronic insane.

It is now a year and a half since the system of providing for properly-selected cases of chronic insanity, under official supervision in families, went into operation in this State: and, although a much longer trial is needed before its success can be considered established, it has, at least, been proven, by actual practice, that the employment of the "Family System" of caring for this class of the insane may be under proper conditions, as practicable and beneficial in its results in this State and country as it is to-day in Scotland and Belgium. If the scheme should fail, therefore, its failure would probably be due rather to improper management, than to any fault inherent in the system itself.

The objection to this method which is generally urged has been found, it seems, to have the least foundation in fact. It has been thought by some of the least sceptical among the many opponents of the system, that the difficulty of finding families who would consent to receive a lunatic among them, on any consideration, would be a great obstacle in itself; that such as might be willing to make the experiment would not be suitable: and that, finally, the pittance of \$3.25 a week would deter desirable families from even considering the proposition. The experience of those in charge of the boarded-out patients apparently disposes of this objection, and is strikingly similar to that of the Commissioners in Lunacy in Scotland, where the system has long been a flourishing and useful one. As stated in the Report of the Massachusetts Board: "Applications from families in every way suitable have been made — enough to furnish places for twice as many patients as we could send. These families generally live in the rural towns, and are those of mechanics or farmers who are living comfortably: and, although the rate is low for villages, it is sufficient in the farming towns."

Another objection to the system, and a natural one, is suggested by the danger of abuse and neglect of patients so situated. That this fear also is exaggerated appears from the fact previously observed in Scotland, that "it is the almost universal wish of these patients to remain where they are, rather than to go back to the hospital from which they were taken."

That the number of these patients has been small — somewhat over sixty — is apparently due, in a meas-

ure, to a commendable caution in pushing an untried enterprise, as well as to the opposition of various municipal authorities limiting its scope to State patients taken from the State Hospital or from the Tewksbury Asylum. Quite a large number, therefore, who are dependent upon their respective towns for their support, are deprived of the advantages of this kind of care. Should the measure prove to be all that is hoped for, physicians can do good work for the insane by impressing upon their city or town authorities the advantages of this provision for their insane charges now in asylums and almshouses.

The value of this new provision for the insane, now in active operation for the first time in this country, will be judged by the results in this State, and it is to be hoped that experience will warrant the extension of the system to its full limits.

If the system be rightly conducted, its general adoption in this and other States is probable, but regular and frequent visitation of the patients by competent medical and other officials is an important element. The Scottish department owes its results to a board of paid commissioners, the active work in this department devolving upon medical men trained by actual experience as superintendents of asylums. The Board of Lunacy and Charity seems to be alive to the vital necessity of proper supervision; nevertheless the recent legislation in this direction is faulty in not *requiring* visitation by a medical man of practical experience in the needs of the insane.

HYDRASTIS CANADENSIS IN UTERINE HÆMORRHAGE.

HYDRASTIS Canadensis, or Golden Seal, has been long used in this country as a pure bitter in atonic dyspepsia. The root of *hydrastis* contains berberin and hydrastin, both of which are believed to have a vaso-constrictive action on relaxed mucous membranes, thus ameliorating congestive states.

Professor Schatz, of Rostock, Germany, was the first to bring *hydrastis* prominently before the medical public as a uterine tonic. He contrasts it with ergot, which it resembles in its action, but he finds it efficient in cases of uterine hæmorrhage where ergot is powerless. In menorrhagia from whatever cause, in hæmorrhages due to metritis and endometritis, to myoma, to incomplete involution of the puerperal uterus, he has found *hydrastis* invaluable. Professor Schatz's mode of administration is to give the fluid extract in twenty-drop doses four times a day, and not only when the hæmorrhage continues, but also from one to two weeks prior to the time that the menstrual period sets in, especially in the congestive form.

Since the publication of the paper of Professor Schatz, Professor Slavatsky, of St. Petersburg, has made some interesting experiments with *hydrastin*, from which he has found that this alkaloid has an æbolic effect on pregnant animals (bitches and rab-

bits), and when given to parturient women, it expedites labor. He puts the maximum dose of hydrastis at one-half grain.

The latest contribution to the subject of the uses of hydrastis in uterine hæmorrhage is by Dr. R. W. Wilcox, in the *New York Medical Journal*, February 19, 1887. His conclusions are based on the observation of the effects of this drug in fifty cases. In three of uterine fibro-miyomata, in which he gave hydrastis for metrorrhagia, the flow was speedily checked. Persistent use of hydrastis (for months) was followed by considerable reduction in the depth of the uterine cavity and in the volume of the uterus. Wilcox concludes that hydrastis arrests the bleeding from fibro-miyomata by the production of anæmia of the uterine tissues, and he refers to the physiological experiments of Mays, a year ago,¹ which showed "that hydrastis in small doses increased blood pressure, while causing vaso-motor contraction, cardiac inhibition, and anæmia of the alimentary mucous membrane. Mays observed also, uterine contraction, even of the body and horns of the uterus." Fellner, moreover, in some experiments made in 1885, with fluid extract of hydrastis, noticed uterine contractions and anæmia of that organ.

In seven cases of hæmorrhagic endometritis, five being cases of endometritis fungosa, marked benefit was noted under the use of hydrastis. Dr. Wilcox remarks that "in endometritis fungosa, we have in hydrastis a sovereign remedy, even when curetting has failed to arrest the bleeding."

Sixteen cases of subinvolution of the uterus were treated satisfactorily with hydrastis. Five cases of climacteric hæmorrhage were also benefited by the same drug, and the same is said of nine cases of pelvic inflammation and three of congenital antelexion. So enthusiastic is Dr. Wilcox over this remedy, that he is disposed, we think, to underrate the value of local examinations and local medications, which he says, "are entirely unnecessary." He gives the fluid extract of hydrastis in twenty-drop doses three or four times daily in a wineglassful of water.

SMALL-POX AMONG RAG-SORTERS.

ABOUT the 18th of February last, three cases of small-pox appeared nearly simultaneously among the employées of the Parsons Paper Company, of Holyoke, Mass., no previous case having existed in the city for many months. Of these three persons one was a man who had never been vaccinated and who worked at the duster, dusting both foreign and domestic rags. This man had a severe form of the disease and died. He lived in a house at some distance from the one occupied by the other persons.

The other cases were in the persons of two girls of Irish nativity, aged respectively twenty-five and sixteen, both of whom were said to have been vaccinated

in infancy, but neither of whom presented typical vaccinal scars. The former had been revaccinated since working in the mill but without success. This one had worked as a rag-sorter for five or six years, the younger one only about eight months. They occupied the same bed in a boarding-house. The younger had been out from the mill on account of slight indisposition for a week before her seizure with small-pox.

The two girls worked on opposite sides of a rag-sorting room, the smaller of two with which the mill was supplied, accommodating thirty-five or forty girls. In this room no rags had for a long time been sorted except (1) *new* shoe-cuttings from eastern Massachusetts, which had, of course, not been through the duster and which were the seraps of new cotton cloth left from the linings of shoes; (2) foreign "number 1" linens, of two separate marks, the one (one-third of the total amount) being of German origin, and the other (two-thirds of the total amount) being Russian, but both sorts being shipped from Hamburg, the former imported through a Boston house and the latter through a New York firm. It is said that the exporter of the German rags had a quantity of this same mark of rags lying loose in his warehouse for a period of two years before they were baled up. They bore the certificate of the resident United States inspector to having been disinfected by the sulphur process. In passing to and from their work these girls, with all the other workers of that room, were obliged to go through the larger rag-sorting room of the mill in which domestic rags were sorted. In this latter room no cases of small-pox have occurred. The girls both had the disease in a light form and have nearly recovered.

This is the sum and substance of the whole matter as disclosed by an investigation on the part of the State Board of Health. Contagion altogether outside the paper-mill is not excluded, contagion from domestic rags is not excluded. The result of the inquiry is negative. Even the most eager proprietor of a patent disinfecting process would scarcely venture to find therein more than a mild presumptive conclusive proof, the ardent disinfector should not for evidence against the foreign rags. Even were there get the difference in behavior between the virus of small-pox and that of cholera.

HOW MANY SUBSCRIBERS READ THE REPORTS OF THE MEDICAL SOCIETIES?

ONE of the newest comers in the field of medical journalism¹ announces that it will print no society reports. It makes the startling statement *based on the experience of the editors* (?) that these reports are not read once in a thousand times! [sic.]

Here is a problem worthy of the medical statistician. How many readers of medical periodicals *never* read the society reports? How many read them only *once* "in a thousand times?" How many *always* read

¹ Therapeutic Gazette, May, 1886, p. 289.

¹ Philadelphia Medical Register, Vol. I, No. I.

these reports? How many prefer "a weekly *résumé* of all that is going on in the medical world," the society reports being left out?

As we do not believe that the editorial consciousness sums up all experience, we wait for more light.

Meanwhile we have done what we could to obtain it, consulted six representative men of the profession whom we know to be diligent readers of medical journals. All affirm themselves constant readers of the society reports, which they regard as indispensable portions of medical news, and believe the very brevity in which these reports are presented to be a merit. One of these gentlemen expressed the opinion that the larger and more elaborate articles in the medical journals were seldom read, while the society reports were at least always "skimmed over." Another thought that few cared for the *editorials*, (we record this as an impartial journalist), while everybody was interested in knowing what was said and done at the medical meetings.

MEDICAL NOTES.

— The Legislature of Maine has repealed the charter of the "Druidic University," on evidence presented of the fraudulent character of the institution. The Eclectic Medical College has also surrendereaed its charter, thereby escaping an official investigation which would probably have resulted in action similar to that taken in the case of the Druidic College.

— A Western contemporary tells a story illustrating the oft-repeated truth that the surgeon cannot afford to neglect applied mechanics and physics: A young lady had her finger caught in the valve of an air-gun. A physician being called, after careful consideration, decided that the only means of releasing the finger was to amputate it. This being done, the gunsmith arrived, and proceeded to release the amputated finger by boring a hole in the chamber of the gun.

— In regard to the overcrowding of the profession in the Australasian Colonies, the *Australasian Medical Gazette*, January 15th, says: "In New South Wales quacks are rampant, and can practise without the control of any law restricting their doings. A first-class man will, of course, succeed here after he has made a reputation, as he would do almost everywhere; but the prospect is not sufficiently good to justify us in refraining from advising unknown men against rashly rushing out here on mere chance. Appointments are not so easily obtained as formerly; and, for every vacancy, a perfect rush is made by numbers of eligible men — in one instance, lately, upwards of sixty making application.

NEW YORK.

— On March 2d, the sum of \$53,050, which was raised by the annual collection of the Hospital Saturday and Sunday Association this season, was distributed to the various hospitals belonging to the Association.

— The twelfth annual commencement of the American Veterinary College was held at Chickering Hall, on the evening of March 4th. The diplomas were presented by Prof. F. D. Weisse, and the prizes by Prof. C. A. Doremus. Frederick R. Coudert, Esq., made the address to the graduating class, which numbered forty-four.

— The twenty-eighth annual commencement of the Long Island College Hospital, was held at the Brooklyn Academy of Medicine, on the 1st of March; when degrees were conferred upon thirty graduates, by Dr. Joseph C. Hutchinson, who has been elected President of the Collegiate Department in place of the late Dr. Dudley. The seventh annual dinner of the Alumni Association of the college was held February 28th, and was attended by the Mayor of Brooklyn.

— A Kings County Association, similar to the New York County Medical Association, and in affiliation with the State Association, has been organized by the Fellows of the latter residing in Brooklyn, with the following officers for the first year: President, Dr. E. R. Squibb; Vice-President, Dr. Avery Segur; Recording Secretary, Dr. R. M. Wyckoff; Treasurer, Dr. J. R. Vanderveer. The new association is to meet once a month in Remsen Hall, and the social element will be made a special feature of its reunions.

Miscellany.

AUTOPSY OF PROFESSOR SCHROEDER.

THE autopsy of Schroeder, the details of which were announced by Virchow to the Berlin Medical Society, showed that the eminent gynecologist died of abscess of the cerebrum. This abscess was encysted; was situated at the posterior part of the fornx; impinged on the white substance of the occipital lobe, and extended into the right lateral ventricle, which cavity was also the seat of a fibrino-purulent inflammation. Schroeder had been suffering from a violent ophthalmia, from infection by a suppurating wound, but the cause of the cerebral abscess is not apparent.

Professor Schroeder was born September 11, 1838. He was Professor at Erlangen since 1868; his "Treatise on Obstetrics," which went through four editions in as many years, first appeared in 1870. He is best known in this country by this work, and his "Manual of Diseases of the Female Sexual Organs," which forms Volume X of "Ziemssen's Cyclopædia."

THE PAY OF MEDICAL OFFICERS IN THE ARMY AND NAVY.

THE *Medical News* gives the following facts regarding the compensation in these two branches of the public service. The pay of the Assistant Surgeon in the Navy, for the first five years after his appointment, is, per annum, when at sea, \$1,700; when on shore duty, \$1,400; when on leave, or waiting orders,

\$1,000. After five years' service, his pay becomes, at sea, \$1,900; on shore duty, \$1,600; and when waiting orders, \$1,200. There seems to be no good reason for the difference in pay for sea and shore duty.

The pay of the Assistant Surgeon in the Army, for the first five years after his appointment, is, per annum, \$1,600, and, after five years, \$2,200. For the first ten years of service, or thereabouts, the pay of the Army medical officer is somewhat greater than that of the Navy medical officer. But promotion is more rapid in the Navy than in the Army, owing to the fact that the Navy has more officers in the higher grades. Thus, of 180 medical officers in the Navy, there are 15 with the rank of Colonel, and 15 with rank of Lieutenant-Colonel; while, of 192 medical officers in the Army, there are 5 Colonels and 10 Lieutenant Colonels. The result of this is that while in the Army it requires about twenty years' service to reach the rank of Major and full Surgeon, in the Navy it requires a little less than fifteen years to attain this grade. Taking it altogether, there is very little difference in the pecuniary emoluments of the two services.

OLFACTORY ACUTENESS.

AN interesting contribution was recently made by Messrs. Nicholls and Bailey to *Nature*, giving the results of experiments upon the relative acuteness of the sense of smell in individuals. A series of solutions of oil of cloves, nitrite of amyl, extract of garlic, bromine, and prussic acid were prepared by successive dilutions with water until the limit of perception was reached, and then the solutions were placed indiscriminately and submitted to a number of persons of both sexes to classify them properly by the sense of smell. The results showed that on the average the sense of smell was much more delicate in the males tested than in the females; but the degrees of keenness ranged widely as between individuals. Thus three male observers were able to detect one part of prussic acid in 2,000,000 parts of water, though its presence was not revealed by a chemical test; but others, of both sexes, could not detect prussic acid in solutions of almost overpowering strength. The following figures give the average limit of delicacy of perception: Cloves—Males, 1 in 88,128; females, 1 in 50,667. Nitrite of amyl—Males, 1 in 783,870; females, 1 in 311,350. Extract of garlic—Males, 1 in 57,927; females, 1 in 43,900. Bromine—Males, 1 in 49,254; females, 1 in 16,244. Prussic acid—Males, 1 in 112,000; females, 1 in 18,000.—*Medical Press and Circular*.

Correspondence.

CONTRACTED FINGERS.

BROOKLINE, March 1, 1887.

MR. EDITOR,—In connection with Dr. Homans' article on "Contracted Fingers," in the issue of the *JOURNAL* of February 24th, a case lately under my observation may be of interest in respect to its etiology. It is that of a tailor, who, when married, in 1853, placed a plain gold wedding ring on the little finger of his left hand. He was then of slight build but soon grew stouter and the ring, which fitted his finger easily before, became quite tight, although it caused him no inconvenience. About seven or eight

years ago he suddenly felt a flash, as he expressed it, like lightning running down his left arm, from the shoulder to the finger; this happened again in about a week, and he then had the ring cut off. From that time his finger began slowly contracting and in two years its tip had nearly touched the palm of his hand. It has been about stationary since then. The little finger is the only one at all contracted. He is sure that it was the tight ring, which he wore for a number of years, that caused the contraction. He still works at his trade with but little inconvenience from the trouble. Very truly yours,

BENJ. S. BLANCHARD, M.D.

THOMASVILLE, GEORGIA, AS A WINTER RESORT.

A VALUED contributor writes us from the Mitchell House, Thomasville, Georgia, under date of February, as follows:

I have written you, in former years of the wonders of this place, in the way of perfect drainage, entire salubrity and absence of any bad endemic influence. It is infinitely preferable to any place in Florida, since we have many pleasantly cool days all through the winter, and are free from the malarious misery of the St. John's Valley, for which a visitor is furnished with free tickets the whole winter through.

Another great advantage over the so-called "Land of Flowers" is the unlimited area over which one may ride, drive or walk. Last week, after a long, hard, drenching rain of five or six hours, the sun shone out brilliantly, about noon. Wearing our every-day thin walking shoes we went out for a long stroll. We came in with our feet as free from mud or wet as if we had walked on the *trottoir* of Beacon Street, in May.

To-day, in taking our long ante-meridian stroll, on the home-stretch I was obliged to take off my coat and walk in my shirt-sleeves. I did not take cold, for the song of the mocking-bird so soothed and satisfied the soul that a chill was an impossibility.

As for equestrian life, it is to be found in all perfection. The saddle-horses are of the best and are not dear to the hirer. Within a circle, the radius of which is five miles having its centre in my *salon*, there are one hundred miles of excellent roads for driving. To the angler and the sportsman Thomas County is paradise. Within sight of my bedroom window I have made a bag of ten quails and eleven snipes. One can do it now, if permission be given by his Honor the Mayor, my great friend and crony, who lets me shoot anywhere within the city limits.

One more recommendation. An excellent doctor (Thomas S. Hopkins, graduate forty years ago of the University of Pennsylvania) is the *Æsculapius* of the place. He is one of those of our guild in *his partibus* who have kept up with medical progress.

Board, at this sumptuous hotel is \$4 per day, to transient people. The town is filled with good boarding-houses, the keepers of which ask from ten to fifteen dollars per week. A Pullman will soon bring people from Boston or New York to our station, without change, and for about \$30 per ticket.

I wish more northern doctors knew what I know from a series of years of this wonderful corner of the vineyard! I have just bought me a ranch of some 1,600 acres, on account of the excellent shooting and fishing obtainable on it. What would you Bostonians have said, had you seen us lying on my big wagon robe, *al fresco*, at noon, whilst taking our bit of luncheon, the while our horses and doggies were getting their second wind for the afternoon shoot?

On the bill of fare I enclose, the dishes were as good as those you and I used to get in Paris "in the days when we were young." It seems more like a miracle than an ordinary fact to find such an ideal hotel as this.

Therefore, when you get tired of snow and ice and bun-

ners with the cold device, come to us and see what a wonderful country it is that we Americans possess. To me it is far preferable to California.

THE SPINAL CORD, IN HEALTH AND DISEASE, AT THE REGION OF THE FOURTH AND FIFTH DORSAL VERTEBRÆ.

BELFAST, IRELAND, 5 College Sq., North,
January 21, 1887.

MR. EDITOR,—When I published in the *Lancet* of July 12, 1884, an abstract of my views "On the spinal cord, in health and disease, at the region of the fourth and fifth dorsal vertebræ," and followed this paper by a relation of clinical results in accordance with its teaching, on the following December 6th, I felt assured that in America, where neurological science has attained to such a prominent position, my novel proposition would, sooner or later, attract the notice of thoughtful men, of journalists, and of physiologists, and I have not been disappointed.

Among others, the *New York Journal of Nervous and Mental Disease*, of January, 1885, and your *JOURNAL* of October 14, 1886, through its learned contributor, Dr. Morton Prince, have introduced the subject to their respective readers. With your permission I am desirous of dealing in your pages with the comments of the latter eminent physician; as to the style or manner of Dr. Prince's stricture I have nothing to complain. He appears to be a sincere searcher after physiological truth; when he could honestly agree with my teaching, he did so, very candidly; when he could not succeed to the same extent in evolving the latent phenomena of spinal hyperæsthesia, he did not suggest, that, therefore, they had no existence. I trust that I shall be able to convince him, that, although he could not always demonstrate the presence of spinal tenderness in the limited area referred to, yet, that in every case it was substantially there, and, that if he pursue the subject in the same judicious manner in which he has begun, he will, day by day, be rewarded by an increasing percentage of positive results, till with me he shall attain the maximum of cent. per cent.

Applying myself, in the first instance, to the constant existence in the sound, equally with the unhealthy, of a sensitive region in the cord limited to the space covered by the spinous processes of the fourth and fifth dorsal vertebræ, and the doctor's inability to detect the phenomenon in every case, his failure was evidently due to defects, objective and subjective, in the mode of examination. Were the doctor, for the first time, presented with that little wooden cylinder invented by Lænnec, and told of its wondrous power, through mediate auscultation, of discovering and discriminating heart and lung diseases, he would not surely condemn the instrument as a plaything because it did not at once reveal to his unpractised ear the various *râles* and *bruits* with whose discovery it was associated. In like manner, although the subject of his recent experiments did not respond to the taps of his forefinger, as they most assuredly would have done to the knuckle of my middle finger, the fault did not lie in the test, but in the want of familiarity in its application.

In fact it frequently occurs, both in the delicate and the robust, that on the first trial the subject declares that he feels no difference whatever when percussed over the fourth or the remaining eleven dorsal vertebræ, and, were the experimenter satisfied with this assurance, all further inquiry would cease. Brown-Séquard¹ refers to this peculiarity, and says: "Its existence, however, might not be found out, if questions were merely asked, or a cursory examination were made, as the symptoms may be slight and localized in one vertebra, and the patient may not be aware of their presence." Further on, same page, he continues: "It is well, when we have to deal with hysterical or timid patients, to judge of the degree of tenderness more from the sudden and involuntary movement of the

spine, when we press on it, than from the patient's statements as regards the degree of local or referred pains felt. The amount of blushing of the face when a tender spine is pressed upon is also a means of appreciating the degree of tenderness, especially when the affected part is in the lower third of the cervical region, or the upper third of the dorsal region."

So much for subjective consciousness of hyperæsthetic phenomena. My mode of procedure, especially in healthy subjects, is as follows: having bared the back, from the nape of the neck to the waist, I request that the arms be folded across the chest so as to put the integuments covering the spinous processes upon the stretch; this is especially necessary in the case of fatty subjects. I then tap smartly, not heavily, with the knuckle of my middle finger over the spinous processes from the first cervical to the last dorsal; the vertebra prominens, though the least protected, never exhibits any signs of uneasiness; I expect, when arriving at the fourth and fifth dorsal, a response, and an involuntary twitching of the integument, but, if the patient, on passing over the remaining dorsals, declares that he feels no inordinate pain over any of the twelve, I say, *I know better than you*, I shall again go over the back, pay more attention, and when I reach a tender point speak at once; when I, for the second time arrive, at the sensitive fourth and fifth, he at once complains of pain, "Oh, yes, that will do; I cannot bear that"; however, to make matters more apparent, I generally percuss the spine again in both regions; when I am met with a protest against further procedure, as the pain at the spot referred to becomes too much for his patience. He likens the pain often to that of neuralgia, and I have been assured in several instances that the uneasiness has continued for one or two days after the date of examination.

Occasionally, as a preliminary, I pass a finger on either side of the spinous processes of the dorsal vertebræ, leaving a red streak on each side, just over the transverse processes or the neurotic arches of the vertebræ; after this procedure the response over the region in question is more ready and complete, and I prefer the knuckle of the middle finger in percussing, as the impact there is more equal and sure.

It was not possible in my original communication to the *Lancet* to enter into these details; my idea was to put forward the leading principles, leaving circumstantial directions for future occasions.

While Dr. Prince's comments on the therapeutical value of my treatment were on the whole favorable, my respected critic was, unintentionally I am sure, unjust to me; for, while giving the remedy credit for some remarkable cures in various cases of neurotic disorder, he enumerates others of that class in which it failed to cure—cases outside the list which I have published and in which I never recommend its use, and although I added the words, "and other neuroses," I did not mean to attest its efficacy in *all* other neuroses, especially those of an organic nature; for instance, neurasthenia, in which I had especially recommended deviations from the region of the medulla oblongata in the neck, or in any paralysis except facial, in which it was very successful; I certainly never suggested its use in tabes, progressive muscular atrophy, rheumatism or tobacco neurosis. In chorea I do not always succeed by counter-irritation over the dorsal spines, and I declared my failure in one of the cases published, having to supplement the treatment by dry cupping. It is evident that failures in these special disorders does not affect the integrity of my general statements.

And although Dr. Prince was more successful in discovering the special dorsal tenderness in cases of disease, yet, he affirms, that he also found the symptoms in other vertebræ in the absence of pain in the fourth and fifth; these were possibly cases of reflected or transmitted pains from congestive or follicular disease of the stomach or intestines or other abdominal disease; as pathologists recognize that the healthy condition of the spinal nerves is often depen-

¹ The Medulla Oblongata in its Relations with Sexual Disease, Practitioner, July, 1884.

¹ Spinal Irritation, Quain's Dictionary, page 1500.

dent on the integrity of the viscera supplied by them. General tenderness of the spine was noted, he says, in four cases. These were most likely cases of general rachialgia, in such cases pain produced by pressure on one spinous process extends, according to Brown-Sequard, to the whole vertebral column.³

Finally, Dr. Prince has recorded a number of "strikingly successful cases" due to my plan of treatment, and referred to others such as the "Vomiting of Pregnancy," in which it was "eminently successful;" he has also given the particulars of others of an incurable nature, in which great relief from pain was experienced; the results of his experiments, he says, "seem to aid in giving the proper value

³ Article on Spinal Irritation, as quoted above, Quain's Dictionary of Medicine.

to spinal tenderness as a symptom, as well as to a therapeutical procedure which, in suitable cases, must prove of unquestionable utility;" and he concludes by stating "decided and beneficial effects may often be obtained by blistering over the fourth and fifth dorsal vertebra in various neuroses."

I have not any doubt that Dr. Prince's commentary read in the light of this explanation, will have the effect of engaging the attention of many of my transatlantic brethren, and of encouraging further experiment on the lines laid down in my original monograph; at any rate I must feel indebted to Dr. Prince for his well-balanced and highly judicious pronouncement on my little brochure.

ALEXANDER HARKIN, M.D., F.R.C.S., England,
Consulting Physician Mater Infirmorum Hospital, Belfast.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,481,920	679	281	16.20	20.40	.60	7.03	3.60
Philadelphia	993,801	454	146	11.88	11.00	2.20	4.18	2.64
Brooklyn	745,108	281	118	16.56	28.09	—	7.56	—
Chicago	745,108	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	153	43	9.10	11.05	2.60	3.25	1.49
Boston	400,000	157	59	6.36	16.64	—	5.76	.64
New Orleans	242,750	119	35	12.83	10.26	—	4.28	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	84	26	6.96	3.48	—	3.48	—
Pittsburgh	210,000	97	45	22.69	19.57	1.03	8.24	11.33
Cleveland	210,000	75	35	15.96	18.62	2.66	2.66	3.99
Milwaukee	170,000	61	27	4.92	9.84	—	1.92	—
Providence	121,000	42	15	14.28	26.18	—	2.38	7.14
Richmond	100,000	33	12	12.12	9.09	3.03	6.06	—
New Haven	80,000	27	8	14.80	1.10	—	7.40	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	33	10	6.06	15.15	—	6.06	—
Portland	40,000	17	6	—	5.88	—	—	—
Worcester	68,383	20	11	10.00	35.00	—	10.00	—
Lowell	64,051	37	10	32.40	18.90	—	2.70	13.50
Cambridge	59,660	24	9	12.48	12.48	—	8.32	4.16
Fall River	56,863	22	9	4.55	4.55	—	—	—
Lynn	45,861	15	7	6.66*	13.33	6.66	—	—
Lawrence	38,825	21	8	14.28	28.56	9.52	—	—
Springfield	37,577	8	3	—	37.50	—	—	—
New Bedford	33,393	17	2	5.88	11.76	5.88	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	2	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	4	1	25.00	—	—	25.00	—
Taunton	23,674	6	1	—	—	—	—	—
Haverhill	21,795	15	5	13.33	33.33	—	—	—
Gloucester	21,713	6	3	33.33	16.66	—	33.33	—
Brockton	20,783	10	2	—	—	—	—	—
Newton	19,759	5	0	20.00	20.00	20.00	—	—
Malden	16,407	4	2	—	—	—	—	—
Fitchburg	15,375	8	0	12.50	—	—	—	—
Waltham	14,609	6	1	—	33.33	—	—	—
Newburyport	13,716	4	0	25.00	—	25.00	—	—
Northampton	12,896	5	2	—	—	—	—	—

Deaths reported 2,459; under five years of age 935; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 328, acute lung diseases 405, consumption 358, diphtheria and croup 139, measles 63, typhoid fever 31, scarlet fever 30, malarial fevers 20, diarrhoeal diseases 18, cerebro-spinal meningitis 13, whooping-cough six, erysipelas four, small-pox three, puerperal fever one. From scarlet fever, New York 14, Brooklyn seven, Philadelphia six, Pittsburgh two, Baltimore, Cleveland, and Fall River one each. From malarial fever, New York nine, New Orleans six, District of Columbia two, Philadelphia, Brooklyn and Richmond one each. From diarrhoeal diseases, New York five, New Orleans four, Philadelphia, Brooklyn and Cleveland two each, District of Columbia, Pittsfield and Providence, one each. From cerebro-spinal meningitis, New York, Philadelphia, Pittsburgh and Haverhill two each, Cleveland, Providence, New Haven, Lowell and Fitchburg one each. From whooping-cough, Brooklyn two, New York, Baltimore, Richmond, and Lawrence one each. From erysipelas, Philadelphia two, Brooklyn and Cleveland one each. From small-pox, New York two, Brooklyn one. From puerperal fever Baltimore one.

Cases reported in Boston: measles 62, scarlet fever 25, diphtheria 23, and typhoid fever 10. Twenty-three cases of measles were reported in Newport, R. I., for the month of February but no deaths.

In the 22 cities and greater towns of Massachusetts, with a population of 1,017,956 (population of the State 1,941,466) the total death-rate for the week was 20.68 against 20.52 and 20.89 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending February 12th, the death-rate was 19.5. Deaths reported 3,453: infants under one year of age 811; acute diseases of the respiratory organs (London), 373; whooping-cough 95, measles 77, scarlet fever 61, diphtheria 43, diarrhoea 32, fever 31.

The death-rates ranged from 14.9 in Nottingham to 30.1 in Huddersfield; Birkenhead 18.7; Birmingham 18.9; Derby 16.1; Halifax 18.4; Hull 20.9; Leeds 16.9; Leicester 15.3; Liverpool 26.9; London 17.6; Manchester 25.8; Newcastle-on-Tyne 22.6; Portsmouth 21.6; Sheffield 20.5.

In Edinburgh 21.6; Glasgow 24.8; Dublin 27.3.

The meteorological record for the week ending February 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Feb. 26, 1887.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 20	30.218	32.0	38.0	27.0	57.0	36.0	48.0	47.0	W.	N.	N.	10	8	7	C.	O.	O.	—	—
Monday, ... 21	30.423	29.0	32.0	26.0	90.0	91.0	74.0	85.0	N.	N.E.	S.	12	9	5	N.	O.	O.	—	—
Tuesday, ... 22	30.288	33.0	34.0	30.0	79.0	93.0	89.0	87.0	E.	S.E.	N.W.	12	3	10	O.	N.	F.	—	—
Wednes., ... 23	30.429	31.0	36.0	25.0	72.0	50.0	61.0	61.0	N.W.	S.E.	S.W.	12	6	9	C.	F.	O.	—	—
Thursday, 24	29.636	37.0	48.0	30.0	100.0	52.0	47.0	66.0	S.E.	W.	W.	16	34	34	N.	C.	C.	—	—
Friday, ... 25	30.275	19.0	33.0	14.0	52.0	31.0	42.0	42.0	N.W.	N.W.	N.W.	22	32	10	C.	C.	C.	—	—
Saturday, 26	30.113	24.0	34.0	13.0	55.0	87.0	100.0	81.0	N.W.	S.E.	E.	4	12	27	O.	N.	R.	27	.79
Mean, the Week.	30.185	29.3	38.0	23.0				67.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 26, 1887, TO MARCH 4, 1887.

GREENLEAF, CHAS. R., major and surgeon. Ordered for duty in the office of the Surgeon General of the Army. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, D. L., major and surgeon. Will be relieved from duty in the office of the Surgeon General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, DAVID L., major and surgeon. Ordered for duty at San Diego Barracks, Cal., and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

WHITE, ROBERT H., captain and assistant surgeon. On being relieved by Major Huntington, to proceed to Angel Island, Cal., and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

TESSON, LOUIS S., captain and assistant surgeon. Ordered for duty as attending surgeon at headquarters, Division of the Missouri and Examiner of Recruits at Chicago, Ill. S. O. 44, A. G. O., February 24, 1887.

GRAY, WM. W., captain and assistant surgeon. Leave of absence for seven days is extended twenty-three days. S. G. 13, Department of Dakota, February 21, 1887.

MASON, CHAS. F., first lieutenant and assistant surgeon. Resignation accepted by the President, to take effect, March 25, 1887. S. O. 44, A. G. O., February 24, 1887.

OBITUARY.

LUTHER PARKS, M.D.

Luther Parks, A.M., M.D., whose death was previously announced, was born in Boston, November 4, 1823, and graduated at Harvard College in 1843, taking high rank in a class which included many men who have become distinguished.

He took his degree of M.D. in 1847, and in the same year went to Ireland as surgeon of the United States Sloop of War "Jamestown," which was sent, loaded with provisions, to relieve the starving Irish people. He was there made a Fellow of the Royal College of Surgeons of Ireland. After his return he married Miss Julia Dale, and established himself at the south end of Boston. In his active practice there of eleven years, during a portion of which he served as one of the District Physicians of the Boston Dispensary, he was notable for conscientious fidelity and kindness toward his patients, and for his skill as an obstetrician, which he took pains to perfect, by practical work at the Rotunda Lying-in Hospital at Dublin, during a second visit to Europe in 1852. After the death of Mrs. Parks in 1853, he again went abroad, everywhere interesting himself in what was being done in the profession.

Dr. Parks married in 1861 Miss Catharine Burroughs, and, at the request of his father who was advancing in years, he removed to Chestnut Street and retired from active practice. During the late war, at the solicitation of Governor Andrew, who was his personal friend, he went to the peninsula of Yorktown as a volunteer surgeon.

After his father's death, Dr. Parks again went in 1872 to Europe, where he continued to reside until his death, at Pan, November 19, 1886, at the age of sixty-three. His widow, his son Dr. Edward L. Parks, of Boston, and two married daughters survive him.

Dr. Parks was for some years one of the physicians of the

Boston Lying-in Hospital, and was associated with Dr. S. L. Abbot, as editor of the *Medical and Surgical Journal*. At the Annual Dinner of the Massachusetts Medical Society in 1871 he presided as Anniversary Chairman. As Chairman of a Committee of that Society he carefully investigated and reported upon an epidemic of cerebro-spinal meningitis in Massachusetts. Although absent, and retired from practice, he retained to the end of his life his Fellowship in the Society, and his interest in its work for the promotion of medical science.

As an exemplar of scrupulous fidelity, energy, and courage in the discharge of duty as well as for his loyalty and courtesy, Dr. Parks will not be forgotten by his professional brethren.

DR. LEWIS FISHER

Dr. Lewis Fisher, who practised successfully in New York for many years, died February 28th, at Jacksonville, Fla. He was born in 1839, in Mobile, Ala., whither his family had gone from Philadelphia. He was graduated from the Medical Department of the University of the City of New York in 1861, and soon afterward entered the medical service of the army. For a considerable portion of the late war he was in charge of the hospital at Chester, Pa., and at the close of the war he settled in Morristown, New Jersey, for a time. While living in New York he spent a number of summers at New London, Ct., where he had a lucrative practice. For some time previous to his death he had been in failing health, and it was on account of this that he went to Florida. His brother is a practising physician in Hoboken.

SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION.—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, March 16th, at eight o'clock. Communications: Dr. John Homans, 2d, "Supplementary Ovaries." Dr. W. H. Fales will exhibit a specimen and make some remarks upon a very interesting case of Lithopædion, which the patient carried for thirty years, finally dying of cancer. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman*.

ROBERT B. DIXON, M.D., *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Board of Managers of the New York State Reformatory at Elmira, for the Year ending September 30, 1886. 1887.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P. Second Edition. Philadelphia: P. Blakiston, Son & Co. 1887.

The Antiseptic Treatment of Summer Diarrhoea. By L. Emmet Holt, A.M., M.D., Attending Physician to the New York Infant Asylum. 1887. (Reprint.)

Two Unique Cases of Insanity: possibly Epileptic. By Theo. W. Fisher, M.D., Superintendent of the Boston Lunatic Hospital, Boston, Mass. 1887. (Reprint.)

Handbook of Materia Medica, Pharmacy and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy and Minute Directions for Prescription Writing. By Samuel O. L. Potter, M.A., M.D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

NOTES ON THE DIGESTION OF "LIVING" TISSUES.

BY JOSEPH W. WARREN, M.D.,

Assistant in Physiology in the Medical School of Harvard University.

IN a recent number of the *Biologisches Centralblatt*, Frenzel¹ has again called attention to this enigma of the digestive process, which, ever since John Hunter's day, has awakened much interesting and ingenious speculation, but which is hardly nearer a solution now than then. The question is: Why do organisms which manifest such power of digesting and assimilating the material they require, leave quite intact those organs or tissues where these processes go on so actively? Why does the stomach digest various albuminous substances so readily, and yet fail to attack its own walls, containing substantially the same material? Why do the intestines, with their much more varied power of digestive action, remain undisturbed and uninjured by this activity? Why does the pancreas secrete at least three vigorous digestive ferments, and yet work on unaffected by each and all of them? The same question may be urged concerning the various glands of many lower organisms which have a well-defined digestive tract; and the enigma only grows in difficulty and interest as we consider those forms of life where such a differentiation of organs does not appear to be present, and where processes at least analogous to the digestion of higher animals are carried on.

This immunity, in its completeness, is found only so long as the organism is alive. When death has occurred, a certain amount of post-mortal "self-digestion" is observable. The human stomach, for example, is not infrequently found with its walls so much softened and changed, that such a proteolytic action of its own secretions is supposed to have taken place. It has but rarely been observed that such changes are brought about before death. One of the few apparently authentic cases of ante-mortal self-digestion of the living human stomach was reported, a number of years ago, by Mayer;² and is given in detail, by Leube, in "*Ziemssen's Cyclopædia*."³ It has been considered probable that, in ulcerations of the stomach, as well as in the course of cancerous changes of that organ, a certain amount of localized digestion of the gastric walls occurs, and this view has much in its favor.

Frenzel points out that a similar post-mortal transformation is observable in the entire animal kingdom. Certain sections of the intestines of insects are found thus self-digested; and the like change may be noticed in ferment-producing glands (the so-called "liver") of crustaceans and mollusks. He also considers that the rapid disintegration of many amœbæ and infusoria is due to self-digestion by the ferments they produce while living. Ordinarily these rapid changes are attributed to the activity of the bacteria of putrefaction; but Frenzel reports an observation which seems to lessen the necessity of such an assumption, or, at least, suggest caution in its universal application. He studied a worm which lives in strong vinegar (*anguilula aceti*), where, as he says, he could find no microbes. This worm, after death, showed a rapid dis-

solution of its tissues; and Frenzel thinks that the secretions of its digestive organs must have played an important part in the process. It should not be forgotten, in this connection, that, so far as I know, it has not been demonstrated that these post-mortal changes are true digestions, and not merely transformations into soluble bodies, without the formation of peptones. This distinction, as I think we shall see, is not unimportant.

The explanations that have been given concerning the protection which living tissues appear to possess have varied in an entertaining and instructive manner. It would take too much space to point out all the different phases through which the discussion has passed; nor would it be very profitable to examine all the theories proposed concerning the conditions which favor the post-mortal softening of the stomach itself. The literature may be found in sufficient fulness in Lenbe's article, already alluded to, and in Widerhofer's chapter on "*Gastromalacia*."⁴ It will be enough for my present purpose to indicate the general principles which have been adopted, at various times, as the basis for an explanation.

It has been urged that the stomach preserves its integrity, first, on account of its life — by some "vitality"; or, on account of the protection afforded by its epithelium; or, again, because so much mucus is present as to enwrap the food, or cover the surface of the organ; or, finally, because the acid is neutralized by the alkaline blood, the exceeding vascularity of the stomach in active digestion rendering the acid harmless so soon as it reaches the tissues of the gastric wall. Each of these explanations, alone or in various combinations, has found its defenders; and yet no one of them, nor all of them together, can be considered satisfactory.

The supposititious protection afforded by the mucus⁵ has the least claim upon our attention. This, if it worked by any alkalinity it possessed, could only hinder the proteolytic action by weakening the acid, whose presence is indispensable. If the protection be sought in the coating which is given to the stomach or to its contents, the explanation must at once appear to us to be unreasonable. How could any such coating be assumed to be permeable for acid and pepsine in one direction (that is, towards the mass to be digested), and to permit the passage of digested or dissolved material in the opposite direction (towards the gastric walls) and yet not allow the acid-pepsine mixture to pass with equal freedom.

Should we confine this explanation to the small intestine, with its alkaline digestion, as Claude Bernard seems to have done, a still further and more weighty objection may be found in the fact noted by Frenzel, that insects have no such layer of mucus in their intestinal tract, and yet no self-digestion occurs there during life.

The protection attributed to the epithelium, whether it be thought to lie in its own resistance to digestive changes, or in its rapid renewal, would appear also to be insufficient. It has been found that the epithelium may be quite extensively injured or removed,⁶ and no digestion of the underlying tissue takes place. The

⁴ Gerhardt. *Handbuch d. Kinderkrankheiten*, IV, 2, 11, p. 425.⁵ Cf. Harley. "Contributions to our Knowledge of Digestion," *British and Foreign Medical-Chirurgical Review*, Vol. XXV, 1860, pp. 206-214.⁶ Pavy. *Medical Times and Gazette*, 1883, Vol. II, p. 286. This is an abstract of a paper read before the British Association. See, also, Harley, loc. cit.¹ Verdauung lebenden Gewebes und Selbstverdauung. Von Dr. Johannes Frenzel. *Biolog. Centralblatt*, VI., 681.² Deutsches Archiv, für klinische Medizin, 1871.³ Vol. VII, p. 261, of the American Edition.

reports of cases where sounds and stomach-pumps have produced lesions of the epithelium, appear to be confirmatory of the view that the protection of the stomach is not to be sought in this coating, or, at least, not alone therein.

The alkalinity of the blood and the lymph, as a possible defence against the attack of the gastric juices, would, at the first glance, appear to be much more acceptable. The localized self-digestion of ulcerations, or in cancer, might be attributed to altered blood-flow, and consequent lessening of alkalinity. In the marked case of gastromalacia given by Leube and Mayer, and already quoted above, the individual had extensive cicatricial contractions at the pylorus, as well as at the cardia; and these would probably materially alter the blood-supply.

In this connection, however, we may not pass over in silence an observation made, several years ago, by Edinger.⁷ He injected a solution of alizarin into the bloodvessels, and inferred, from the color-changes, that the mucous membrane of the stomach has an acid reaction throughout a considerable portion of its substance when active digestion is going on. Unfortunately, his method is not delicate enough to permit a microscopical examination of the tissues.

Even if we accept fully the view that the alkalinity and vascularity of the gastric walls preserve them from digestive destruction, we advance but a little towards a solution of our larger problem. In the small intestines we find a no less active digestive process, and a much more varied one, which is carried on in an alkaline menstruum. If the alkaline blood protect the stomach, what is the power which guards the walls of the smaller intestines?

The oldest explanation is that commonly attributed to John Hunter. This finds the immunity of the digestive apparatus in its "life"—in its vitality. Modern biology cares so little for any "vital principle," that such a view seems almost absurd, since it merely answers one question by putting another—a method not quite out of fashion. Could we turn backward mentally, and think as did the strong men of old, as readily as we may masquerade in their clothes we should doubtless perceive that in this view John Hunter was fully abreast of his time. We might realize that we are not any too near an answer of our enigma nowadays, although we have turned the question completely round.

It is, perhaps, not without interest to read what Hunter wrote on this point. The original paper, "On the Stomach itself being Digested after Death," was presented to the Royal Society, and read June 18, 1772. It was printed in the sixty-second volume of the "Philosophical Transactions," and reprinted, with slight changes, as an appendix to "Some Observations on Digestion." The paragraphs which state the doctrine are as follows:⁸

"An animal substance, when joined with the living principle, cannot undergo any change in its properties but as an animal; this principle always acting and preserving the substance possessed of it from dissolution, and from being changed according to the natural changes which other substances undergo.

"There are a great many powers in nature which

the living principle does not enable the animal matter, with which it is combined, to resist, viz., the mechanical and most of the strongest chymical solvents. It renders it, however, capable of resisting the powers of fermentation, digestion (and perhaps several others), which are well known to act on this same matter, when deprived of the living principle, and entirely to decompose it." . . .

"Animals, or parts of animals, possessed of the living principle, when taken into the stomach, are not in the least affected by the powers of that viscus so long as the animal principle remains; hence it is that we find animals of various kinds living in the stomach, or even hatched and bred there: yet the moment that any of those lose the living principle, they become subject to the digestive powers of the stomach. If it were possible for a man's hand, for example, to be introduced into the stomach of a living animal, and kept there for some considerable time, it would be found that the dissolvent powers of the stomach could have no effect upon it; but if the same hand were separated from the body, and introduced into the same stomach, we should then find that the stomach could immediately act upon it.

"Indeed, if the first were not the case, the stomach itself ought to have been made of indigestible materials; for were not the living principle capable of preserving animal substances from being acted upon by the process of digestion, the stomach itself would be digested.

"We find, on the contrary, that the stomach, which at one instant, that is, while possessed of the living principle, was capable of resisting the digestive powers which it contained, the next moment, viz., when deprived of the living principle, is itself capable of being digested, not only by the digestive powers of other stomachs, but even by the remains of that power which itself had of digesting other things."

A similar statement, but much more picturesquely put, may be found among his posthumous papers. I quote from page 146, Vol. I, in the edition prepared by Owen.⁹

"The [power of the] containing [organ] may, and does depend on the disposition of the body and mind, not so much on the constitution or strength of the body; for many weak constitutions have vast power of digestion, and others the reverse. Its effects are immediate on dead substances; almost as quick as the effects of an acid on an alkali. Its power depends upon life; for as soon as life is gone, even in the most healthy, this power is lost, excepting what may be going on [at the time of death], which continues for a little time. It depends on a living principle in itself; but that which is to be digested must be dead, or have lost this living principle, or it cannot be dissolved. . . . If it was possible for an animal to live in the stomach of another animal, supposing digestion not to be going on in that stomach, it would then live while digestion was going on; for that animal would not be in the least dissolved, because the living principle in the animal would prevent or counteract the digestive quality of the stomach. If this was not the case then we might readily suppose that even though the animal life was not immediately affected by the digestive power, yet at last it might be destroyed by the external and extreme parts of the animal being

⁷ Edinger. Ueber die Reaction der lebendigen Magenschleimhaut. Pflüger's Archiv, f. d. ges. Physiologie XXIX, 217.

⁸ I quote from page 184 of the "Observations on Certain Parts of the Animal Economy," by John Hunter. London, 1786.

⁹ Essays and Observations on Natural History, Anatomy, Physiology, etc. 2 vols. London 1861.

digested, and so the animal be obliged to die, like a person with a mortification. But that a living animal will not be so dissolved is every day proved by worms, maggots or flies, living in the stomachs of many animals; and if it was a power that could act upon a part that had the living principle, as well as an acid can, then the stomach itself would certainly be dissolved. If one could conceive a man to put his hand into the stomach of a lion, and hold it there without hindering the digestive powers, the hand would not in the least be digested; and if the hand of a dead man was put in at the same time, whether separated or not from the body, that hand would be digested while the other would not."

A rather different but no less entertaining view as to the importance of the vital principle in the digestive act, may be read in the note below, although the point before us is not directly involved.¹⁰

The following extracts from Saumarez' "New System of Physiology," published at London, 1798, also illustrate the point of view taken by many at that time.

Vol. I, p. 15. "It is to the power by the energy of which every living system is protected and preserved from decomposition and decay, and by which the different substances it receives are assimilated and changed, that I attach the idea of Life."

Again, on p. 330, of Vol. I, we read: "And finally that the gastric juice possesses, the power not only of killing living, but of reanimating dead matter, was proved by some experiments made, I believe, by Mr. Hunter and Spallanzani. They thrust pieces of putrid flesh, tied by a string, into the stomach of some dogs; and after leaving it some time in that organ, they withdrew the meat; and found upon examination, that from being offensive it had become sweet, from being putrid it was fresh again. It is not, therefore, sufficient for the food, by the organs of sense to have been selected, by the teeth to have been comminuted, by the mouth to have been masticated, by the saliva to have been blunted and banded: it is by the active energy of the stomach alone, and the fluid it secretes, that it becomes digested and assimilated, that solid food is reduced to a fluid state, that it becomes killed as it were, and loses its old life, and then is animated anew, receiving from the living power of the gastric, the participation of life from the system to which it is applied." He adds in a foot-note: "That the food we receive must be killed by the stomach before it is vivified afresh is evident, from hence: If it retained its own living power in an eminent degree, it is possible to conceive that it might inosculate with the stomach, instead of being digested by it; and if it retained its living power without inosculating, the nature of that food would be always apparent: we should participate of the quality of the beasts on which we feed, and of the vegetables also." I purposely refrain from extending these quotations by referring to the part which a vital principle, under various names, was playing at this time in the views of the best thinkers on the Continent.

¹⁰ See Fordyce: A treatise on the digestion of food. London, 1791. Page 170. "But in the same manner the action of the powers of the stomach, and other organs of digestion, upon the food, is necessary for those powers which occasion its decomposition and recombination to act, so that, although they are always present in the substances capable of being converted into chyle, yet nevertheless they are not exerted unless they are influenced by the action, or circumstances which they meet with in the organs of digestion of a living animal; so that no chyle ever has been, and most probably never can be produced, excepting in the organs of digestion of a living animal."

It must not be supposed that the unsatisfactoriness of these arguments has only been recently recognized. I will spare the reader quotations which would demonstrate that quite early in the present century the "vital principle" was considered a vague and insufficient explanation of the difficulty. It was not, however, until the second half of the century had begun that an experimental refutation of John Hunter's theory was made — at least so far as it concerns the question now under discussion.

It is only about thirty years ago, the reader will remember, that Claude Bernard¹² found that gastric juice, injected under the skin, digested the subcutaneous tissues. He saw further, that the legs of a living frog inserted in the gastric fistula of a dog, were digested off to a great extent in about three-quarters of an hour, the rest of the frog remaining alive. A similar experiment was made with snakes. These observations were confirmed by Pavy,¹³ Harley,¹⁴ and others; they were extended by the partial digestion of the ear of a living rabbit. It thus became evident that the "life" of the animal could have but little to do with the protection of its digestive canal from proteolytic changes. The external and extreme parts did undergo digestion and the animal was not obliged to die, the very thing Hunter said could not happen.

Frenzel suggests that these experiments really only showed a partial solution of the "living tissues" and did not absolutely demonstrate their digestion — that is, their peptonization. He accordingly tried an artificial digestion of "living" tissues and arrived at interesting results. Several years ago I made a number of similar experiments and reached generally the same conclusions as those now printed by Frenzel. I reported my work at a meeting of the Boston Society of the Medical Sciences in the spring of 1883, but published nothing. It seems desirable to note them now as confirming the work of Frenzel and somewhat extending it, and I do so without intending to claim any priority for the method or the results.

Frenzel's experiments were made by fastening a frog on a forked board, so that each leg hung in a vessel which contained hydrochloric acid (0.2 per cent.) or acid and pepsine. In the latter case marked changes were soon observable. The skin freed itself in patches and the flesh gradually disappeared especially on the parts where the epidermis was removed. In such places the bone was fully exposed in about an hour and a half. The bloodvessels were also affected; the walls burst, the blood exuded and coagulated, and the coagula were finally dissolved. On examination the liquid in which such a leg hung was found to contain peptone — there had been a genuine digestion. The other leg, hanging in acid alone, is said to have shown no special change save that the outer layers of

¹¹ In Bostock's Chapter on Digestion, in Todd's Cyclopædia of Anatomy and Physiology, 1836-39, Vol. II, p. 23, he will find: "With respect, therefore, to the hypothesis of a vital principle, as maintained by Fordyce and many of the modern physiologists, we should say that it is rather a verbal than a real explanation of the phenomena, and that it rather evades the objections than answers them." See also: An Elementary System of Physiology. By John Bostock. Vol. II, (Boston reprint, 1828), p. 409.

¹² Claude Bernard: Leçons de physiologie expérimentale. Paris, 1855-6. Vol. II; Cours du semestre d'été, 1855, pp. 408-9.

¹³ An account of Pavy's experiment with the ear of a rabbit, as well as his views concerning the protection afforded by mucus or epithelium, and the importance of the alkalinity of the gastric walls may be found in his "Treatise on the Function of Digestion," London, 1867, p. 74. The reader may also consult Pavy's paper: "On the Immunity enjoyed by the Stomach from being digested by its own Secretion during Life," in the Transactions of the Royal Society for 1863.

¹⁴ Harley, loc. cit., p. 211.

the epidermis were slightly swollen. Where the epidermis had been removed a swelling and softening of the muscles was not observed — nor could such a leg be afterwards digested by pepsin in a neutral solution as would be expected had the muscles imbibed the acid. It should be added that the experiment was carried on at a temperature of 38° C. Frenzel does not say positively that such frogs remained alive, but it is to be inferred from the tone of his article that they did. He also reports that merely moistening an exposed muscle "at a suitable temperature" suffices to bring about an evident digestion. The number of experiments is not given.

My own observations were made on a large number of frogs; altogether about fifty of them participated in perhaps twenty experiments, but some died too early to make their share complete and useful. A detailed account of the methods employed and of the changes perceived may be omitted now, and I will generalize them as much as possible. Originally I only intended to modify Bernard's method for lecture purposes, and the lower legs of the frog hung in test tubes which stood in the water bath whose temperature was fairly constant (38° C.). I was thus able to demonstrate that the lower legs could be much softened (or even drop off) and the rest of the frog remain alive — that is to say, the heart was still beating and the muscles of the upper leg responded perfectly to electrical or mechanical stimulation of the nerves. My occupations at the time unfortunately obliged me to leave the experiment unwatched over night. The results which this long exposure to acid alone produced differ from those of Frenzel in that the muscles were often much softened and even dissolved, but this effect was usually not so intense nor so extensive as where the leg was exposed to acid and pepsine. When, however, such solutions were compared, that produced by the aid of pepsine acquired a rose color with soda and cupric sulphate which only gave a purple color where acid alone had been active (Biuret reaction). In other words only the pepsine solution appeared to have really peptonized the muscle. Early in this work it occurred to me that the exposure to so high a temperature could not be a matter of indifference to the tissues. The frog is accustomed ordinarily to surroundings where the thermometer stands hardly ever higher than 15–18° C., and to remove him (or only his legs) suddenly and permanently to a climate where the mercury is always at 38° C., means a change such as would cause us much concern were we to make it *ante mortem*.¹² I accordingly repeated the experiments at room temperature with substantially the same results. Later, further modifications were introduced to lessen the possibility of disturbing the blood flow and the nutrition of the muscles by the hooks and bands which were needed to support the frog comfortably. Cutting the medulla oblongata as well as section of the sciatic plexus was tried, but the outcome of the experiment was the same and in general accord with Frenzel. I may add that control experiments were always carried on at the same time. Finally I followed a suggestion of Dr. H. P. Bowditch and curarized the animals, which enabled me to place the lower legs in little troughs containing the

digesting solution. In this way it was chiefly the gastrocnemius muscle which was exposed to the liquid, and this was favored by slitting the skin. By this means I was able to reach some very interesting results. It proved to be possible to digest (or at least make translucent and soft) a good portion of the exposed gastrocnemius, while all the rest of the same muscle was uninjured. That is, the undigested portion was firm and red as in health, and still manifested that perfect irritability which belongs to a sound muscle. It is hardly necessary to add that the other muscles of the leg, the heart, in short, all the rest of the frog remained fully alive. This took place too, it must be remembered, at a temperature in no way unfavorable to the animal's existence or comfort. A more instructive form of the digestion of "living" tissues cannot easily be found. On varying the strength of the acid it was seen that solutions ranging from 0.3 per cent. to 0.05 per cent. were positive in their results. No decided effect, however, was produced by a mixture of pepsine with 0.015 per cent. HCl, which was competent to digest boiled fibrin. It thus appears probable that a local digestion of a living muscle may be produced by pepsine and an acid of such strength that the entire amount of acid employed is less than that which the blood might be expected to neutralize. While I cannot maintain that my experiments were sufficiently numerous to settle this point, especially as I did not have this particular question in mind at that time, the notes made as the experiments progressed suggest a conclusion of this character. I purpose examining this point more exactly when I can find time for such work.

I also tried to attack the living muscles in an alkaline menstruum by means of such pancreatic extracts as we then had in the laboratory. The results were either negative or inconclusive, but the ferments at my disposal were not as good as we now have, and I consider this question open for further investigation.

Finally, then, we must admit that we are still far from a satisfactory explanation of the immunity of the various digestive organs with reference to their own ferments while "alive" and the lack of such protection when "dead." It might be suggested that many or all of the ferments come from their glands in a partially inactive condition (in form of a zymogen, as pepsinogen, trypsinogen and so on), but this consideration would have value only for the glands, and is useless for the stomach and intestine. Frenzel suggests, as Krukenberg¹³ had already recently done, that the comparative physiology of digestion may be expected to solve our problem. Possibly the solution will prove to be less simple than we expect, and by showing us how exceedingly varied in principle the processes are which we have been accustomed to lump together under a single name as "digestion," also demonstrate that the safety of the "living" structures immediately involved is due to equally varied causes. Of course no one supposes that the tissues actually remain "alive" when the digestion begins. That part which is to be dissolved "dies" either before or during the digestion, but the direct cause which changes the living complex albumin molecule with its vigorous resistance to dissolution into some feebler form making it the victim of any enzyme which may happen to meet it, no man knows with certainty or completeness.

¹² This objection does not seem to have occurred to Frenzel. Pavy, however, may have had it in mind when alluding (*loc. cit.*, p. 74) to "the more powerfully acting stomach of a warm-blooded animal like the dog," as the weak point in Bernard's experiment with "a cold-blooded reptilian animal."

¹³ Krukenberg. *Die eigenartigen Methoden der Chemischen Physiologie*. Heidelberg, 1885, p. 20.

THE USE OF STROPHANTHUS HISPIDUS IN HEART DISEASE.

BY VINCENT Y. BOWDITCH, M.D.

A LITTLE more than a year ago, Professor Fraser, of Edinburgh, published the results of fifteen years' experience with a drug, till then, all but unknown to the medical profession. The feeling of respect due to such an accurate observer and careful experimenter as Fraser; the experience of several of our New York associates, as well as the comparatively recent facts brought to my notice in our own community, are the reasons of my calling your attention, this evening, to the use of strophanthus in diseases of the heart.

In the *British Medical Journal* of November 14, 1885, one may find the full account of Fraser's experiments; and I will, therefore, only call your attention to a few of the most important characteristics of the drug, hoping thus to induce you to give it a careful trial in your own practice, if you have not already done so.

The plant is indigenous to Africa, and is used by the natives as a poison for arrow-heads. It is of the digitalis group, and has a distinct action upon striped muscular fibre, and also upon the heart; and, in poisonous doses, causes greatly increased and almost continuous cardiac systole, with consequent paralysis of the heart and early cadaveric rigidity.

By a series of experiments patiently carried out over a number of years, both clinically and in the laboratory, Fraser has arrived at the following conclusions:

First. That strophanthus has a distinct action, like digitalis, in increasing the force of systole, at the same time diminishing the rapidity of the heart's action, whether by stimulation of the organ, or direct action upon the heart muscle, he is not prepared to say.

Second. That it has little or no effect upon the bloodvessels; and, therefore, causes less blood-tension than digitalis, which, either by vaso-motor influence or direct action, or both, causes a contraction of the vessels, with a consequent rise of blood-tension.

Third. That it causes less gastro-intestinal disturbance than digitalis.

Fourth. That it possesses, like digitalis, both antipyretic and diuretic properties.

Fifth. That, unlike digitalis, it is not cumulative in its effects; and

Sixth. That it may be used in smaller doses than digitalis.

If Fraser's conclusions prove true in practice, we find a decided weight in the balance in favor of strophanthus; and, although experience teaches us to be cautious in accepting the much-vaunted virtues of any new remedy, yet the facts brought to our notice by one of such eminence should make us unhesitatingly experiment for ourselves.

Fraser has used *strophanthus* in the form of a tincture, in doses varying from three to twenty minims, twice or three times daily; but, in a recent article, he speaks of the dose as varying from five to ten minims. He has also experimented most successfully with the subcutaneous injection of the active principle, *strophanthin*, a glucoside, in doses of $\frac{1}{50}$ of a grain; and, by this means, has noticed much more lasting effects from one dose than with the tincture. In one case, with severe symptoms from mitral regurgitation, the marked beneficial effect upon the heart's action by a

single subcutaneous injection of $\frac{1}{50}$ gr. of strophanthin was noticed for eight days.

In the *New York Medical Record* of December 18, 1886, among the "Transactions of the Practitioners' Society of New York," are reports of cases by Dr. C. L. Dana, the only ones yet made public, so far as I know, in America.

Dr. Dana's results, in a comparatively small number of cases, are such as to make him believe that strophanthus, as now used here, is a valuable addition to our pharmacopœia, and can be often used in cases where digitalis is not so efficacious.

The testimony of other observers seems to point towards the favorable action of strophanthus, some believing that, eventually, it will supersede digitalis in the treatment of heart disease.

My attention was especially called to the drug by a well-known lady physician of this city, who is enthusiastic over its action in her own case, and has kindly allowed me to quote her experience with it:

During the previous year, this lady, a sufferer from a mitral lesion, was very ill, in the south of France, with pneumonia, during the progress of which the heart became very troublesome. At the suggestion of her physician, during her convalescence she began taking strophanthus; and, before twenty-four hours had passed, experienced the greatest relief from the breathlessness upon the least exertion, which had been one of her most distressing symptoms. The improvement continued steadily, until, by the advice of a physician in another part of France, she ceased to take strophanthus, when the former symptoms returned. Repeated experiments have shown her conclusively that the drug gives her great relief from dyspnoea, and its effects are always more pleasant than those of digitalis. In the use of the latter she had always experienced a depressing effect, coupled with gastric disturbance; with strophanthus, however, the effect is always rather exhilarating, and it has never caused the slightest trouble with the digestion. Its action is always markedly diuretic; and, although she has never taken it in doses sufficiently large to carry the pulse below the normal rate, it has always had a distinctly calming effect upon the heart. She continues to use the drug, omitting it at times for a few days, and always experiences the same sensations upon resuming it again. Her testimony, therefore, is distinctly in favor of strophanthus as a substitute for digitalis.

Acting upon these suggestions, I was, fortunately, able to try the drug in a case of severe heart disease, transferred to me by Dr. F. I. Knight, in which a slight mitral systolic murmur, great dilatation of the left ventricle, pulmonary œdema, a very rapid, irregular, intermittent pulse, and almost constant orthopnoea, were the chief symptoms. For several weeks, almost constant use of the tincture of digitalis, and trials of sparteine and caffeine, had failed to effect the action of the heart muscle, the pulse varying from 140 to 110 to the minute most of the time. Tincture of strophanthus, in doses of about three or four minims, three or four times a day, was tried; but, owing to some rather obscure symptoms, which I then thought might arise from the drug, it was discontinued after the third or fourth day; and although the patient insisted that she liked the medicine, and that she breathed more freely, I noticed no special action upon the heart or pulse.

Soon after this, the patient developed signs of con-

gestion in the lower part of the left lung, namely, dulness and slightly bronchial breathing; râles from rapidly increasing pulmonary œdema were heard on both sides; the legs, arms, and face were swollen, the dilatation of the heart increased and relief from great dyspnoea was obtained only by subcutaneous injections of morphine.

The husband of the patient having heard that Dr. M. L. Chamberlain of this city had had experience with strophanthus, suggested a consultation to which I gladly assented, and at his advice the strophanthus was again tried and gradually pushed. It was given finally in doses from fifteen to twenty-three drops by the ordinary glass dropper (about equivalent to ten or twelve minims) three or four times in the twenty-four hours; digitalin, in doses varying from gr. $\frac{1}{160}$ to gr. $\frac{1}{8}$, being given between the doses of strophanthus when the patient was awake. It would be quite unfair to attribute all the gain which immediately followed to strophanthus, for although digitalis as used before in the tincture had not had the slightest apparent effect upon the pulse, yet the use of digitalin naturally makes it impossible to say which was the larger factor in the improved condition of the patient, but the following facts were noticed: rapid decrease of the dulness and bronchial breathing over the congested portion of the left lung, great diminution in the number of râles throughout the chest; the swelling of the arms and legs diminished, the dyspnoea was less marked; the action of the heart became much less feeble, while the pulse slowly dropped from 120 to 88, became perfectly regular and lost its intermittent character. This improvement continued for about a week, when a curious friction sound appeared near the angle of the left scapula, the exact nature of which it was impossible to determine, and that night, the patient while sitting up during a movement from the bowels suddenly fell back and expired. No autopsy was allowed.

Synopsis of case.—Patient suffering intensely in the last stages of mitral disease, after receiving no apparent benefit from the tincture of digitalis, sparteine or caffeine, obtains very great relief from somewhat large doses of tincture of strophanthus alternating with digitalin.

Another case in which I have noticed a markedly beneficial effect from strophanthus is a lady sixty-three years of age, for years a sufferer from valvular disease in which dyspnoea and great irregularity of the heart's action are the chief symptoms. During a severe illness last November, from which I never expected her to recover, all the most serious symptoms were greatly relieved by three or four minims of strophanthus given three times a day. General œdema of the legs disappeared; the action of the heart and pulse steadily improved and the latter, which by the use of digitalis had fallen to about 45, rose again to about 60, and although occasionally intermittent was more regular than I had ever known it under the previous use of digitalis. The patient is now vastly improved in health, moves about the house, is able to go out to drive or walk, and still takes about three minims of the strophanthus three times a day, and although the pulse still intermits and is somewhat irregular, the action of the heart is much less tumultuous than before, and varies from 65 to 80 beats in the minute.

The last case in which I have used the drug is a

man about fifty-eight years of age, who has had symptoms which point to fatty degeneration of the heart, namely, a weak, rather irregular and rapid pulse with occasional attacks of faintness. This patient seems not at all sensitive to the drug, and I have gradually increased the dose to fifteen minims, four times in the twenty-four hours. Although the pulse has never fallen below 86 and usually is about 94 or 96 to the minute, it is now of very good strength and perfectly regular ever since he began to take the tincture about five or six weeks ago. Previously the pulse had often been above 100, and at times very weak. The general condition has slowly improved; there has been no recurrence of the attacks of faintness, and as the patient tells me he has always had a rapid pulse I have not attempted to reduce its action farther, and am at present diminishing the dose again to see how far the drug has a controlling action upon his heart.

From such a meagre array of cases I should, of course, be unjustified in making any remarkable claims for the drug, but the experience of others combined with the results of my own observation, makes me feel it should be brought before the profession and tested.

As to the preparations now in use in this country, I only know of the tincture and the soluble triturate tablets as prepared by Fraser & Co., of New York, in which one tablet represents one minim of the tincture.

I have reasons for believing that the tinctures which I have thus far tried, made by some of our best-known firms here, are not yet of as good a quality as those prepared by Prof. Fraser or by Messrs. Duncan and Flockhart, of Edinburgh.

Through the kindness of the lady-physician already referred to, I have seen the Edinburgh preparation, and instead of having a greenish hue, it is colorless, has a slight but distinct odor of sulphuric ether, leaves no precipitate when added to water, and has a less bitter taste than these tinctures which I have seen here.

I can but think, moreover, that our present preparations vary in their strength; a fact which makes thorough experimentation much more difficult, but by keeping in mind the same general principles which guide us in the use of digitalis, chiefly watching the character of the pulse, we shall be enabled to test the comparative value of strophanthus, with little danger of doing harm.

It is to be hoped that before long we can make experiments with the active principle strophanthin which Fraser tells us is a much more efficacious method of administering the drug than any other.

Increased facilities for obtaining the plant from Africa will doubtless before many months not only enable our druggists to give us this form of strophanthus, but at a greatly reduced price.

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— A student of the Albany Medical College, was asked the other day in class how he would treat a corpulent man. He said he generally found they would take beer. He will not get a diploma this spring.

REPORT ON THE PROGRESS OF SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

CEREBRAL SURGERY.

THERE have been a few important contributions to the surgery of the brain. Mr. Victor Horsley's paper¹ read at the last annual meeting of the British Medical Association, gives the details of operating on the brain and the dangers that arise in the after-treatment of such cases. The following cases are recorded, all of which were successful. Two trephinations for traumatic epilepsy; the removal of a tubercular tumor from its previously located position at the junction of the lower and middle thirds of the ascending frontal convolutions. The cases of Mr. Horsley, Dr. Clark, of Glasgow, and the recent case of Hughes Bennett and Pearce Gould² seem to indicate that trephining for traumatic epilepsy, is becoming an established operation; It is certainly a justifiable, although not always a successful operation. On the other hand, the removal of tumors from the brain substance is not as encouraging. Four cases have been recorded; the case of Mr. Godlee³ and Dr. Bennett, which cannot be regarded as successful, a case by Dr. Kirschfelder, of San Francisco, in which death occurred on the seventh day; Mr. Horsley's successful case; and the successful removal by Dr. Durante, of Rome, of an endocranial tumor from the base of the skull.

Of interest from a practical point of view is the London Pathological Society's exhibit of cerebral tumors⁴ in which out of forty-four specimens of intracranial growth, only two would be suitable for an operative attack.

COMPRESSION OF THE BRAIN.

E. VON BERGMANN in a recent report,⁵ an interesting review of which has already appeared,⁶ states that the mechanical action in compression of the brain, is similar to progressive cerebral anæmia from other conditions. That the blood is driven from the capillaries by pressure, as water from a sponge, causing impaired nutrition, the effect of which is first irritation and subsequently paralysis of the nerve centres. Thus the pulse at first, through irritation of the vagus, is retarded, but later, when paralysis of the latter occurs, becomes more accelerated. For his reasons in detail, the reader is referred to the original article; which is also valuable from its reference to the latest advances in closely related subjects.

A NEW CONTRIBUTION TO THE STUDY OF CRANIAL AND SPINAL INJURIES.

DR. B. VON BECK⁷ during the last two years the author has investigated one hundred and eighty-two cases of injuries of this nature, of which number, one hundred and seventy-five occurred in military, and seven in civil practice. Twelve cranial, and thirteen spinal injuries are reported in detail with full comments on the cases. He contrasts briefly the symptoms of pure commotio cerebri with shock, excluding from consideration those so-called mixed cases of concussion, in which associated with the conditions of concussion dynamic or structural disturbances by rupture

of the connection between the delicate vessels of the meninges and the brain itself, are followed by hæmorrhage. The latter may be very slight, and generally occur in the cortex, rarely in the deeper-situated vascular tracts. In regard to cortical centres, v. Beck adopts the view that these are, indeed, the terminations of different conduction-paths, but that by abundant anastomoses impressions are rapidly transferred to neighboring structures, which act as substitutes; and disapproves an extensive localization of individual smaller circumscribed cortical centres.

After a short enumeration of the disturbances of motor and sensory functions observed in all the severer spinal injuries, the author mentions the participation of the vaso-motor nerves, which are always present when the gray substance of the cord is involved. Priapism is a cardinal symptom. Other symptoms which subsequently soon appear, and can be ascribed only to a vaso-motor paralysis, are delayed capillary circulation in the paralyzed limb, dilatation of vessels and consequent slight œdema of skin and subcutaneous tissues, and a slow return of normal color of the skin after circumscribed pressure. Elevation of temperature of paralyzed areas. Trophic disturbances accompany these vaso-motor changes hand in hand, as is shown by a predisposition to pressure gangrene, and atrophy of tissues, especially muscular. For a full analysis of the symptomatology the reader is referred to the original monograph. In regard to the treatment of these injuries the following brief synopsis of the author's opinions and experience, is especially of interest. Three complications appearing soon after the injury are particularly dangerous to life, namely, decubitus, myelitis with its sequelæ, and purulent cystitis, the prophylaxis and treatment of which is given in detail. In fractures of the spine, v. Beck discountenances all extensive manipulations, which he claims are, as a rule, detrimental, and seldom of value.

OPERATIVE TREATMENT OF EMPYEMA OF THE ANTRUM HIGHMOREI.

The disadvantages of an artificial opening in this affection in the roof of the oral cavity as heretofore made, are that the opening is not always permanent enough (the suppuration sometimes lasting for years), and the easy access of particles of food to the antrum, thus prolonging or aggravating the suppurative process. To avoid these, Mikulicz⁸ proposes to establish the opening for drainage in the lower nasal passage at the level of the inferior turbinated bone. The inner wall at this point is quite thin, and easily perforated by a short-bladed stylet. By cutting downwards and forwards, no harm is done, for the wall here becomes thicker and resists the instrument. Too free hæmorrhage is controlled by iodoform gauze tampons. The after treatment consists in washing out the antrum with a balloon syringe having a curved nozzle. He found the operation easy on the cadaver, but an abnormally narrow nostril or excessive thickness of a turbinated bone might render it impracticable.

In a man aged thirty-three, affected for several years with empyema of the antrum, this treatment proved successful in four weeks.

OPERATIVE TREATMENT OF CLEFT PALATE.

J. Wolff⁹ reports twenty successful cases in which

¹ British Medical Journal, October 9, 1886, p. 670.² British Medical Journal, January 1, 1887, p. 12.³ British Medical Journal, May 16, 1885, p. 988.⁴ British Medical Journal, February 6, 1886, p. 249.⁵ Arbeiten aus der chir. Klin. der Königl. Univers. Berl. I, Th. I.⁶ Annals of Surgery, Aug., 1886.⁷ Deutsche Ztschr. f. Chir. Bd. xxiv, 1-150, 1886.⁸ Centbl. f. Chir., 1886, No. 24.⁹ Arch. f. Klin. Chir., 1886. Bd. xxxiii, III. 1.

he has closed the palatal defect by operation correcting at the same time any existing labial and nasal defects. The after-treatment consists in fitting the patient with a vulcanized soft-rubber obturator,¹⁰ and training the wearer in use of the voice until power of speech is fully acquired. Eventually the person may learn to talk without it. He recommends operating with the head dependent, and emphasizes the importance of minimizing the amount of hæmorrhage, which he controls by uninterrupted firm pressure of from two to four minutes with pledgets of salicylated gauze held *in situ* by the finger or spatula. During the operation (and for the first few days following) the whole oral and pharyngeal cavities are irrigated with a tepid salicylic solution which the dependent position of the head renders possible, and diminishes the amount of swelling of the wound edges. The advantages of this method claimed by Wolff, are the diminished amount of hæmorrhage, the opportunity for irrigation, which aids greatly rapid union, the rapid acquirement of good power of speech, and its adaptability not only to adults but also to young children.

REMOVAL OF CARCINOMA OF THE MOUTH, ISTHMUS OF THE FAUCES AND PHARYNX.

After a short review of a full report of twenty operations for the removal of wide-spreading cancer of the mouth and pharynx, in addition to eighteen unoperable cases, Polaillon¹¹ gives the following conclusions: (1) That pneumonia is a very dangerous sequela of extensive operations of the mouth and pharynx. (2) The chief danger is hæmorrhage. (3) That antiseptics is the best safeguard against the former and preliminary ligation of the carotid (double ligature and division of vessel) against the latter, not only at time of operation, but also secondary. (4) That preliminary tracheotomy is indicated only where asphyxia is to be feared during the operation. Its prophylactic value against pneumonia is doubtful. Polaillon agrees with Verneuil that non-closure of the facial wound and through antiseptic irrigation are of far greater value against this danger. Of Polaillon's twenty cases subjected to operation, one died from syncope at the end of the operation, three from hæmorrhage, two from sepsis, two from pneumonia; total eight.

INFECTIOUS SUBMAXILLARY CELLULITIS.

Paul Tissier¹² records two cases of Ludwig's angina, and elaborately reviews the subject.

It manifests itself in persons between twenty-five and thirty years of age, and frequently occurs after exposure to cold.

After three days of prodromata, the neck becomes swollen and painful. The tongue is so swollen that it is immovable, the buccal mucus membrane is reddened and there is great salivation. The mouth can hardly be opened owing to the swelling of the neck, and the chin is obliterated. At the end of a week, after marked oscillations of temperature, suppuration or gangrene occurs.

The disease is a grave one, an infectious process of a septic character, and is supposed to be due to a lesion of the buccal cavity, through which the germs enter the tissues between the chin and hyoid bone.

CICATRICAL STENOSIS OF THE TRACHEA.

Küster¹³ reports the following classification of the above tracheal affection, which he divides into four groups according to its origin:

- (1) Traumatic, resulting in a majority of cases from attempts at suicide.
- (2) Syphilitic.
- (3) Neoplastic, sarcoma and carcinoma.
- (4) Diphtheritic most common. (a) "*Granulation*"

stenosis, generally at upper border of wound, due to a certain predisposition in addition to the irritation from the tube. Appears at times in form of a "*granuloma*" of the mucous membrane after cicatrization of the external wound. (b) *Submucous stenosis* caused by a puckering of the mucous membrane into transverse or longitudinal folds, and depressions by the submucous scar-tissue. The resulting chronic inflammation can cause softening of the cartilage and extend into the peritracheal tissue. (c) *Mucous stenosis*, most severe and also the rarest form, generally fatal.

Of the diphtheritic form Küster has collected from among 709 tracheotomies, 17 cases of stenosis. Of these 12 were successfully treated, 3 were discharged not cured, 2 terminated fatally; one from chloroform, the other from a peritracheal abscess. The treatment consisted in opening the trachea, and removing all granulation tumors, bands, or folds. The trachea was then kept patent by a systematic dilatation through the opening. In traumatic strictures a partial excision of the trachea is claimed to be the only means of obtaining a permanent cure.

OPERATIVE TREATMENT OF PULMONARY ECHINOCOCCUS.

J. Isreal reported a case of echinococcus of the lung, treated successfully by operation. From personal experience and from the reported cases of Schede, Cornil and Gibier, he concludes that treatment by incision and drainage, in the manner described in the report, is attended by far less dangerous consequences than an exploratory puncture which in three cases was followed at once by death from suffocation, in consequence of the cyst rupturing into the bronchi. In all three cases this rupture resulted from violent paroxysms of coughing, which the puncture caused. Hence it is of great importance that puncture should not be attempted until this reflex irritability has been controlled by morphine or chloroform narcosis. The latter is preferable if a radical operation can be at once performed. The details of the operation are fully described.¹⁴

RESECTION OF THE THORAX IN REMOVAL OF TUMORS OF THE CHEST-WALL.

Prof. H. Maas¹⁵ has discussed this procedure, and after reporting three cases gives the following conclusions:—

- (1) That in aseptic operations and after-treatment, even where large portions of the ribs and costal pleura have been removed, a rapid expansion of the collapsed lung can occur without inflammation or inflammatory adhesions of the parietal with the visceral pleura, or with the soft parts used to cover the defect.
- (2) That the two great dangers from opening the pleural cavity and exposing the lung, namely, loss of

¹⁰ Arch. f. Klin. Chir., Bd. xxv, p. 898, 1880.

¹¹ Gaz. de Par., lvi, 29-31, 1886.

¹² Le Progrès Medical, 1886, No. 35, 36, 37, 38.

¹³ Versammlung deutscher Naturforscher und Aerzte zu Berlin. Berl. Klin. Wochenschr., Oct. 4, 1886.

¹⁴ Deutsche Med. Wochenschr., xli. No. 19, May 13, 1886.

¹⁵ Arch. f. Klin. Chir., Bd. xxxiii, Hft. 2, 1886.

moisture by evaporation, and sudden cooling of the exposed thoracic organs, can be avoided by the use of a steam-spray.

(3) That irrigation of the thoracic organs should be avoided, if possible, and when necessary, a non-irritating solution (salicylic acid) of the temperature of the body should be used.

STRICTURE OF THE ŒSOPHAGUS.

The treatment of this affection is again called to notice by Maydl.¹⁶ The various methods adopted, since the operation of gastrostomy has furnished an opportunity of attacking a stricture from below, show a gradual improvement of the efficiency of surgical interference in these cases. Rejecting the old method of attempting dilatation *per orem*, the gastric opening was utilized to pass bougies through the stricture from below upwards (Bergmann, Schattauer). Others have used the gastric fistula to pass a thread from the mouth through the œsophagus to the artificial opening by passing a slender sound through from above and by means of this thread dragging into place the selected instrument, (rubber drainage-tube Weinlechner and v. Häcker, bougies, etc.), by which the actual dilatation of the constriction was to be accomplished. Maydl has introduced an apparently much improved method in that having once succeeded in finding a passage through the stricture it is never lost till the dilatation is complete. Briefly described, the operation is as follows. A small bougie, No. 5, to the upper end of which is attached a strong double silk thread twice the length of the bougie, is passed down the œsophagus and pulled out through the gastric opening by seizing its tip as it projects from the cardiac orifice with a pair of forceps, introduced for that purpose. The oral end of the thread is now fastened to the tip of a No. 10 bougie, which is drawn carefully down into the stricture, so that its upper end (to which a thread similar to the first is attached) is well in the œsophagus. This remains *in situ* twenty-four hours, and is then withdrawn, by means of the lower thread, through the gastric opening leaving the upper thread in its place, by which the next bougie could be drawn into position. The bougies are allowed to remain *in situ* twelve hours; and a larger one is introduced every second day. As the dilatation progresses the period of actual dilatation is diminished with each successive instrument. A small amount of cocaine (five per cent. solution) exhibited *per orem* reduces the irritation from manipulation. Introduction of the thread through the nose causes less irritation than through the mouth. In Maydl's patient this method caused a rapid improvement, and was far superior to the old system in rapidity of effect. It seems well adapted to the treatment of œsophageal strictures, cicatricial and non-malignant in character.

A NEW METHOD OF GASTROSTOMY.

The difficulty in preventing the escape of the contents of the stomach after gastrostomy is well known; and also how unsatisfactory, as a rule, are the numerous appliances devised for this purpose. Again, the rule of making the fistula as small as is possible, and allow the introduction of food, fails to remove this annoyance. The continual discharge also keeps the edges of the wound in a state of ulceration. After

describing a number of the most efficient means of meeting this difficulty, and stating their disadvantages, v. Häcker¹⁷ proposes to solve the problem by placing the wound of operation two and one-half to three cm., to the left of, and parallel to the linea alba, so that after the operation the powerful contraction of the rectus muscle shall, by enclosing the opening in its fibres, act the part of a sphincter. Another advantage claimed is, that the incision of the rectus in the direction of its fibres and subsequent suturing of the peritoneum to the skin makes it more difficult for the gravitation of pus to occur between the muscular planes of the abdominal wall, and is more favorable to primary union, than when it is cut obliquely or transversely. After giving the arguments why this situation is equally as advantageous as the "Fenger" incision which is regarded as the most practical and is most commonly employed (one finger-breadth from, and parallel to the left costal arch), and quoting Hyrtl, Langer, Henle, Luschka and others as his authorities for his statements in regard to the anatomical position of the stomach in relation to the abdominal wall and to the proposed seat of operation, v. Häcker describes in detail a case in which this plan had been practised. The indication for gastrostomy was the existence of a very narrow stricture of the œsophagus near the cardiac orifice caused by carcinoma. The operation was as follows. The abdominal incision was eight cm. long, commencing at a point one finger-breadth from the left costal arch, two and one-half cm. from the median line, and parallel to it. After opening the rectus sheath, and dividing the muscle by separating the fibres with a blunt instrument, the peritoneal cavity was opened. The stomach appeared in the wound. A fold of the anterior wall above the fundus was drawn out of the incision and held in position by transfixing it with a needle, the ends of which rested on the external surface of the edges of the abdominal incision. After suturing the edges of the parietal peritoneum to the skin, at the seat of the proposed fistula, and closing the abdominal wound above and below this point, the stomach wall was fastened to the wound by eighteen sutures passed through the serous and muscular coats, so as to close the peritoneal cavity. For greater surety, several of these included the skin. Iodoform gauze dressing. The following day the needle was removed. Two days later the exposed surface of the stomach was divided, the mucous membrane and skin united by suture, and the patient fed through a medium-sized drainage-tube inserted in the opening. On account of the escape of the contents of the stomach an especially devised obturator was substituted. The patient was convalescent in four weeks, and until his death, two and a half months after the operation, from extension of the carcinoma to the lung, his condition was much alleviated. The fistula showed no signs of dilating, and thus a continual change to larger-sized tubes to prevent leakage, as commonly occurs, was avoided. After the wound had healed, the opening could be closed by approximating its sides laterally by a strip of plaster. If left entirely open the gastric contents escaped on reaching the level of the opening, especially in an erect attitude. The dissection of the rectus muscle parallel to its fibres causes far less hæmorrhage than when these are divided transversely. Dissections on the cadaver show that if the fistula is established in the upper

¹⁶ Ueber ein neues Verfahren der dilatation von Narbenstricturen des Œsophagus bei vorhandener Magenfelst. Allg. Wien. Med. Ztg. June 15, 1886.

¹⁷ Wien. Med. Wochschr., xxxvi, No. 31-32.

part of v. Hacker's proposed incision, its site exactly coincides with that of the "Fenger" incision, the latter intersecting the former in its (v. Hacker's) upper one third. It was also found that the stomach was easily accessible. The incision of the rectus should be between the highest and next inferior lineæ transverse.

(To be continued.)

Clinical Memoranda.

A CASE OF HYDATIDIFORM MOLE.¹

BY JAMES R. CHADWICK, M.D., BOSTON.

AMONG the cases of "Congenital Stenosis of the Female Genital Tract" published by me in the *Boston Medical and Surgical Journal* of June 3, 1886, was one (Case 3) in which there was an almost complete closure of the vagina just in front of the cervix uteri, which was entirely relieved by operation, when the patient passed from observation seven years ago. I was summoned to see her in consultation with Dr. A. E. McDonald, of this city, on June 6th, when I learned the following facts of her subsequent history. A healthy child had been born to her eighteen months ago; from the eleventh month of lactation, menstruation had recurred regularly until April 22d, the day on which she weaned her child, when it failed to appear. She had no special symptoms until May 7th, when her child was taken ill and she began to pass a small quantity of watery blood, which recurred in the subsequent four weeks almost every time she lay down. From that date the vomiting was very frequent and severe. Dr. McDonald was called about June 1st, when she passed a considerable clot. He found the uterus enlarged systematically, almost to the naval, and the vomiting controllable only by frequent doses of morphine. On June 6th, eleven weeks after the last menstruation, I found the patient in good physical condition with the temperature below 100°F., but the pulse 140-150. The vomiting was so frequent that scarcely anything was retained on the stomach. The pregnant uterus rose an inch above the navel, no foetal parts could be felt and no foetal pulse or placental bruit heard: the aortal pulse was, however, transmitted with remarkable distinctness. I was unable to reconcile the size of the womb with the data as to menstruation given by the woman. The size of the womb corresponded with the sixth month of gestation, yet at that period the foetal parts and heart sounds should have been recognizable. The cervix was not soft, but exhibited a deep laceration on the left side, from the angle of which a cicatricial seam extended across the vault of the vagina. The lips were everted and granular; the touch caused the granulations to bleed freely, so that I cauterized them with nitrate of silver under the impression that the hæmorrhages might be attributable to that source, as in a case I had recently seen. No diagnosis was made then, but that afternoon it suddenly flashed into my mind that the manifestations of the case were identical with those of the case of hydatidiform mole reported by Dr. W. L. Richardson at the last meeting of this Society; the omission of two catamenia, the repeated sero-sanguineous discharges from the sixth to the eleventh week, the sudden enormous development of

the uterus without evidence of a foetus, the incessant vomitings. No cysts had, however, been evacuated. I accordingly wrote to ask Dr. McDonald to meet me at the patient's house on the second day after (June 8th), when we found that the woman had been vomiting incessantly for the past twenty-four hours; she was much exhausted and had a weak pulse of 140-150. Dr. McDonald administered ether and I tried ineffectually to pass my finger through the inner os. The cervix was rigid and unyielding, so that I had to resort to Goodell's dilator to open the canal. Though this was done very slowly and carefully, I soon recognized that the cervix was splitting in the line of the former rent. When dilatation was sufficient to admit my finger into the interior I could feel the smooth surface of a blood-clot. Dilatation was continued by the fingers alone for about fifteen minutes longer, until three fingers could pass into the interior, when fresh hæmorrhage became so profuse that prompt evacuation was manifestly imperative. The hand was passed into the vagina and after a few efforts into the womb. Handful after handful of cysts held together by blood-clots and chorionic membranes, were thrown out into a basin while fresh blood streamed from the vagina. Within thirty seconds the uterine cavity was empty and the fundus, stimulated by the manipulations of the other hand through the abdominal wall, contracted at once and permanently. The hæmorrhage, however, continued, though less profusely. Hastily inserting a speculum I saw the blood issuing from a deep rent in the cervix and the vaginal vault on the left side which opened into the pelvic cellular tissue. This was promptly arrested by a tampon of cotton soaked in a solution of perchloride of iron. The pulse was now found to be nearly imperceptible, but came up under repeated subcutaneous injections of brandy. The convalescence has since been slow. The next morning Dr. McDonald and I removed the tampon, washed out with a solution of permanganate of potash the blood-clots formed by the iron, and placed a suppository of iodoform in the rent. On the second day, when I was at Providence, she suffered for twelve hours from exhausting vomiting which was skilfully checked by Dr. McDonald, who, I should say, has had the chief care of the patient. To-day, the patient was comfortable, had no vomiting, no inflammation; a temperature of 101°F, but the pulse still 140. She bids fair to recover. With regard to the ulceration of the cervix and vaginal vault in the line of the old cicatrix, I believe the mishap to have been unavoidable in the emergency and moreover, to be of not infrequent occurrence. I have certainly seen it once before when speedy delivery of a child was necessary to save a patient's life threatened by inter-partum hæmorrhage. The bleeding from the ruptured vessels in the cellular tissue, was in that case arrested by a tampon soaked in an iron solution. No bad symptoms followed and the fissure healed, so that finally a small notch in the cervix and a cicatrix across the dome of the vagina alone indicated the extent of the rupture.

The following letter was received from Dr. McDonald:

DEAR DOCTOR,—The patient recovered quite well from the shock of the operation, but remained for some time weak and restless. Pain was not at any time prominent nor did she have much hæmorrhage. Her stomach was very irritable, with a tendency to vomit; she was, therefore, fed by enemata for the first two weeks. A douche of solution of permanganate of iron

¹ Read before the Obstetrical Section of the Suffolk District Medical Society, June, 1886.

was continued during that time. One week after operation she developed cellulitis starting from the point of rupture in the os. The temperature ranged about 102 F., but never got above that point. In the course of the cellulitis she suffered a severe attack of acute nephritis, which induced persistent vomiting.

On the third day of July, I discharged her comparatively well. I have not seen her since that time until to-day, September 11, 1886, I find her looking well and robust. She considers herself in very good health, and complains of nothing but a slight yet continuous oozing of dark blood. The fact that she is menstruating precludes a vaginal examination.

Yours very truly, A. E. McDONALD, M.D.

FRACTURED TRACHEA.

BY E. C. NORTON, M.D.,
Assistant Resident Physician, Tewksbury Almshouse.

JANUARY 31, 1887, a robust Irish-American, aged twenty-eight, a bricklayer, was admitted to State Almshouse Hospital, at Tewksbury, complaining of pain and soreness in the throat.

When first seen, his throat was considerably bound up with flannels, but the portion exposed indicated great swelling and redness. On being questioned, the patient said he had fallen, two days before, through a staging, striking his throat on a portion of the staging that did not break.

Placing my fingers on his neck, I easily detected emphysema, which, I found, on further examination, extended to border of the lower ribs in front and sides, and down the back as far as lower borders of the scapulae. The pupils were considerably dilated, though the patient claimed he had taken no medicine that day; the slightest handling of the trachea caused spasmodic breathing for a moment, although, at all times, breathing was slightly hurried and difficult; the voice was clear, but not strong.

When asked to locate the seat of injury, the patient placed his finger just below the cricoid cartilage. External digital examination proved that the hyoid bone was still intact; and the ability to articulate distinctly eliminated from my mind any possibility of injury, either to the thyroid or cricoid cartilages, and compelled me to believe that either one of the upper rings of the trachea was fractured; or the membranous structure between the rings, or the muscular tissue behind, was ruptured. No examination which the patient's condition would allow me to make, owing to the excessive amount of air in the tissues about the neck, enabled me to locate just where, in the upper part of the trachea, the injury took place; but we know that when a hoop is pressed together at two opposite points, the other two opposite points, that is, the sides, are the places where the hoop breaks; and, inasmuch as the emphysema was about equal on both sides of the neck, it is easy for me to conclude, since the blow in this case was on the front of the tracheal rings, that the upper ring, or first two rings, perhaps, was broken at the sides, so as to allow air to escape into both sides of the neck.

Patient related that, for the first twenty-four hours after the injury, his struggle for breath was very trying; swallowing of liquids, even, caused a great deal of pain; and that he bled freely for several hours after injury. There was considerable bronchitis present at the time of admission, and his sputa were quite bloody; both bronchitis and blood-sputa lasted for seventy-two hours. There was, at no time, œdema of the glottis.

Treatment. Patient was put to bed, and enjoined

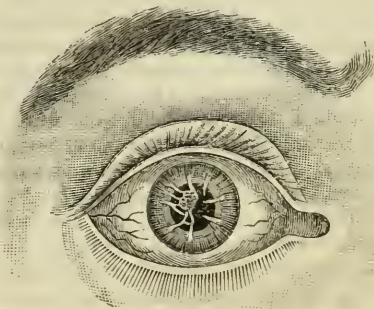
to keep his head as quiet as possible; given ten grains of calomel, which was followed, in six hours, by an enema of suds, free movement of the bowels resulting. The cold-pack was applied to the neck, and maintained for forty-eight hours. Other medication consisted in relieving the bronchitis, and a few doses of morphine, at night, to insure sleep.

The following I quote from my clinical book: February 2d. Patient more comfortable; less emphysema, less cough. February 4th. Emphysema diminishing; also soreness in the throat; swallowed liquids without much pain. February 8th. Only slight emphysema, which is at top of sternum. February 12th. Since last record no emphysema could be detected, and there is now no difficulty in swallowing solid food. Patient had apparently made a complete recovery.

PERSISTENT PUPILLARY MEMBRANE.¹

BY CHARLES S. TURNBULL, M.D., OF PHILADELPHIA.

I HAVE brought before you to-night a case of unusual interest to ophthalmologists and to medical men in general. The patient has in his right eye what is known as a "persistent pupillary membrane." This is a remnant of foetal life, but its exact structure has not been ascertained. Some consider it to be made up of atrophied bloodvessels, which have served their purpose. Other authorities hold that it consists of the remains of connective tissue through which bloodvessels pass. In this man's right eye there is a network of hair-like fibres occupying the outer half of the pupil. These fibres originate from the anterior surface of the iris, and interfere in no way with the constrictor muscle of the pupil. This form of congenital anomaly was first observed about 1735, and on an average about one case has been reported every five years since that time. I am indebted to Dr. P. H. Baillache, of the U. S. Marine Hospital Service, for the opportunity of exhibiting this patient.



[In the subsequent discussion, Dr. E. Jackson said: This case is notable for the clearness with which it shows the relation between the membrane and the iris. In all the cases I have seen heretofore, as in this, the pupillary membrane has seemed to arise from the anterior surface of the iris; but in no other instance has the connection been so obvious, the membrane here appearing to be simply an extension of the anterior layer of the iris, and similar to it in structure.]

¹ Read before the Philadelphia County Medical Society, at the Stated Meeting, February 23, 1887.

Dr. Turnbull said that the point referred to by Dr. Jackson is well illustrated in this case, and it settles the disputed question as regards the origin of these fibres. It is distinctly seen that the sphincter muscle is in no way involved. The membrane has no connection with the muscle nor with the inner pupillary margin.]

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

FEBRUARY 14, 1887. The President, Dr. O. F. WADSWORTH in the chair.

OVARIAN CYSTOMA OF RAPID GROWTH, CAUSING SEVERE PERITONITIS AND INTESTINAL OBSTRUCTION.

DR. JAMES B. AYER reported the case :

Mrs. B., forty-two years ; fifteen weeks before was suddenly seized with severe pain in each groin. Examination next day showed a prominent swelling corresponding to the transverse colon, together with peritonitis ; pain most marked in inguinal regions. Morphia prescribed.

The bowels gradually became obstructed. At the end of four weeks, there were marked tympanites, delirium, nausea with vomiting, and severe pain, requiring two grains or more of morphia daily. There was no defecation for eight days.

These symptoms strongly suggested obstruction from malignant disease.

By Dr. Warren's advice, he having seen her in consultation at different stages, the transverse colon was punctured with a fine trocar, and croton oil and enemata were freely used. The distension was much relieved by puncture and the bowels were opened on the ninth day — the pressing symptoms were relieved, and there was no serious trouble afterward from obstruction. Peritoneal inflammation gradually subsided until the abdomen could be examined to better advantage.

A small lump of stone-like hardness could be made out just above Poupart's ligament on the left side, and this grew rapidly upward. On the right side, after a while, a limited area of fluctuation was made out. When this was evacuated a hard lump remained.

Dr. Whitney examined the fluid and stated that it probably came from an ovarian cyst. As the cyst rapidly refilled after aspiration, and had become purulent it seemed to Drs. Warren and Elliot, as well as to Dr. James Ayer and the speaker that the danger from this source could not much longer be averted. Moreover, both lumps were growing rapidly, that on the left had passed the umbilicus.

As peritonitis had disappeared, and as she had gained a very little strength from the large amount of nourishment, stimulants and tonics which she had taken, being able to sit up a few moments daily, it was thought proper to insert a drainage tube, and while under ether to remove the tumor if possible.

February 9th. Dr. Warren, assisted by Dr. Elliot, performed ovariectomy skilfully and speedily, and the patient rallied from the operation. For twenty-four hours there were good hopes of recovery, but she sank from septicæmia on the fourth day.

One of the most important among the many inter-

esting points connected with this case according to Dr. Elliot, is the fact that this dense tumor while *clinically* as malignant as possible, was found by Dr. Whitney not to be *pathologically* malignant.

DR. WARREN remarked that the condition of the patient when first seen by him was one of typical chronic obstruction. The distension of the abdomen was excessive and the point of constriction appeared to be above the cæcum, as enemata could be made to ascend to nearly that point. It was evident that an attempt made to open the bowel above this region, had such an operation been thought advisable, would not have been successful, owing to the presence of the tumor.

The cyst was tapped the first time for the purpose of relieving pressure. After suppuration had set in, laparotomy was performed, primarily to drain the pus cavity ; but it was found impossible to attach the cyst wall to the abdominal wound, owing to its friable character. Notwithstanding the suppurating cyst, the condition of the patient was more favorable at the time of operation than at any moment during treatment.

POISONING BY CARBOLIC ACID.

DR. MINOT reported the case of a young married woman who was brought to the Massachusetts General Hospital, February 4th, nine hours after having swallowed, with suicidal intent, about seven fluidrachms of liquid carbolic acid, stated by the apothecary of whom it was bought to be of the strength of from 90 to 95 per cent. Soon after swallowing the poison she became unconscious, with cold clammy extremities. In about three hours violent vomiting set in ; two hours later she became able to speak and to swallow. Small quantities of saturated solution of carbonate of sodium, were administered, but were not retained ; eight hours after taking the poison she passed a pint of "black" urine. She was brought to the hospital at 4 P.M., in the following condition : great prostration, urgent vomiting, cold extremities, pallor, intellect confused, no recollection of what had occurred, pulse 114, small and compressible, temperature 99.6°, respiration rapid, shallow, with a few tracheal râles. There was no carbolic odor to the breath, no white streaks about the lips, tongue moist, with white coat, fauces and posterior wall of pharynx somewhat dry, with a white surface. The patient could talk and swallow. Some castor oil which was given was soon vomited. Two ounces of greenish-black urine were drawn off, containing a very slight trace of albumen.

In a few hours the general condition improved, but the patient complained of dryness of the throat and of a burning sensation along the œsophagus ; there was much vomiting and retching, with intense thirst, and she was unable to speak above a whisper. The next day there was marked tenderness of the epigastrium and left hypochondrium, and the vomiting persisted ; she also coughed and raised mucus. The vomitus was not remarkable except on one occasion, when it contained specks of blood. The patient was very hoarse, and the intense thirst and dryness of the mouth continued. During the following night vomiting gradually ceased, and she could retain iced milk. After this there was progressive improvement, but she was still unable to speak above a whisper on the fourth day, and had some difficulty in breathing. The urine gradually returned to its natural color. On the sixth

day the speech was clear and the patient swallowed without difficulty. She was discharged, well, on the ninth day.

FEBRUARY 28, 1887, the President, Dr. O. F. WADSWORTH, in the chair.

Dr. W. W. GANNETT showed specimens from the autopsy of a case of

ECHINOCOCCUS OF THE LIVER.

The publication of the discussion is reserved until the presentation of the clinical report.

Dr. JOHN HOMANS showed an

OVARIAN CYST

removed by operation. This cyst which was unilocular, showed evidences of having been multilocular. The patient who had had peritonitis before operation is now doing well.

Dr. VINCENT Y. BOWDITCH read a paper on

THE USE OF STROPHANTHUS HISPIDUS IN DISEASE OF THE HEART,¹

and he passed about specimens of the tincture from different manufacturers to show the marked difference in their appearance.

Dr. F. I. KNIGHT said that this is a drug that can be more easily tested than some others, because it either has or has not certain definite qualities, the presence or absence of which can be discovered by experiment. Even if it prove to be no better or even not quite so good as digitalis, it is still very useful to have an additional drug for use when that, for any reason, cannot be employed. If it shall prove possible to separate its active principle, so that it can be used subcutaneously and with certainty in cases of heart failure, where we now use ammonia, it will be a great boon.

He had personally used strophanthus in a few cases, and it seems to act promptly and efficiently; but his experience with it is not yet sufficiently large to warrant a definite opinion.

It was proper to say that some of the specimens for sale in this city have been poor ones.

Dr. F. C. SHATTUCK said that he had been much impressed by Prof. Fraser's paper on strophanthus and had, immediately after reading it, asked Mr. Metcalf to send for some of the drug. Since its reception he had employed it in six or eight cases, but has not as yet been able to come to definite conclusions as to its merits. In one case he thought he had got toxic effects from it; in two others the drug had seemed useless, perhaps because the dose was not sufficiently pushed. The tinctures of different manufacturers seem at present to differ in strength, which makes it more difficult to carry out satisfactory experiments. The case was mentioned of a little girl of ten, with mitral disease, now under treatment. Several weeks ago, while almost absolute rest was being maintained, the symptoms grew gradually worse, cyanosis increased, moderate external and internal dropsy appeared, the jugulars and the liver pulsated, the stomach rejected everything, the urine fell from ten to two ounces per diem. About eight ounces of blood were withdrawn by leeches over the liver, and that night the child slept well, the next morning eat a large breakfast, and the urine increased to ten ounces. Two days after the leeching two minims of the tincture of

strophanthus were ordered thrice daily, and in the next twenty-four hours the child passed more than 120 ounces of urine. It is not easy to say how much of this is attributable to the drug, how much to the leeching. The drug was soon omitted, but has lately been resumed and gradually increased to six minims thrice daily, without the slightest apparent effect on the pulse. In another case similar results were obtained. Both of these form part of a series which will be reported to the Society at a later meeting in illustration of another point in cardiac therapeutics. To reach definite conclusions with regard to the value of a new drug, time and the teachings of a large number of carefully observed cases are required. Such careful trial strophanthus certainly merits, and the speaker rejoiced that Dr. Bowditch had brought forward the subject.

Dr. H. I. BOWDITCH had given strophanthus in a case of old mitral regurgitation with enlarged area of cardiac dulness, dyspnoea and weak irregular pulse. An obstruction murmur had recently appeared. The patient had steadily improved since this drug was used, there having been slight improvement twenty-four hours earlier. There is now a simple regurgitant murmur and the apex which was without, is now within the nipple. He had also employed it in a case of rheumatism with cardiac lesions and great dyspnoea. This patient was extremely ill and died in four days without relief. The drug in this case came from a supply which was said by one of the previous speakers to be poor. With his present knowledge he should use it if digitalis failed.

Dr. F. H. WILLIAMS said that the work done by Prof. Fraser on strophanthin deserves respectful attention, as he is one of the few experimenters who have studied this drug, both from the physiological and the clinical side.

In strophanthin we have undoubtedly a very valuable substitute for digitalis and a much more active substance.

Dr. Logan, of Liverpool, has suggested that the marked and prompt results obtained by the use of strophanthus are probably due to its great strength, and he has been able to get a similar action from digitalis by using it in large doses, m. x every hour for eighteen to forty-eight hours.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

WM. H. TAYLOR, M.D., SECRETARY.

FEBRUARY 2, 1887.

The meeting was called to order at 12.20, P.M., at the Rooms of the Boston Medical Library Association, by President Winsor. Present eighteen members. Records of the last meeting were read and approved.

PRESIDENT WINSOR, Chairman of the committee on Medical Expert Testimony made a verbal report to the effect that the committee had nearly agreed on the form of a bill to present to the Legislature. Some remarks on the subject were made by members Hurd and Johnson.

ASSOCIATE MEMBER FITZ introduced the following preamble and motion:

It is for the interest of medical examiners to make their reports of autopsies as exact and as comprehensive as possible. Especially, since, at the time of the

¹ See page 253 of this number of the Journal.

examination, it is uncertain what questions may subsequently arise as to the cause and manner of death. The reports should, therefore, be based on some scheme or plan which experience has proved to be the most satisfactory to meet the various conditions which may arise. The most feasible way of producing such comprehensive reports is for each examiner to make his record of the post-mortem examination upon a printed blank or form, which shall indicate the data to be determined and the sequence to be followed.

It is, therefore, moved that a committee of three be appointed to prepare for the consideration of the Society, a form to be followed in returning the record of an autopsy.

The motion prevailed and a committee was appointed consisting of Prof. Fitz, and Medical Examiners Draper and Holt.

MEDICAL EXAMINER DRAPER offered the following resolutions:

Resolved, that the Massachusetts Medico-Legal Society expresses its cordial sympathy with all proper efforts to limit and control the growing facility with which civil suits are brought in the courts of this State with unfounded declarations of malpractice as a ground for damages.

Resolved, that a committee of three be appointed to coöperate with others, either individuals or societies, in obtaining the relief which the medical profession desires and needs in relation to the evil above described.

MEDICAL EXAMINER HURD seconded the motion for the appointment of a committee, and members Draper, Holt and Johnson were chosen such committee.

MEDICAL EXAMINER DRAPER asked what medical examiners understood by the term "settlement" in relation to the bodies of residents or strangers, and also whether members found it a hardship to collect fees of the Commonwealth in cases of examination of the bodies of strangers.

The questions were replied to by Drs. Hartwell, Pinkham, and Fish, giving some variety of opinion.

Medical Examiner Draper stated that he had sent a bill to the Judiciary Committee of the Legislature, giving medical examiners the power to hand over bodies of strangers to the overseers of the poor in the town where the view is made, for burial, and to provide payment of fees in all cases by the County Treasury.

On motion of MEDICAL EXAMINER MEAD, the action of Medical Examiner Draper was approved.

MEDICAL EXAMINER PINKHAM read a paper entitled,

AN ANOMALOUS ARRANGEMENT OF THE VEINS OF THE NECK.

The usual site of the external jugular vein was occupied by a very large vessel which freely communicated with the internal jugular, and could be traced above to the jugular foramen, and below to the subclavian vein. The arrangement obtained on both sides of the neck. The subject had died from section of these anomalous vessels by a comparatively superficial cut.

Medical Examiner Pinkham also read a paper on,
A CASE OF POISONING BY OIL OF CHECKERBERRY,
WITH AUTOPSY.

A fluid-ounce of the oil was taken to produce abor-

tion. The essayist reported several other cases where toxic or lethal doses had been taken.

MEDICAL EXAMINER FISH spoke of the administration of the oil of checkerberry in rheumatic affections, and had given a fluid-drachm or more in twenty-four hours without toxic symptoms.

Dr. HURD reported a case of

RECOVERY FROM THE INGESTION OF HALF A PINT OF THE ESSENCE OF CHECKERBERRY.

MEDICAL EXAMINER DRAPER said that all essential oils were similar in their poisonous action, and reported a case of death from two fluid-ounces of oil of cedar, the fatal effect ensuing in about an hour.

ASSOCIATE MEMBER DAVENPORT stated that oil of birch is nearly pure methyl-salicylate, and does not contain gaultherylene as oil of checkerberry does. The heaviness of oil of birch is the cause of its adulteration with chloroform.

MEDICAL EXAMINER WINSOR made some remarks on the Lexington murder and mutilation case, mentioning evidence to show that the subject had died rapidly from hæmorrhage and undoubtedly from one wound.

On recommendation of the Standing Committee, Arthur Lord, Esq., of Plymouth, was unanimously elected an associate member.

NEW YORK NEUROLOGICAL SOCIETY.¹

Dr. E. C. SEGUIN read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY OF THE CEREBELLUM.

A detailed account of one case was given, and specimens, gross and microscopic, illustrating its pathological anatomy, were shown. Three other cases of cerebellar disease were briefly presented, as card specimens, with their anatomical demonstrations. The following is a summary of the first case: Male patient, forty-five years old at time of death; a retired officer of the United States Navy. Eighteen years before death, illness began with headache (not strictly occipital) and one or more seizures of an epileptiform or apoplectiform character. These were followed by impaired vision, and more or less continuous headache (fronto-occipital). Later appeared nystagmus and typical cerebellar titubation; slight slowness of speech. There was no distinct paralysis, true ataxia, anæsthesia, vertigo, or mental impairment. During several years, from 1877 to 1883 or 1884, the only symptoms were slight frontal headache, defective vision, partial atrophy of both optic nerves, nystagmus of varying form, slight slowness and indistinctness of speech, increased patellar reflex, and titubation.

In February, 1885, an epileptiform seizure left behind it partial left hemiplegia, without contracture and anæsthesia. Death on 22d of April, 1885, preceded by a set of distinctly bulbar symptoms; increased dysarthria, dysphagia, salivation, polyuria; also increasing stupor.

Lesions. Cyst of cerebellum, destroying the caudo-ventral part of the middle lobe (not involving frontal third of the vermis superior), penetrating into the right lateral lobe as far as the nucleus dentatus, not destroying it, and probably exerting only slight pressure upon the floor of the fourth ventricle. There

¹ Concluded from page 240.

were also found (1) a small, hæmorrhagic focus, two millimeters in diameter, in the ventral half of the pons on the right side, in the midst of the pyramidal fasciculi. This explained the left hemiplegia, and from it, caudad, could be traced a complete descending degeneration of the right pyramidal tract into its subdivisions in the spinal cord. (2) Very extensive arteritis obliterans of the encephalic vessels, causing numerous (mostly symmetrical) foci of softening in the cerebral hemispheres. The only system-degeneration which could be traced to the loss of substance in the cerebellum was a moderate reduction in the size of the opposite (left) olive, and partial atrophy of the right restiform body.

The author called attention to several conclusions to be drawn from a study of these four cases:

(1) As to diagnosis: Tumors of the cerebellum produce very variable symptoms; but one symptom, namely, cerebellar titubation, is, as claimed by Nothnagel in 1876 or 1877, pathognomonic of a destructive lesion in the middle lobe of the cerebellum, more especially its caudo-ventral masses. In Dr. Seguin's cases, optic neuritis or atrophy had not failed, which was in marked contrast to his experience with tumors of the cerebral hemispheres, which do not usually cause lesion of the optic nerves (1:5 or 1:4). Vomiting was a frequent symptom; occipital headache and rigidity of muscles of the back of the neck were less frequent, but very valuable symptoms.

(2) As to therapeutics: Three of the patients had obtained repeated relief from serious symptoms—paroxysms of headache, vomiting, and epileptiform attacks—by the use of iodide of potassium, in doses of from thirty to sixty grains, three times a day.

(3) As to prognosis: Two of the patients did not die of their cerebellar disease (both cysts), but of complications. Case 1 of diffused arteritis obliterans, and consequent softening in various parts of the brain (including impaired nutrition of the bulbar nuclei); the other case, No. 2, of an acute tubercular meningitis. Consequently, we may hope, in a few cases, to cause or to witness an arrest of the cerebellar disease. The disorder in voluntary movements, and the already-developed lesions of the optic nerves, are, of course, irremediable.

DISCUSSION ON DR. SEGUIN'S PAPER.

DR. BRADNER spoke by invitation: He had been the attendant in the case of the child to which Dr. Seguin had referred. He had not prescribed the washing-out. It had been done by a prominent physician of the place. He had done it a number of times during three weeks, but had then refused, believing that the child had brain disease of some form. He saw the patient first in November. The vomiting was always in the morning. There was no pain connected with it then, although a frontal headache had developed during the last few months. The treatment prescribed by Dr. Seguin had been the iodide of potash, fifteen grains *t. i. d.*, increasing five grains daily, until one hundred grains were taken at a dose. The course had been interrupted by several attacks of acute gastritis, but the child had had those attacks previously. They did not appear to depend upon the medication. The eyesight has been perfect; the child could detect the smallest point made by a lead-pencil or needle. While using the iodide his headache had improved, as had some other symptoms, but he retained his old-man's gait.

DR. SEGUIN remarked that, though seeing well, the child had typical choked disk.

DR. BRADNER added that, since seeing Dr. Seguin, he had obtained a history of injury in the case. Two years ago, and just before the commencement of his illness, he had, while trying to skate, fallen, and received a severe blow on the back of his head. One result of this injury had been abiding terror at the sight of a body of water or ice.

DR. SHAW had shown a child at the American Neurological Association in 1878, on account of a peculiar ataxic gait, like that of locomotor ataxia. The later symptoms had pointed to a tumor of the cerebellum.

DR. PUTNAM JACOBI referred to the recent collection of cases by Bernhardt. All cases published previous to 1884 had been collected by Nothnagel. Dr. Seguin's cases tended to confirm Nothnagel's laws. There were many resemblances between the symptoms of cerebellar tumor and those of tumor in other parts of the brain. The peculiar violence of the headache and the choked disk found in most cases of cerebellar disease might, she thought, be due to the increased pressure of a tumor confined by the tentorium. This element had not been commented upon, and she would like Dr. Seguin's opinion upon it.

Another point referred to the fact that the laws formulated by Nothnagel recognize the possibility of complete latency of the tumor, no symptoms at all being present when but one lobe of the cerebellum is affected; such symptoms appearing only when the tumor encroaches upon the central lobe. In one of Dr. Seguin's cases, the tumor only occupied the lateral lobe. Of course, an indirect affection of the central lobe might be present even in such a case.

DR. LESZINSKY referred to a case to which he was called in consultation by Dr. Alexander. The boy had the typical gait of spastic paraplegia; any attempt to stand caused spastic contractures in the limbs. The ankle clonus was present, and the knee-jerk was exaggerated. There were no cerebral symptoms; the fundus was normal in both eyes. The father and mother were both alcoholic and unworthy people. Finally the child became unable to walk, but there were still no cerebral signs, no vomiting. Two months before death the fundus was still normal. Later tremor developed, and paralysis of the abductors, of the fifth, and of the third nerves. Total blindness occurred. The nurse, a graduate of Bellevue, was positive that the child could see nothing. It died in a convulsion. Unfortunately, the body was immediately frozen, and the specimen was unfit for sections. The tumor was found occupying one side of the cerebellum. The spinal cord was not fit for examination. There was a well-developed meningitis, and the paralysis was accounted for by considerable exudation about the cerebral nerves. One peculiarity had been a subnormal temperature during one stage of the case.

DR. STARR had had occasion some time ago to make a collection of cortical lesions from American literature. He had at the same time made a collection of cases of cerebellar disease from the same sources. As the data obtained but corroborated Nothnagel's results, he never published them. But Dr. Seguin having remarked upon the value of corroborative evidence he would briefly refer to them now. From 1860 to 1884, 160 cases of cerebellar disease were reported in American literature. In only 40 of these

were the symptoms and the autopsies described with sufficient accuracy to warrant conclusions. These 40 the speaker had quite thoroughly analyzed. In four there were no symptoms; in one of these there was congenital atrophy of the cerebellum, in two abscess, and in one a large cyst. Of the remaining 36 presenting symptoms there was headache in 36, incoördination in 25, vertigo in 20, vomiting in 18, blindness in 14, dim vision in 6, diplopia or strabismus in 7, deafness in 7, facial spasm or paresis in 4, hemiplegia in 9, general paralysis in 4, mental symptoms in 8, stupid 7, mania 7, convulsions in 7, sexual desire increased in 2. Males 23, females 17. Ages between one and twenty years, 11 cases; between twenty and forty years, 16 cases; between forty and sixty years 9, cases; over sixty years, 1 case; age not stated in 3.

In two of the eleven cases in which incoördination did not occur the lesion probably involved the middle lobe. In cases where incoördination occurred various parts of the cerebellum were involved. But the probability was that the middle lobe was affected in the majority. There were only two instances of increased sexual desire. Bernhardt had found but one instance in ninety cases of cerebellar tumor, and Nothnagel but two cases. The speaker thought that it might be thrown out as a symptom of cerebellar disease, and regarded as one of accidental occurrence. The escape from vertigo in Dr. Seguin's case was explained perhaps by the recent discoveries in the anatomy of the course of the acoustic nerve. This nerve served for the sense of hearing and the sense of space. The center for hearing is in the pons. Edinger finds the center for equilibrium in the cerebellum to which acoustic fibres pass by way of the middle peduncle. From this center the central tract probably passes onward to the superior peduncle. Dr. Seguin says that the superior peduncle escaped in his case. It is therefore natural that vertigo should not have occurred.

The tendency to rotation was an interesting feature in these cases. There was a tendency to fall or turn forward in two cases; the lesion was in both a tumor in the vermis, in the anterior part. There was a tendency to fall to the right in two cases, in one there being a tumor in the left middle peduncle, and in the other an abscess in the same part. There was a tendency to fall to the left in two cases, in one there being an abscess in the right middle peduncle, and in the other a tumor in the left middle peduncle. A patient of Nothnagel, whom the speaker had seen in Vienna, when getting up in bed had always a tendency to turn to the right side. Nothnagel considered this due to vertigo. It was only present when the patient was erect. The patient felt as though about to fall to the left side, and hence turned to the right. This case had a tubercle of the left middle peduncle of the cerebellum. Nothnagel considered this symptom only produced by affection of the middle peduncle. In the two cases in the table where the tendency was to turn to the right there was disease of the left middle peduncle: while in the two in which the tendency was to the left, in one the right peduncle and in the other the left peduncle was affected. No rule can, therefore, as yet be laid down as to the cause of this symptom.

Dr. ENGLISH had had charge of the case which formed the subject of Dr. Seguin's paper, and he congratulated the Society upon the progress which had been recently made in the diagnosis and treatment of

cerebellar disease. Early in 1878 Dr. Seguin had written him a letter, accurately diagnosing this case as seen on autopsy.

Dr. SEGUIN closed the discussion. He was not surprised to learn of the little boy's fall, as he was a firm believer in the traumatic origin of these conditions. It was very difficult to obtain a history of fall. He could not give an opinion upon the question propounded by Dr. Putnam Jacobi. In regard to ascribing the vertigo to the acoustic nerve, he was not yet certain that the acoustic nerve had cerebellar origin. He thought it would be difficult to trace fibres through the lateral peduncle of the cerebellum, the vermis, and the anterior peduncle.

He said Dr. Starr had probably made a mistake when he referred to Nothnagel connecting rotation with disease of the middle peduncle. Middle vermis he had probably meant to say.

Dr. STARR accepted the correction.

Recent Literature.

On Aphasia: being a Contribution to the subject of the Dissolution of Speech from Cerebral Disease. By JAMES ROSS, M.D., LL.D. 8vo. pp. 128. London: J. & A. Churchill. 1887.

This little monograph is substantially a reprint of a series of papers that appeared in the Medical Chronicle, and is a very convenient work. The author gives first the report of ten cases illustrating the different forms of aphasia, most of which occurred in his own practice. These are followed by a very good *résumé* of our present knowledge as to the morbid anatomy of the affection, and the rest of the book is devoted to the morbid physiology of the disturbances of speech. He divides aphasia into a motor and sensory form. Motor aphasia is held to be a genuine motor paralysis, and is further subdivided into aphemia, agraphia, and amimia. Sensory aphasia, in like manner, is considered a true paralysis of sensation, and is subdivided into the aphasia of recollection, psychical blindness, and psychical deafness; psychical blindness including the word-blindness of Kussmaul and the soul-blindness of Munk. Beside these "disturbances of the apperceptive faculties" in sensory aphasia, the author considers that there are disturbances of the expressive faculties dependent upon the impairment of sensation, and these he classifies as paraphasia, paraphraphia, paralexia, paramimia, and apraxia. A good account of the theories of Kussmaul, Charcot, Lichtheim and Broadbent are given, with the various diagrams which these writers have used to illustrate their theories. The author, after advancing his theory that a motor or sensory paralysis is the bases of aphasia, attacks with considerable force Broadbent's theory of "idea" and "perceptive" centres. Furthermore the author, agreeing with Hughlings-Jackson's views as to evolution and dissolution in nervous disease, claims that nouns are the latest acquisitions in speech, and are therefore the most highly organized portion of it; therefore, when the faculty of speech is diseased, this most complex acquirement is the first to be affected, and the loss of nouns is due to this fact rather than to disease of any "naming" centre as Broadbent thinks. The book aids in making this difficult subject clear, and is an important contribution to our knowledge.

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THE EXTRA-ASYLUM DEPENDENT INSANE.

II. THE INSANE IN ALMSHOUSES.

IN sharp contrast to the report of the condition of the patients referred to editorially in our last issue, is that of a large number of the 684 dependent insane who live in almshouses. The first complete visitation of the Massachusetts almshouses was made in 1884. At no time have they undergone a full inspection, with reference to the number and condition of the insane inmates, by medical visitors conversant with the requirements of the insane. Occasionally, of late years, the State Board has authorized visitation by medical specialists in insanity for this purpose. The result has been, as a careful reading even of the condensed accounts published by the Board will show, to reveal a deplorable amount of neglect and wrong treatment, due largely to ignorance by most keepers of almshouses and by local authorities of the widely different care and management required, as a rule, by their sane and insane charges. Nor has it been the medical visitor alone who has recognized this wretched state of affairs. In an account of the visitation of 130 almshouses, in several counties, by Mrs. Sarah M. Brown, which appears in the last report of the Board, we read that: "In many cases, the insane are simply *kept* on the premises; but, with the limited accommodations, they are improperly cared for. The towns, on the score of economy, attempt to do in this direction work which, on the whole, is poorly done." Again: "Quite a number of those visited by me were greatly infested with *vermin*."

The dirty and disorderly state of poorhouses in many of the towns, in regard to which specific statements are made, is simply disgraceful. An expert examination in the almshouse in Fall River caused quite an acrimonious controversy in that city, partly political, of course, but, as a result of which, the superintendence has been changed twice, and still a third time this month, although leaving the main requirement unfulfilled, namely, a new almshouse, in place of the present defective buildings.

We find, also, that occasional acute cases of insanity, instead of receiving legal commitment and asylum treatment in the early and curable stages of the disorder, have, by reason of the mild nature of the attack, and for the sake of saving expense to the towns, been confined in almshouses from the first. The intermixture of the sane and insane, male and female inmates, has been found to be not properly guarded against in not a few of the poorhouses. In respect to the following points: selection of cases; facts as to sickness and death of the insane; the amount of room, matters of cleanliness and hygiene; amount of restraint and seclusion; number and kind of "cages" and "cells"; the kind and amount of diet; the state of the bedding, clothing, warmth, bathing appliances, water-supply, etc. — unfavorable observations have been repeatedly made. These criticisms, let us emphasize, do not necessarily apply to certain of the almshouses of the larger cities, in some of which the care of the insane leaves little to be desired.

The recent endeavors of the State Board to remedy these evils appear to be well directed, and it is unfortunate that the work was not undertaken long since. The recent legislation in this direction, especially that compelling the removal of unsuitable cases from almshouses, and the yearly visitations now being made by the direction of the Board, are indications of its appreciation of the necessity of supervision, and its desire to ameliorate the lot of these unfortunates.

Whether the building be new or old; whether there be separate wards or other special quarters provided for the insane of one or of several towns, their proper care undoubtedly will, in great measure, depend on whether or not a conscientious and efficient keeper falls to their lot. Their supervision, like that of all other extra-asylum insane of this class, should be undertaken by competent medical men, practised in matters of lunacy, who shall be properly paid by the State to make regular and thorough inspection. In default of such means, the only humane step is, we believe, to gradually commit patients now in almshouses to their proper asylums. They differ in no respect, it should be remembered, from a large number already in asylums, who have the benefit of medical supervision.

In the present overcrowded state of these institutions this would be impracticable, although we doubt, should this course be followed, if the treatment of curable cases in the asylums would be so far hampered as to offset by any means the good to come from delivering a number of insane patients from squalor and neglect. At all events, this transfer will no longer be looked upon as unwise when the project of providing for the over-accumulation of insane in our asylums, which is advocated by most superintendents, is put into operation. We refer to the erection, near each asylum, of small, inexpensive buildings for the accommodation of the chronic insane, these additions being made to keep pace with the gradual increase in the population of the main establishment. By this

means, economy, ease of administration, nicer classification, and constant medical care would be ensured; and we should hear little of the poorhouse lunatics, whose pitiable lot should be, we think, the strongest incentive for hastening the adoption of this desirable arrangement.

We cannot leave this subject without calling the attention of physicians in our various towns to the fact that their communities are but little alive to the needs of these victims of confirmed mental disease; and that it is in their power to encourage inquiry into, and to aid in rectifying, abuse and neglect in this quarter. Appeals to the State authorities, such as are frequent in matters of public health, cannot be made by the patient, and are often not made by others, as local interests are not thought to be especially involved.

STUNNING AND BURNING FROM ELECTRIC-WIRES.

As an incident in the development of the use of electricity for mechanical purposes, a class of injuries has arisen which present certain peculiarities. "Linemen" and "electric-light trimmers" are the ones most frequently injured; and in the pursuit of their vocations, as in every other dangerous occupation, there develops a certain carelessness, which, at times, proves fatal.

As the extensive use of electricity is of comparatively recent date, only a few fatal injuries of this description have been published. The remarkable instantaneous death of a workman at the Health-Exhibit in London, and a similar death of a sailor on the Russian Imperial yacht "Livadia," led Sheild and Delépine to carefully note the post-mortem appearances in a case that came under their observation, which they have recorded.¹

They found that the blood remained fluid, and the heart was empty. They believe that it is quite possible to recognize an electric burn, not alone from its gross appearance, but also from certain peculiar microscopical appearances that exist in the blistered integument. The human body is, fortunately, a poor conductor of electricity; and it has been said by certain electricians, that a wire (in circuit) transmitting enough electricity to light fifteen lamps may be handled with impunity, if the circuit is not broken. Occasionally, however, a "lamp-trimmer" brushes against the wire with a wet rubber coat, or touches it with damp hands, thus breaking the circuit, and receiving a severe shock and burn. Three cases of this character occurred in Boston last autumn, where men received an electric-shock in the above manner. They were rendered unconscious, fell to the ground, and sustained, in addition to the bruising from the fall, a severe shock and local burns.

The burns were peculiar in that the tissues were completely destroyed, the surrounding parts anæ-

thetized, and that, at first, there was no local congestion of the surrounding skin; the reparative process was very slow and tedious.

The period of unconsciousness varied with the severity of the shock, which, in two of the cases, was recovered from in a few days.

Prof. George Buchanan² reports the case of a laborer, who was stunned and burned while working in the vicinity of a brush-light. The victim was engaged in handling a crane. By the wire of the light coming in contact with a chain attached to the crane, he was brought into the circuit. He was instantly "doubled up," his hands spasmodically grasped the chain, and in this position he was held for four minutes, until the lamp and chain were disconnected. The amount of shock was slight, but a full hour elapsed before consciousness returned; he then complained of a sensation of heat in the abdomen, and slight dimness of vision. There was a slight vesication on the hands, and at the point on the sole of the foot from which the current passed into the ground, a charred surface, two inches square, remained. It is certainly remarkable that so powerful a current could pass through the foot without causing more injury in its passage.

The treatment of these cases is essentially that adopted for severe nervous shocks, the burns being treated as their intensity may demand.

CALOMEL AS A DIURETIC.

A WRITER in the *Practitioner* has recently called attention to the diuretic properties of calomel. It has long been known that the addition of calomel to certain diuretics, as squills and digitalis, enhances the action of those drugs.

The researches of Jendrassick are exceedingly interesting in this connection. It appears that the diuretic action of calomel is not immediate, but manifests itself ordinarily the second, third, or fourth day, generally reaching its maximum the second day, and then declining. The amount of diuresis depends on two factors: the dose of calomel employed, and the abundance of the dropsical effusion existing at the time of administration of the medicament. In Jendrassick's first experiments, the dose of calomel was four grains, three or four times a day; but the diuretic effect is naturally proportional to the quantity of calomel absorbed. The best results are obtained when the first symptoms of mercurial poisoning show themselves: metallic taste, pyalism, mild stomatitis. If the dose of calomel exceeds a certain limit it becomes purgative, and is carried off in the stools.

Jendrassick found that when once diuresis was induced by calomel, it lasted a long time, often not ceasing till the dropsical swellings had entirely disappeared; nor were further doses of the mercurial needed to keep up the effect. Calomel was found to

¹ Brit. Med. Jour., March 14, 1886.

² Lancet, February 13, 1886.

be especially useful in the dropsies of heart disease, with a sound state of the kidneys; in these cases, it proved itself a better diuretic, even, than digitalis.

The conclusions of Jendrassick have recently been confirmed by Collins in the *Medical Chronicle*, who has found two or three five-grain doses of calomel an incomparable diuretic in dropsical effusions.

MEDICAL NOTES.

—The Forty-Ninth Congress appropriated \$10,000 toward the approaching International Medical Congress to be held in Washington next September. It is provided that the amount appropriated is to be expended under such regulations as the Secretary of the Treasury may prescribe, also that no part of the appropriation shall go toward paying the personal expenses of any delegate, and no money shall be expended except upon vouchers to be approved by the Secretary of the Interior. The sum asked for by the Committee of the Congress was \$50,000.

—The *Pall Mall Gazette* has, in its endeavors after a new sensation, hit upon a *plébiscite*, in which the public are invited to record a vote on the "best doctor" in general; the "best woman's doctor"; the "best dentist"; the "best surgeon"; the "best-managed hospital," etc. "The usual prizes of £2 and £1 will be given to the two competitors whose coupons agree most nearly with the opinions of the majority." Meantime, our English brethren of the profession are very highly and properly incensed at the impertinence of the whole scheme.

—The National Dental Hospital of England, and the College of Surgeons of Edinburgh, have both decided to admit women for the study of dentistry. None have yet presented themselves, although the *Dental Register*, issued by the Medical Council, contains the names of twenty-two women, of whom sixteen practice in England, two in Scotland, and four in colonies. These women were all registered as being in practice before the passage of the "Dentist's Act." Thus it is seen that women are not rushing into the profession with the celerity which might be expected from the throwing open of the doors.

—The *London Medical Record* refers to two cases of rumination in man, reported by Dr. Johanessen in the *Norsk Magazin for Lægevidenskaben*, November, 1886. Case I. was a man, aged twenty-five, unmarried. At sixteen years old he had sudden pains in the chest and diplopia, and remained ill three weeks; he had also headache, noises in the ears, and gastric pains. On recovery, he remarked that food returned into his mouth, especially when after a meal he worked in a forward attitude. The regurgitations became more frequent, and after a few years occurred after every meal. Remastication occurred with the same satisfaction as at first. All kinds of food returned, solids and liquids. The rumination begins within a few minutes to half an hour after a meal, and lasts an hour or two.

The regurgitation is involuntary, and the patient has never tried to prevent it. He has vomited only twice in his life, and then only after too much alcohol. During the last six months he has noticed a change in his condition—the food regurgitated has been accompanied by a bitter substance of disagreeable taste—and he is thinner. Case 2, was a young medical man in fair health.

—The United States Consul, at Buenos Ayres, in his dispatch to the United States Treasury Department, dated January 7, 1887, says: "Cholera still exists in this city, but it makes but little progress in assuming an epidemic form. The average number of cases per day since my last dispatch (December 6th), has not exceeded 22. The greatest number of reported cases in one day occurred on the 30th ultimo, when the number reached 57, since which time it has steadily declined, and on yesterday the number was only 11 in the city, with its population of 400,000 souls." He encloses a clipping from the Buenos Ayres *Standard*, from which it is learned that during the months of November and December there were 871 cases of cholera, and 474 deaths from that disease. The consul also states that "the disease has scarcely made its appearance except in closely packed tenement-houses (conventillos) of the lower classes and in the suburbs, which are without pipe and hydrant water. In the interior of the Argentine Republic, however, the disease has assumed the proportions of an epidemic. In Rosario, during the last month, the daily number of cases averaged 60 to 100, while about 70 per cent. were fatal. In Mendoza the development of the disease has been most remarkable, and the population of that city of 20,000 has been almost decimated; and in the country districts the disease was equally fatal. In Tucuman the number of cases has on some days been as high as 500, of which about one-half proved fatal. Indeed, the panic at one time was so great that it was not possible to obtain the requisite assistance to bury the dead. In nearly all the other interior cities the disease has been very virulent and fatal, but, not confining itself to centres of population, it has ravaged entire provinces, and farmers (estancieros) and camp men have in great numbers succumbed to it. I am happy to say that with medical assistance, disinfectants, medicines, and a large supply of good nurses, the disease seems to have greatly abated during the last two weeks, and the hope is entertained that it will soon have run its course."

BOSTON.

—The death of Hon. Zenas M. Crane, the veteran paper manufacturer of Dalton, Mass., which occurred last week, is said to have revealed in him the anonymous contributor of \$10,000, which sum was received by the Massachusetts Eye and Ear Infirmary, five years ago in response to an appeal for subscriptions.

—The Directors of the West End Nursery and Infant's Hospital, 37 Blossom Street, urgently appeal for further aid to enable them to continue the work of

the institution. It is only through a still further response to the needs of the work, of at least \$3,000, that the thirty babies now under the shelter of the nursery can be cared for during the coming year, and aid extended to the other helpless infants who may demand the care of charity.

—A shocking accident occurred on the morning of March 14th, whereby a local train on the "Dedham Branch" of the Boston and Providence Railroad was precipitated through a broken bridge, a distance of twenty-five or thirty feet, into the road-way below, at a point in West Roxbury. Of nine cars, composing the train, five thus fell through between the abutments, where they were piled upon each other. About twenty-five persons were killed outright, and between eighty and one hundred injured, many of them very severely. Both the morgues in Boston were filled with the bodies of the dead, some of which were crushed so as to prevent identification, except by the dress and other personal effects. One woman had her head completely severed from the body, and another had the head cleft downwards, so that one side of the skull and face were removed. In these more extensive mutilations, comparatively little blood was lost. One of the cars took fire from the stove, but the flames were extinguished promptly, so that this so common source of danger and horror was removed from the case. The wounded were many of them taken at once to their homes, and five or six patients were admitted to the City Hospital and the Massachusetts General, each; while others were dressed in the out-patient departments, and sent to their homes.

NEW YORK.

—The New York State Academy of Veterinary Science and Comparative Pathology held a meeting March 4th, at which there was adopted a set of resolutions for presentation to the Legislature, in which it was stated that, while during the past year, 37,330 deaths occurred in New York, 16,000 of this number were in children under five years of age, and that the Academy believed that many of these deaths were caused by diseased meat and adulterated milk. There were only four milk inspectors and one meat inspector for the whole city, and the Academy regard the establishment of public abattoirs, when cattle could be examined before and after being slaughtered, and also of depots for the examination of milk. Furthermore, it was asked that the number of inspectors should be increased, and that every candidate applying for the position of inspector should first be examined by a commission consisting of one member from the Board of Health, another from the Microscopical Society, and the third from the State Academy of Veterinary Science. An amendment was added to the effect that every veterinary surgeon should be required by law to report to the Board of Health all cases of contagious disease that came under his notice among animals. At this meeting Dr. J. P. Gerrish read a paper

on tuberculosis in man and in cattle, and a general discussion of the subject followed.

—Governor Hill has at last, after nine months' delay, signed an order approving of the removal of General Shaler, President of the City Board of Health, by Mayor Grace; the General in the meanwhile having continued to hold his position at the head of the Department. It is said that he will adopt legal measures for re-installment in office, but it seems hardly likely that they will be successful, as the feeling is strong in the community that a man who has practically been twice convicted of bribery, although the jury did not agree at either trial, is not a fit person to hold one of the most important among the municipal offices.

—The Mayor is said to have appointed Mr. James C. Bayles, editor of *The Iron Age*, and an expert sanitary engineer of high repute, President of the Board of Health, in the place of General Shaler.

—The Crosby bill now before the Legislature providing for a single head for the New York Board of Health, has been modified, in accordance with the wishes of Mayor Hewitt, so as to establish a three-headed commission, the President of which is to be the executive officer of the Board, and to be solely responsible for the discharge of all duties of an executive nature. The other two commissioners are to be clothed with judicial and legislative powers, and to act in conjunction with the President in these functions.

—Dr. Lucien Damainville has been appointed a police surgeon to fill the vacancy caused by the death of Dr. Francis M. Purroy.

—The annual commencement of the Medical Department of the University of the City of New York, was held at the Academy of Music, March 8th, when degrees were conferred upon one hundred and fifty-one graduates. Gilmore's band furnished the music, and the address to the class was made by the Rev. John R. Paxton, D.D.

—The twenty-first annual commencement of the New York College of Dentistry was held at Chickering Hall, March 9th. The graduates numbered fifty-one, and were addressed by W. A. Purrington, Esq., Counsel for the Medical Societies of the State and County of New York.

—Dr. W. S. Searle, family physician of the late Henry Ward Beecher, has made a statement of his case in which he says that prior to the attack of apoplexy, Mr. Beecher was a remarkably sound man for his age. The only complaints to which he had ever been subject were tonsillitis, so-called bilious attacks, and hay-fever. So far as could be known, his only organic trouble was a very limited amount of chronic nephritis. Like all corpulent men, he labored somewhat under shortness of breath, and, without having made an examination, Dr. Searle feared that he might perhaps have some fatty degeneration of the

heart. But the powerful and persistent action of this organ during his late illness proved this apprehension to be unfounded, while no man living had more capacious or better innervated lungs than his. The seat of the apoplexy was apparently in the right hemisphere, involving the motor tract, and the rupture was no doubt one of a small vessel, as indicated by the gradual and progressive character of the paralysis which resulted. By Saturday morning the effusion had become sufficiently extensive to produce almost total loss of motion in the left arm, as well as to seriously impair the control of the corresponding lower extremity. Sensation, in these parts, however, was still intact; but the hæmorrhage went on, the paralysis became more and more marked, until it finally became entire in respect of both motion and sensation. Thus, on Sunday morning it was discovered that sensation was completely abolished in the whole left side of the face, and even in the conjunctiva. Subsequently the disease did not deviate from the usual course observed, and death resulted from the gradual failure of the vital powers.

— Dr. William Young has just got a verdict in the Superior Court of \$3,538.88, which is the full amount of the bill, with interest, which he claimed against the estate of the late Frederick P. James, a wealthy banker, for professional services rendered from December, 1881, to May, 1884, when Mr. James died. For fifteen years before his death, he was a paralytic, and had various complicating affections of the different organs. The defence claimed that the bill was too high, and that Dr. Young had profited in certain stock speculations through Mr. James's knowledge of the market; but it was proved that the doctor had paid him commissions as he would have done to any other broker.

— The sum of \$53,050 mentioned last week in connection with the Hospital Saturday and Sunday Collection was the entire amount collected, and the necessary expenses had to be deducted from this: Mt. Sinai Hospital received the largest share of any, \$5,727; St. Luke's the next, \$4,486; The Hospital for Ruptured and Crippled next, \$4,121; the Presbyterian next, \$3,625; and the German next, \$3,555. The other hospitals received amounts varying from \$1,929 (St. Mary's Free Hospital for Sick Children), to \$354, (the Home for Convalescents). The different amounts were assigned at a recent meeting of the Distributing Committee, which consists of Mayor Hewett, Morris H. Jesup, Jesse Seligman, Cornelius Vanderbilt and ex-Mayor Edward Cooper.

— The seventh anniversary of the Home for Convalescents was celebrated in Dr. Crosby's church on the 9th of March, when addresses were made by the Rev. Drs. Crosby and Ormiston and others. This is a most worthy charity, the object of which is to give temporary shelter and comfort to those who have been discharged from the hospitals not wholly recovered from the effects of illness, and it is the only insti-

tution of the kind in the city. It was opened in June, 1880, with six beds, and since that time it has received 775 inmates, for many of whom it has obtained employment on their full recovery. It now has a building in East 118th Street, provided with twenty beds.

Miscellany.

A DEATH FROM CHLOROFORM IN TRENTON, NEW JERSEY.

A DEATH from the administration of chloroform is reported from Trenton, N. J., and the *Daily American* of Trenton, contains a communication from a resident physician in which the unfortunate occurrence serves as the text for a reiteration of sound doctrines as to the relative safety and desirability of ether and chloroform.

CARBOLIC ACID IN THE TREATMENT OF VOMITING, AND PAINFUL DYSPEPSIA.

THE well-known anæsthetic and analgesic effects of carbolic acid were first utilized in the treatment of vomiting by Dr. Edward Garroway,¹ of England. He found drop doses of carbolic acid in some suitable vehicle to allay as by magic hysterical vomiting and the vomiting of pregnancy. Drs. Dixon and Beran afterwards employed the same remedy in the same dose for the relief of some forms of painful dyspepsia; the latter associated with it a certain proportion of the *acetum opii* (English black drops).

Recently, Pacholier² has essayed the combination recommended by Dr. Beran, in obstinate cases of chlorotic vomiting, in the vomiting of pregnancy, in gastralgia from dilatation of the stomach, and from anæmic, nervous causes; and he reports remarkable success from this palliative treatment of these affections. His formula is as follows:

Pure deliquescent Carbolic Acid,	.	.	1 part.
English Black Drops,	.	.	3 parts.
Mix. Dose —	four drops in a little sweetened water three times a day, a few minutes after meals.		

POISONING FROM A VAGINAL INJECTION OF SUBLIMATE.

THE *Therapeutic Gazette* publishes the following instructive case, which originally appeared in the *Centralblatt für Gynäkologie*, by Fleischmann, of Prague. A perfectly healthy primipara, aged seventeen, exhibited no symptoms of kidney disease, or of any other complication of pregnancy. To disinfect the vagina before labor, two douches of 1 to 2,000 solution of sublimate were given, one before and one after examination by a midwife. It was noticed that a small amount of bloody mucus was expelled from the vagina after the douches. In a few hours abdominal pain, diarrhœa and a rise of temperature occurred, all the symptoms and lesions of mercurial poisoning developed, nephritis, salivation and continued diarrhœa, and, after giving birth to a living child, the patient died in coma on the ninth day after the douches were

¹ British Medical Journal, March 13th, 1869.

² Bulletin Gen. de Thérapeutique, February 15th, 1887.

given. The pathological anatomical diagnosis made at the autopsy was "corrosive sublimate intoxication, acute nephritis, dysentery, stomatitis and pharyngitis in the stage of ulceration, parenchymatous degeneration of heart and liver, lobar and lobular pneumonia bilateral, acute cystitis."

INSANITY AS A MEASURE OF BRAIN-FAILURE.

DR. T. S. CLOUSTON in reading his annual report to the corporation of the Royal Edinburgh Asylum for the Insane recently, said that so far as society was concerned, the chief significance of the amount of definite mental disease that occurs every year in a community, consists in the fact that it is the most measurable and ascertainable of all the brain failures. It was the one sort of mental wreckage that was so absolute as to admit of tabulation and classification. It was not necessarily different in kind from many of the mental causes of business failure, of moral incompetence, of social disaster, or of many kinds of non-success in life. It was merely different in degree. The failures of energy and power of work at critical times, the paralysis of effort in study or action, the "unaccountable" changes of purpose, or of emotional condition that have such far-reaching effects in life, might all arise from brain-failures allied to insanity, but neither society nor science as yet had any means of estimating the number or the causes of such cataclysms. Instability of brain took many forms. The present humane methods of healing mental diseases might at first have the same general effect as modern improved sanitation and care for the diseased, the weak, and the young of delicate constitutions, who would formerly have been allowed to die, and so be done with. At present, the weakly in mind and body are kept alive by every means, and sedulously cared for. There was no doubt that the evolutionary law of the survival of the fittest was thus opposed. If they had no indication from science that weak and unstable brains could become strong and stable in succeeding generations under favorable conditions of life, and that brains with one or two weak points might have in other directions elements of strength of the greatest service to humanity, but for such indications a great part of what modern philanthropy and medicine were doing for the insane might not be thought of unquestionable benefit to mankind.

THE INEQUALITY OF THE PUPILS IN VARIOUS DISEASES.

THE *Lancet* (January 15) quotes from *Vratch* a number of observations made by Dr. Pasternatski, who has been working in Professor Chudnovski's clinic in St. Petersburg, on the inequality of the pupils in various diseases, in pursuance of a suggestion made by his chief in a work on the methods of examining medical patients, published in 1883, in which he expressed an opinion that careful examination of the pupils would lead to interesting results. Dr. Pasternatski examined a number of methods which have been proposed, but did not find any of them suitable for his purpose, and ultimately, a much simpler plan, suggested by M. Follin, was adopted. This consists in

bringing a catheter-gauge card close to the eye, and comparing the size of the pupil with the apertures in the card. By this means, the size of the pupil, in millimeters, can be ascertained with a degree of accuracy sufficient for the purpose. It is important to make the observations in the shade, for the difference, when there is any, between the diameters of the pupils increases as the light is diminished. The best method of conducting the examination is to close the eye which is not being observed, for this causes a slight increase in the diameter of the pupil of the latter, as was indeed remarked by Hippocrates. It was found, for example, in a case in which this was tested, that when both eyes (being in the shade) were fixed on an object at a distance, the diameter of the right pupil was $5\frac{1}{2}$ mm., and that of the left 6 mm.; when, however, the eye not under examination was covered up, the diameters increased to 6 mm. and $6\frac{2}{3}$ mm., respectively. As to the diseases in which inequality of pupils has been observed, Dr. Pasternatski quotes a number of cases mentioned by continental physicians; also one of aneurism shown by Professor Gairdner to the Edinburgh Medical Society, as well as two reported by Professor Finlayson in the *Lancet* of January 3d, 1885, in both of which aneurisms were found at the necropsy. His own observations gave the percentage of cases in which inequality was found in various diseases as follows: Croupous pneumonia 85, heart diseases and aortic aneurisms 61, pleurisy 52, chronic catarrhal pneumonia 38, acute articular rheumatism 25, catarrh of the respiratory passages 25, scurvy 16, typhus 16, recurrent typhus (relapsing fever) 15, abdominal typhus (enteric fever) 13. Inequality of pupils was also found in half the cases of catarrhal and hepatic jaundice and renal colic. The largest percentage occurred in croupous pneumonia, and study of the cases showed that the position and stage of development of the disease has a remarkable effect upon the pupils. At the very commencement, the pupil on the same side as the affected lung is, as a rule, larger than the other. The difference generally increases with the lung inflammation, reaching its height on the third, fourth, or fifth day; before the crisis the difference decreases, sometimes even disappearing. Afterwards, during the stage of resolution, a difference is again manifest, the pupil on the affected side being now contracted. Not only do the pupils in pneumonia differ in size, but also in sensibility to light. Speaking generally, the author's observations lead him to believe that inequality of pupils is most frequently met with in those internal diseases which not only affect the system generally, but which, like pneumonia, pleurisy, and hepatic and renal colic, are definitely localized as well. It is also very usual in heart diseases and aneurism, but comparatively rare in curvy and infectious diseases, such as typhus, and when it does occur in these, it is generally consequent on some complication.

Correspondence.

REMOVAL OF FOREIGN BODIES IN THE ŒSOPHAGUS, ETC.

SMITHSBURG, MD., February 12, 1887.

MR. EDITOR,—In a recent JOURNAL I read an account of some cases of foreign bodies in the Œsophagus and also

of their treatment. These cases brought to mind some experiences of my own, the relation of which may be of some value to the profession.

In one case a lady allowed a very crooked pin to be caught in the upper part of the pipe. I was called at night, and after learning the situation, I procured an elastic switch ten inches long, secured a small piece of sponge to one extremity by notching the twig and then wrapping the sponge where it enveloped the notched end of the twig with strong cord. Then I sewed the sponge full of loops of hair from my horse's tail. This improvised instrument I passed down to the pin, continually rotating it, both in introducing and withdrawing. The pin was caught in the loops.

In another case, a piece of bone, which we call spare-rib, was accidentally swallowed, because the patient having no teeth bolted his food. The bone lodged in the lower part of the œsophagus. At first he could not swallow water but later other soft substances passed down. He came to me about the third day, complaining of pain, worse when swallowing, and of inability to swallow food. As it was butchering time I readily procured some raw fat pork. This I cut into small bits, having a piece of skin attached to each. The whole when together making a bulk as large as a hulled walnut. Each piece of pork was attached to a piece of cord exactly fourteen inches long. These he swallowed one after the other. After they were all down I brought the ends of the cord strings evenly together so that I might know that the meat was massed below. Then I made traction which provoking an effort at disgorgement, I speedily recovered my pork but the bone was not with it. But as he could and did swallow

mouthful of dry bread soon after, I concluded that the dislodged bone had dropped into the stomach, while the pork held the œsophagus open.

Is it not possible to dislodge formidable foreign bodies from the œsophagus by swallowing bits of compressed sponge with the attached cords carefully numbered? The expansion that would follow their wetting would so stretch the pipe as to loosen the foreign body and permit it to drop into the stomach. An India-rubber bladder attached to a tube of the same or of metal could be passed down and be blown out with air or with water from a sufficiently elevated reservoir.

I have a case of Bright's disease, and the patient has had an occasional attack, something like epilepsy, and some difficulty of vision in which he could only see distinctly the lower half of an object. He is not dropsical. One evening he came into his room and lay down. After apparently sleeping for an hour he was discovered to have one of his "spells" (insensibility without spasm) and I was sent for. When I arrived, half an hour later, he had partially recovered consciousness and was rubbing the soles of his feet energetically. When any one else attempted it he would exclaim that they hurt him. Thinking there might be muscular spasm I tried grasping the foot tightly but it hurt him so severely that I had to desist. After a while, however, he became easier and I left. At my next visit on the following morning I found two large blisters occupying the sole upon each heel, located alike and almost alike in size, shape and extent. I should like to have the cause of their occurrence explained.

Very truly yours,

E. TRACY BISHOP, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	773	328	20.54	20.41	1.82	10.01	3.25
Philadelphia	993,801	454	172	11.44	14.74	1.10	3.73	1.76
Brooklyn	745,108	284	111	17.15	15.40	.35	9.80	2.10
Chicago	745,108	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	144	44	8.97	13.11	1.38	2.76	.69
Boston	400,000	187	57	12.76	19.61	.53	6.36	1.59
New Orleans	242,750	99	38	14.14	11.11	3.03	3.03	2.02
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	92	30	21.60	2.16	10.86	4.32	—
Pittsburgh	210,000	86	47	18.56	24.36	1.16	2.32	3.12
Montreal	210,000	—	—	—	—	—	—	—
Milwaukee	170,000	46	20	12.02	4.34	—	6.51	—
Providence	121,000	49	18	12.24	4.08	—	4.08	4.08
Richmond	100,000	44	17	—	2.27	—	—	—
New Haven	80,000	23	4	—	26.10	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	31	10	3.23	12.92	—	3.23	—
Portland	40,000	14	4	21.42	21.42	—	14.28	—
Worcester	68,383	22	13	13.65	13.65	—	9.10	4.55
Lowell	64,051	29	11	24.15	20.70	6.90	6.90	—
Cambridge	59,660	19	9	10.52	26.30	—	5.26	5.26
Fall River	56,863	22	10	27.30	9.10	9.10	13.65	—
Lynn	45,861	19	4	5.26	5.26	—	5.26	—
Lawrence	38,825	8	1	—	—	—	—	—
Springfield	37,577	11	2	18.18	—	—	—	—
New Bedford	35,393	20	10	5.00	15.00	—	5.00	—
Somerville	29,992	11	3	36.36	27.27	—	—	18.18
Salem	28,084	6	1	—	16.66	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	6	2	16.66	16.66	—	16.66	—
Taunton	23,674	9	2	11.11	—	—	11.11	—
Haverhill	21,795	10	3	—	50.00	—	—	—
Gloucester	21,713	9	3	11.11	—	—	—	—
Brockton	20,783	2	1	—	—	—	—	—
Newton	19,759	7	3	14.28	14.28	—	—	—
Malden	16,407	3	0	—	33.33	—	—	—
Fitchburg	15,375	6	1	33.33	—	—	—	—
Waltham	14,609	6	0	—	33.33	—	—	—
Newburyport	13,716	4	0	—	—	—	—	—
Northampton	12,896	10	4	10.00	—	—	—	—

Deaths reported 2,567: under five years of age 984; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 397, acute lung diseases 408, consumption 346, diphtheria and croup 166, measles 59, diarrhoeal diseases 41, typhoid fever 40, scarlet fever 28, malarial fevers 15, cerebro-spinal meningitis 14, whooping-cough 10, erysipelas 10, puerperal fever seven, small-pox (New York five, Brooklyn two), seven. From typhoid fever, Philadelphia 15, New York five, Pittsburgh four, Lowell three, Brooklyn, Boston, New Orleans, District of Columbia and Somerville two each, Baltimore, Fall River and Newton one each. From scarlet fever, New York 16, Philadelphia, Brooklyn and Boston three each, Newport, Taunton and Milwaukee one each. From malarial fever, New York, six, New Orleans four, Brooklyn two, Philadelphia, Baltimore, and District of Columbia, one each. From cerebro-spinal meningitis, New York, five, Philadelphia, and Fitchburg—two each, Baltimore, Pittsburgh and Springfield one each. From whooping-cough, New York three, Brooklyn two, Philadelphia, Boston, Baltimore, District of Columbia and Pittsburgh one each. From erysipelas, New York, Baltimore and District of Columbia two each, Brooklyn, Providence, Gloucester and Northampton one each. From puerperal fever, Brooklyn and Milwaukee two each, Portland, Providence, and Springfield one each.

Cases reported in Boston: measles 51, diphtheria 51, scarlet fever 25, and typhoid fever five. In Milwaukee, scarlet fever 29 and diphtheria 14, Newport, 10 cases of measles.

In the 22 cities and greater towns of Massachusetts, with a population of 1,177,418 (population of the State 1,941,465) the total death-rate for the week was 18.55 against 20.68 and 20.52 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,090, for the week ending February 19th, the death-rate was 21.1. Deaths reported 3,736: infants under one year of age 874; whooping-cough 125, measles 107, scarlet fever 47, diarrhoea 36, diphtheria 32, fever 23, small-pox (Newcastle) one.

The death-rates ranged from 17.2 in Derby to 29.6 in Preston; Birmingham 23.3; Blackburn 22.3; Bradford 20.2; Hull 18.6 Leeds 20.7; Liverpool 25.8; London 19.3; Manchester 28.6; Newcastle-on-Tyne 24.3; Nottingham 18.4; Oldham 22.2; Sheffield 24.2; Sunderland 22.1.

In Edinburgh 23.8; Glasgow 27.1; Dublin 35.3.

The meteorological record for the week ending March 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Saturday, Mar. 5, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 27	29.317	31.0	41.0	22.0	82.0	53.0	59.0	65.0	W.	W.	W.	21	23	28	O.	F.	C.	—	—
Monday, ... 28	29.842	16.0	22.0	13.0	50.0	45.0	47.0	47.0	W.	N.W.	N.W.	30	26	11	F.	F.	C.	—	—
Tuesday, ... 1	30.108	20.0	26.0	10.0	72.0	31.0	36.0	46.0	W.	N.W.	N.W.	14	13	6	O.	C.	O.	—	—
Wednes. ... 2	29.897	35.0	45.0	19.0	50.0	74.0	87.0	70.0	S.	S.W.	W.	8	10	12	O.	C.	C.	—	—
Thursday, ... 3	30.286	28.0	40.0	24.0	32.0	37.0	46.0	45.0	N.	N.	N.	20	14	10	C.	C.	C.	—	—
Friday, ... 4	30.455	27.0	34.0	20.0	73.0	42.0	50.0	55.0	N.	W.	N.W.	9	7	11	O.	C.	C.	—	—
Saturday, ... 5	30.770	18.0	28.0	11.0	70.0	56.0	70.0	65.0	N.	E.	S.E.	12	8	17	C.	O.	O.	8	.12
Mean, the Week.	30.096	25.0	34.0	17.0				56.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 5, 1887, TO MARCH 11, 1887.

ALDEN, C. H., major and surgeon. Ordered for duty at United States Military Academy, West Point, N. Y., August 28, 1887. Relieving Lieutenant Colonel Andrew K. Smith, surgeon, who will then report by letter to the surgeon general. S. O. 52, A. G. O., March 5, 1887.

CARTER, WM F., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Department of Texas, February 24, 1887.

MCCRURY, GEO., captain and assistant surgeon. Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

JOHNSON, R. W., captain and assistant surgeon. Ordered for temporary duty at United States Military Academy, West Point, N. Y. S. O. 51, A. G. O., March 4, 1887.

EDIE, GUY L., first lieutenant and assistant surgeon. Granted leave of absence for one month to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 12, 1887.

BRADLEY, GEORGE P., surgeon. Detached from Naval Hospital, Philadelphia, Pa., and granted six months' leave.

STEELE, JNO. W., passed assistant surgeon. Ordered to Naval Hospital, Philadelphia, Pa., without delay.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE FIVE WEEKS ENDING MARCH 5, 1887.

GUIERAS, JOHN, passed assistant surgeon. Granted leave of absence for twenty-one days, February 28, 1887.

PETTUS, W. J., assistant surgeon. To proceed to Charleston, S. C., for temporary duty, February 28, 1887.

OBITUARY.

CHARLES B. UNDERHILL, M.D.

Dr. C. B. Underhill, of Salda, Col., died of consumption at his mother's residence on Cutter Street, Somerville, Mass., in February. He was a graduate of Harvard College, in the class of 1877 and of the Medical School in 1881. He served eighteen months as Medical House-Officer in the Boston City Hospital. Close application undermined a not very strong constitution, and he went to Colorado for his health. The climate prolonged his life, but could not cure the disease, and he returned home to die, after spending five years in the practice of his profession. He was thirty-one years of age and unmarried. As a physician he was successful, and was beloved by all who knew him.

BOOKS AND PAMPHLETS RECEIVED.

A Case of Bone Reconstruction. Dr. H. G. Wetherill. Trenton, N. J., 1887.

A Synopsis of the Nature and Effects of Alcohol and Narcotics. By L. H. Luce, M.D. Boston, 1887.

The Forty-Eighth Annual Report of the Superintendent of the Boston Lunatic Hospital, to the Board of Directors for Public Institutions, for the Year ending December 31, 1886. Boston, 1887.

The Functions of the Brain. By David Ferrier, M.D., LL.D., F.R.S., J.R.C., Lond., etc. Second Edition. Re-written and enlarged with numerous illustrations. New York: G. P. Putnam's Sons. 1886.

Periostitis. Delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M.D., (Milwaukee, Wis.), Professor of the Principles and Practice of Surgery and Clinical Surgery. Reported by William Whitford. 1886. (Reprint.)

Practical Pathology: An Introduction to the Practical Study of Morbid Anatomy and Histology. By John Lindsay Stevens, M.D., Assistant to the Professor of Clinical Medicine in the University of Glasgow. London: Macmillan & Co. 1887.

Contributions to Science and Bibliographical Résumé of the Writings of R. W. Shufeldt, M.D., Captain, Medical Department, United States Army; Member of the Philosophical, the Anthropological, the Biological, and the Entomological Societies of Washington, etc. By their Author. 1887.

Original Articles.

SUBSEQUENT HISTORY OF A PATIENT WITH AN ABDOMINAL TUMOR DIAGNOSTICATED AS FLOATING SPLEEN IN 1877.¹

BY F. C. SHATTUCK, M.D.,
Visiting Physician Massachusetts General Hospital, etc.

In June, 1878, I had the honor of reading at the annual meeting of the Massachusetts Medical Society, a paper on "Floating Spleen," a paper which was published in the transactions of the Society for that year, and also in the *Boston Medical and Surgical Journal*. I was led to choose this subject by encountering a case which I believed to be of that nature. Under a lively sense of the fact that it is well for us to report our mistakes and bad cases as well as our triumphs or good cases, I will first very briefly recall the leading facts in the patient's previous history, and then lay before you in more detail his subsequent history, with an account of the autopsy. In July, 1877, I saw for the first time, a well-built young man of eighteen, a baker by trade. A fortnight before he went to bed in usual health, was awakened in the night by severe pain in the left hypochondrium, and then discovered that he had a tumor in his abdomen. After careful and repeated examination I decided that the tumor was an enlarged, displaced, and movable spleen, an opinion concurred in by a professional friend in whose knowledge and skill I had and have the greatest confidence, this gentleman not knowing my opinion until his own was formed and expressed. The possibility that the tumor was a kidney was entertained and rejected. The patient returned immediately to his work, at which I found him busy nearly a year later, when I looked him up and examined him again while preparing my paper.

In July, 1886, never having seen the patient in the interval, I found him in my ward at the Massachusetts General Hospital. He said that four or five years ago he had had an attack of acute pain in the left side with stoppage of water and subsequently hæmaturia. This recurred several times, but there had been no attack for a year and a half. June 17th, he strained himself, as he thought, lifting a barrel of flour, and had been unable to work since, except for a week about a fortnight after his alleged injury. He reported himself as being perfectly well except for dull pain in the lumbar region and left side. The nutrition was very fair. The abdominal tumor showed no marked change since I saw him eight years before, but the axillary, inguinal and cervical glands were somewhat enlarged, and the liver seemed to be uniformly enlarged, the lower edges extending to the umbilicus and across the median line. No nodules could be felt. The urine contained a slight trace of albumen and a few casts; the quantity and specific gravity were normal. That there was something more in the case than there had been was evident enough, but I was unable to reach any diagnosis. He declined in strength, but August 10th, it was found necessary to discharge him to make way for cases of typhoid fever which were coming in rapidly, and at the same time our beds were diminished in number by changes in some of the wards.

August 16th, he was admitted into the City Hospi-

tal, the records of which as bearing on his case are most kindly placed at my disposal by Dr. A. L. Mason. He still complained of pain in the back, and of increasing weakness. The legs had become somewhat "numb," and his control over them was imperfect. For the last few days the micturition, previously normal, had been "delayed;" no fever, urine as before. The patella reflexes were increased and ankle clonus was marked; on the outer aspect of the right thigh there was a circumscribed area of diminished sensibility. In the left back, about three inches below the angle of the scapula, was a smooth rounded tumor two inches in diameter, not movable, but adherent to the skin, tense, elastic, fluctuating. (?)

August 21st. Paraplegia was now almost complete and the reflexes were less marked. At times there was retention of urine, the bowels were constipated, there was moderate fever.

August 31st. He passed per urethram about a pint of clear blood. Numerous clots formed in the bladder and were voided with difficulty by the aid of a large catheter. Expressed himself as "perfectly comfortable." The hæmaturia continued several days; there was incontinence of urine and feces. The hepatic swelling increased, and the edge of the organ was now to be felt two inches below the level of the umbilicus, and in the flank just above the crest of the ilium. The other tumor was unchanged.

September 11th. Several bed-sores had developed over the lower back. He was losing flesh and strength rapidly, though he had a fair appetite and was still "perfectly comfortable."

October 9th. He died, having steadily failed without the appearance of any new symptoms.

AUTOPSY, twenty-one hours after death, by Dr. Gannett.

Body. Medium size, fairly well developed and nourished. Much emaciated. Rigor mortis present. Anterior abdominal wall green.

Head. In posterior part left of the parietal bone about two cm. from median line was a circular loss of substance about two cm. in diameter. This was filled with a soft grayish mass, growing in the diploe and projecting both internally and externally about three mm. The brain showed nothing remarkable beyond pallor.

Spinal Column, etc. Spinal canal, opposite last dorsal and first lumbar vertebræ, was about one-half normal size, the lumen being diminished by a growth from the vertebræ into the canal. Spinal cord, corresponding to this point, was softened, more opaque and yellow; all distinction between gray and white matter being lost.

Section through last two dorsal and first two lumbar vertebræ showed that the marrow was almost entirely replaced by a soft, red, and almost gelatinous new growth.

In left vertebral groove, corresponding to these vertebræ, was an ovoid mass, rather larger though not quite so wide as the palm of the hand, and about twice as thick, connecting with the above described vertebral growth.

Ribs. Similar nodules of size of large plums on third and fifth ribs in front on right side, and on fifth right rib behind, close to vertebral column, all growing from the medulla of the pons.

Heart and lungs were not remarkable.

The *spleen* was normal in size and weight; it lay

¹Read before the Boston Society for Medical Observation, February 7, 1887.

between the ninth and eleventh ribs, with its anterior border two inches behind the costo-articular line. The gastro-splenic omentum was short; when strong traction was made downward and forward, the spleen could be moved two inches in front of the costo-articular line, and below the eighth cartilage.

The *left kidney* was represented by a three-lobed mass, about the size of the two closed fists, placed one upon the other. The peritoneum covered not only the anterior surface, but also the posterior surface, like a meso-colon, making the kidney freely movable, so that it could be brought as far as the median line.

On section, the upper portion was found to be made up of a two-lobed, solid mass of a grayish, firm substance, in which yellower and more opaque streaks and specks could be seen. The lower half was a cavity, the size of the fist, with irregular, shreddy walls, having grayish, somewhat translucent and rather friable masses hanging from its inner surface. Outside of this, laterally, was a thin layer of renal substance, in which the distinction between cortex and pyramids could still be made out, though with difficulty, this tissue being quite pale.

The pelvis of the right kidney was deeply injected and thickened; it contained considerable calcareous material. The kidney showed several vertical purulent lines.

The *bladder* showed thickening on pigmentation of the mucous membrane.

The right *ureter* had an injected mucous membrane.

The *liver* measured transversely, twelve; vertically, thirteen; antero-posteriorly four inches; weighing a little less than ten pounds. It was thickly studded with gray and red nodules, varying in size from that of a pea to that of a man's fist.

PATHOLOGICAL DIAGNOSIS. *Cancer* of skull, vertebrae, ribs, kidney, liver. *Myelitis* from pressure. *Cystitis*. *Pyelo-nephritis*.

SUMMARY.

A muscular and well-nourished man of twenty-seven has, for at least nine years, had an abdominal tumor, thought to be a movable spleen. He has worked steadily at a laborious trade, and had no symptoms which could possibly be referred to his tumor, except several transitory attacks of hæmaturia. Immediately after lifting a barrel of flour, he is disabled by pain in the back, soon followed by progressive loss of strength, and later, of flesh; enlargement of the liver and superficial lymphatic glands; an elastic tumor below the left scapula; fever, acute myelitis, hæmaturia, and death from exhaustion within less than four months from the time when he was in full activity and apparent health.

The autopsy showed cancer of the skull, vertebrae, ribs, kidney, and liver; myelitis from pressure, cystitis, pyelo-nephritis. The spleen was perfectly normal in size and position.

My original diagnosis was, therefore, entirely wrong. The abdominal tumor was the left kidney, not the spleen. It will be noted that, at the autopsy, Dr. Gannett — to whom I wish to express my great obligation for his careful report of the case — found the peritoneum stretched, and investing the whole kidney, like a meso-colon.

Movable or floating kidney is much more common in women than in men: out of ninety cases collected by Ebstein, eighty-two were females. In congenital

malpositions of the kidney, it is usually the left which is anomalous, the organ being fixed, but lying lower down than the normal seat. It is thought that movable conditions of the kidney are acquired, and in more than two-thirds of these it is the right kidney which becomes displaced.

There are two questions suggested by a consideration of the case above reported, to neither of which can a definite answer be given: In the first place, how long was the kidney out of place before I first saw the patient, in 1877? It is, of course, impossible that such elongation of the peritoneum came on suddenly. Tight-lacing was certainly not a factor in causing the dislocation. The occupation of the patient was a laborious one, but I do not know how long he had followed it before the tumor was discovered. As he was only eighteen at the time, it could not have been very long. The second question is: When did this cancerous growth begin? I took no measurement of the tumor when I first saw it, but it is my impression that it was larger than a normal kidney. I considered it to be an enlarged, as well as a floating spleen. It may be that, from twisting of the ureter, the pelvis of the kidney became early somewhat dilated. But to what were the attacks of hæmaturia, recurring between five and one and a half years before his death, due? May they be attributable to acute and temporary strangulation or stoppage of the ureter? When the patient once began to go down hill he went very rapidly; but he considered himself in perfect health up to the time of his supposed strain from lifting the barrel of flour.

REPORT ON THE PROGRESS OF SURGERY.¹

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

COLOTOMY.

SONNENBURG¹⁸ has relieved patients suffering from carcinoma of the rectum by operating in the following manner. The abdominal wall was incised in the linea alba, the peritoneal cavity opened, and the colon divided transversely above the point of disease. The lower end was then closed by suture, and dropped back into the abdominal cavity. The superior end was brought forward and fastened into the median incision, below the umbilicus. The advantages claimed for this method are that the surgeon has an opportunity to examine the intestine in regard to the exact nature of the neoplasm, its situation or size, and to change the plan of operation to a more advantageous one, if necessary. The intestine is opened at a known point, and as low as possible, so that solid dejections are voided from the artificial anus. The contraction of the recti muscles serves to constrict the artificial opening, and act as a substitute for a sphincter. The anus, in this position, is more conveniently situated for the patient than in the Amussat or Littre operation. Also, the irritation, pain, ulceration, decomposing discharges, and other complications arising from access of feces to the intestinal pouch, situated between the seat of stenosis and the artificial opening, is avoided. In case the rectum is wholly occluded, suturing the lower end of the divided intestine into the wound in the linea alba is recommended. This

¹ Concluded from page 258.

¹⁸ Berl. Klin. Wochenschr., December 6, 1886.

gives an opportunity to keep this portion clear from collecting mucus or discharges.

HEPATIC SURGERY.

At the last annual meeting of the British Medical Association,¹⁹ this subject was considered by Dr. Harley, Mr. Thornton, Mr. Willett, Mr. Marsh, and Mr. Tait. Although the contributions are fragmentary in that they deal with a new field of surgery, yet there is much of interest in their papers. Dr. Harley reported a "Case of Hepatitis, with Dropsy, in which Hepatic Phlebotomy was performed."²⁰ The operative procedure consisted of piercing "the upper part of the liver from right to left with an eight-inch trocar, approximating, in size, a No. 2 to 3 English catheter," the hope being that, during its transverse penetration, that one or more veins or arteries might be wounded. Twenty ounces of hepatic blood were removed, with the most salutary effects, the patient recovering completely from the dropsy and hepatitis. Dr. Harley simply seals the abdominal puncture with sticking-plaster, and bandages the abdomen tightly, with the idea of bringing the wound in the liver's capsule into contact with the abdominal parietes.

Mr. Thornton records three cases of hepatic surgery; and says that he "believes that all diseases of the liver which are within the surgeon's reach may be, and should be, treated on the same lines that would guide us in the treatment of similar diseases in other situations, and with every prospect of equally satisfactory results."

Mr. Willett reports a case of complete obstruction of the common duct, where cholecystotomy was performed, with marked improvement. The question of whether external drainage of the gall-bladder or establishing an entero-biliary fistula is the better surgery, is discussed by Mr. Willett, and he considers the latter operation indicated. There seem to be but two sites where naturally-formed entero-biliary fistulæ occur. In nearly thirty cases collected by Murchison, in about two-thirds the fistulous communication was located in the duodenum, and one-third in the colon.

Mr. Willett elects the colon, but discusses fully the advantages of a duodeno-biliary fistula. Mr. Marsh simply records a case of abscess of the liver.

Mr. Lawson Tait reported seven cases of exploratory incision, with one death; thirteen cases of hepatotomy, with no deaths; and thirty cases of cholecystotomy, with no deaths.

PENETRATING GUN-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER; INTRA-PERITONEAL HÆMORRHAGE; LAPAROTOMY.

J. W. Heddens²¹ reports a case, where, believing that there was a hæmorrhage into the abdominal cavity, he performed laparotomy. The course of the bullet was traced to the liver; a piece of the patient's vest was found in the peritoneal cavity and removed. The wound was dressed antiseptically, and a prompt recovery ensued.

SURGICAL INTERVENTION IN CERTAIN CASES OF BILIARY CALCULUS.

T. Thiriar,²² in an admirable paper on cholecystec-

tomy, states that Prof. Wehenkel, of Brussels, in six thousand autopsies failed to find any gall-stone in the liver; hence the gall-bladder is almost a necessity in their formation; consequently for the radical cure of this affection it is necessary to remove this viscus. Three cases are related (Langenbuch one, Thiriar two) all of which recovered. Seven cases, five by Langenbuch, two by Thiriar, are mentioned, in none of which cases was death referable to the operation itself. Thiriar claims that cholecystectomy is the rational operation, and considers that the indication for operating is a frequent recurrence of severe biliary colic which has resisted medical treatment. His method of operating is as follows: Great care is taken about the temperature of the room, baths and the antiseptic preparation of the patient. Previous to the operations one to two gms. of laudanum, and two to four gms. of chloral are given by enema. The spray is used and full antiseptic precautions. The incision follows the right rectus abdominis, the muscular fibres of which are cut transversely three finger's breadth below the false ribs. After adhesions with the colon are broken down, the gall-bladder is seen. The cystic duct is then isolated, ligatured with silk in two places and divided. The margins of the opening are sewed together with fine sublimated silk. The gall-bladder is removed and the abdominal wound closed.

GALL-STONE ILEUS.

An exhaustive paper by Wising,²³ a review of which has recently been published,²⁴ gives many interesting and valuable data on this subject. Wising reached his conclusions from 51 cases, 41 of which were collected by Leichtenstern from among 1,541 cases of ileus. Usually it is caused only by exceedingly large calculi; but can occur when a smaller calculus becomes impacted in a faecal mass, or when there is a previous intestinal contraction. This class of stones usually enter the intestine through a fistula resulting from a perforating ulcerating process. It may escape into the duodenum, colon, or stomach. The seat of obstruction in 33 cases occurred 12 times in the jejunum and 21 times in the ileum, especially in the lower half.

As to clinical symptoms in cases of perforation from the gall-bladder to the intestine severe suffering is by no means invariably present. Only in one-third of the cases does severe pain in the hepatic region occur. Icterus is not a regular accompaniment of perforation (8 cases in 51). Symptoms of ileus appear soon after the stone has entered the intestine, but a diagnosis of ileus from other causes is not possible. Pain may be very variable, sometimes disseminated, sometimes more localized. Tympanites and character of vomitus depend on the seat of obstruction: when low down faecal vomiting is a late symptom. A tumor is rarely felt (5 cases in 51). Of the 51 cases 38 ended fatally. Since a brief résumé of such an article can by no means do justice to it, a perusal of the above-mentioned review or its translation²⁵ is recommended.

SPLENECTOMY.

Mr. J. Knowsley Thornton²⁶ has reported two cases of splenectomy, in which details are fully recorded. One of the cases was successful, and ap-

¹⁹ British Medical Journal, November 13, 1886, pages 899 to 905.

²⁰ Vide "Hepatic Phlebotomy and Puncturing the Liver's Capsule, as a Remedial Measure in Hepatic Disease." British Medical Journal, January 15, 1887, p. 98.

²¹ Trans. Med. Assoc. State of Missouri, May, 1886.

²² Révue de Chirurgie, March, 1886.

²³ Nord. Med. Ark. Bd. xvii, No. 18, Sweden.

²⁴ Centralbl. f. Chir. 1886, No. 20.

²⁵ Annals of Surgery, August, 1886.

²⁶ Med. Chir. Trans., 2d series, 51, 407.

pendent is an analysis of all previously-recorded cases. Ceci A.²⁷ has also successfully removed an hypertrophied displaced spleen in a young subject.

THE RADICAL CURE OF OBLIQUE INGUINAL HERNIA BY INTERNAL ABDOMINAL PERITONEAL PAD, AND THE RESTORATION OF THE VALVED FORM OF THE INGUINAL CANAL.

Forty-seven cases of the above operation are reported by William Macewen,²⁸ with no deaths. Fourteen of the forty-seven cases were subjected to operation for radical cure after the relief of strangulated inguinal hernia; three afterwards wore a truss, as a precautionary measure. Of the thirty-three operated upon directly for a radical cure, only one wore a truss, and this was from force of habit.

Nine cases of femoral herniæ were similarly treated, after the relief of strangulation. None of these patients require a truss.

A short description of the operation may be given, but the details are best obtained from the original paper, which has numerous cuts, illustrating the steps of the operation. The hernia (inguinal) having been reduced, an incision is made over the external abdominal ring, the sac isolated from the cord and canal in which it rests, and the peritoneum is separated by the tip of the finger for about half an inch about the internal abdominal ring; then a stitch is passed through the distal extremity of the sac, and the ends of the threads are passed through the folds of the sac, transfixing it proximally, so that, when pulled upon, the threads pull up the sac, like a curtain. The free end of this stitch, threaded on a hernia-needle, after traversing the canal, is made to penetrate the anterior abdominal wall about an inch above the internal ring, the skin being pulled upward, so as to allow the point of the needle to penetrate the muscles, but not the skin. This stitch is then tied, drawing the sac into a series of folds, which are placed just inside the internal abdominal ring, thus forming a pad of peritoneum over the internal abdominal opening.

The operation is completed by the introduction of stitches, which are passed from the conjoined tendon to the aponeurotic structures of the transversalis, internal and external oblique muscles, restoring, in this way, the valve-like form of the canal. Strict antiseptic precautions should be observed.

THE IMMEDIATE CLOSURE AND RAPID CURE OF FISTULA IN ANO.

Stephen Smith²⁹ gives the particulars of his method as follows: After the patient is anæsthetized, and the parts to be subjected to operation made antiseptic, a sponge wrung out in bichloride solution is passed up the rectum, above the fistula. The fistula and its branches are freely opened, the pyogenic membrane is thoroughly removed with scissors or scalpel, and all hæmorrhage stopped. Then an assistant, with his index finger introduced well up the rectum, extrudes the whole track of the fistula. Sutures are next so applied that the deep parts are brought accurately together, and the margins of the mucous membrane everted. This is accomplished by taking "a large-sized carbolized silk or chromic-acid gut ligature, and attaching a needle having a slightly-curved point to

each end. One needle is now passed just above the highest point of the incision, and from a fourth to half an inch from the margin of the wound, and the thread is drawn through to its centre. The needles are then passed in opposite directions, at intervals of about half an inch, in the same manner as the saddler takes his double-stitch when two pieces of leather are held in a vice and united. If the fistula is simple, and there is no abscess-cavity, the stitches are continued to the external extremity of the incision, making a continuous suture on each side of the wound."

They are now tightened sufficiently to evert the margins of the mucous membrane; and the ends of the ligature are held by an assistant, who draws out the whole fistulous track, while a nicely-applied continuous suture unites the mucous membrane. A drainage-tube is inserted into the external extremity of the wound. This is all done aseptically, and iodoform-gauze pads are applied. The sponge is withdrawn from the rectum, and a suppository of morphia is inserted. The diet should be milk, and no defecation allowed for from four to six days.

"The principles which should be borne in mind in the operation are. (1) Complete removal of the lining membrane of the fistula, and of the abscess-cavity which may exist. (2) Accurate and permanent adjustment of the opposing surfaces. (3) Thorough antiseptic treatment of the wound."

THE TREATMENT OF AORTIC ANEURISMS BY THE INTRODUCTION OF WIRE AND GALVANISM.

Dr. Cayley's case, on which Mr. Hulke³⁰ operated, introducing forty feet of steel wire into the sac of an aneurism, with the result of solidifying the tumor, gave rise to an interesting discussion, bringing up the following points: (1) That the introduction of foreign substances is usually easy. (2) That, so far as experience goes, the proceeding appears to involve very little danger when it is carefully carried out.

Mr. Barwell³¹ reports a case of an aneurism of the arch of the aorta, involving its lower aspect, treated by the introduction, through an ivory stylet, of ten feet of the finest steel wire. The end of the wire was connected with the positive pole of a battery; the negative pole being placed over the upper dorsal region, then a current of nine milliampères was passed through the circuit for one hour and ten minutes. The pulsation was more distant, and the tumor was harder at the end of twelve hours. On the fourth day a new tumor formed, which soon ruptured, and the patient died.

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²⁷ Gazz. d. osp., Milano, 1886, vii., 325.

²⁸ Ann. Surg., August, 1886, p. 89.

²⁹ N. Y. Medical Record, June 12, 1886.

³⁰ Med. Chir. Trans., 1886.

³¹ Lancet, June 5, 1886.

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Hospital Practice.

BOSTON CITY HOSPITAL.

TWO CASES OF COMPOUND, DEPRESSED FRACTURE OF THE SKULL.

REPORTED BY OLIVER H. HOWE, M.D., formerly House-Surgeon.

CASE I. DELAY AND NEGLECTED TREATMENT BE- FORE ENTERING HOSPITAL; LATE OPERATION, SHOWING ABSCESS OF BRAIN; DEATH; AUTOPSY.

M. D., FIFTY-SEVEN years old, and a laborer, entered the hospital (service of Dr. E. H. Bradford) April 5th. His history was that, a week before entrance, a brick fell from a height of four stories, striking him on the forehead, knocking him down, and making a wound about two and one-half inches long. This wound was sewed up at once by a doctor. The wound seemed to heal readily, and the man felt all right until two days

before entrance, when he began to have pain in his head, and became very stupid and weak, and very sensitive to pressure about the wound.

Examination, at time of entrance, showed, on the left side of the forehead, about two inches above the eyebrow, a soft, fluctuating, and exceedingly tender area of the size of a half-dollar, not raised above the surrounding surface. Extending across this area was a semi-circular, linear cicatrix. This cicatrix was complete, except at its middle, where was seen a small opening, just admitting a probe, from which opening there exuded, on pressure, a drop of bloody pus. By dilating the opening and using pressure, about a drachm of pus escaped, and the probe detected an area of bare bone underneath, a part of which was depressed about three-sixteenths of an inch, the edge of the depressed portion coinciding with the cicatrix outside. The pupils were equal, and responded equally to light. Slight divergent strabismus in the left eye. Convergent strabismus at times. No hemi- plegic symptoms found.

Patient is very stupid, scowling, and cross. Friends say he was somewhat so before the injury. He re- mained in the hospital, at this time, thirty days, stub- bornly refusing to have any operation done for raising the depressed bone. His headache persisted, and his moods did not change. Free openings for discharge from the wound were maintained, and pus was washed out from time to time.

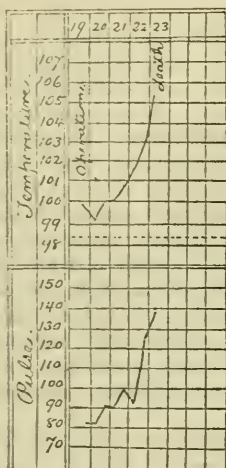
May 19th, eighteen days after leaving the Hospital, and fifty-one days after the receipt of the injury, the patient was brought in again, this time in an uncon- scious condition. The story was that, after leaving the hospital, his condition had remained unchanged until twelve hours before entrance, at which time he became suddenly unconscious, and his right side be- came paralyzed.

Examination showed the wound in about the same condition as on leaving the hospital. Patient is com- pletely unconscious. Hemianæsthesia and paralysis of motion of right side, but right arm and leg show considerable rigidity on passive motion. Facial paraly- sis on right side. Pupils unequal; both react, but the right slowly. Divergent strabismus; flush over upper part of body. Respiration 24; slightly stertorous in character. Pulse 72, irregular and soft.

Incisions were made to expose the seat of fracture. The bone was found depressed over an area the size of a silver half-dollar, and the edges of bone were carious at the line of fracture. The skull was tre- phined at the edge of the depressed portion, and some of the depressed bone removed. The dura was then opened, and an incision made into the brain substance, which resulted in the evacuation of about two ounces of bloody pus. The opening in the brain was then explored with the finger, which was passed in up to the second joint. A small cavity was felt, the walls of which seemed quite firm to the touch. The cavity was thoroughly washed out by irrigation, and a large drainage-tube inserted.

There was no appreciable change in the patient's condition immediately after the operation. The next day, sensation in right leg and arm returned to slight degree, but there was no motion. Prick of pin on right side caused quick motion of left side, which it did not do before the operation. The second day after the operation he seemed to understand what was said to him, and said "No" in answer to questions.

Muttered to himself. The next day he was wholly unconscious again; respiration was again stertorous. The fourth day after the operation, the temperature, which had been gradually rising, shot suddenly up to 105.3° , and the pulse to 138.

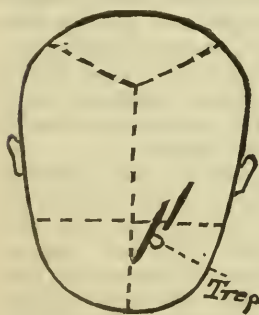


Cyanosis became marked, and sensation was lost on the left side. The question of further operative measures was considered, but dismissed. The cavity was again syringed out, no pus being obtained. He died about an hour later.

At the autopsy, made by Dr. Gannett, a cavity, the size of a large common walnut, was found, directly communicating with the opening made by the trephine. The walls of the brain substance, and were quite smooth and dry. Close to the cavity just described, was a second one in the brain substance, the size of a filbert, and filled with pus. The brain substance about both cavities was rather softer than usual, of a yellow color, with numerous minute red points. This change extended for a distance of about three centimeters into the brain substance.

CASE II. PROMPT TREATMENT: RECOVERY.

J. S. was struck on the head by a bolt on a large revolving pulley at an electric-light station. Two hours later he came to the hospital. At the anterior part of the top of his head, to the left of the median line, and on both sides of the coronal suture, were two wounds (see diagram), each about four inches long.



At the bottom of the anterior wound, the bone was comminuted and depressed over an area about $2\frac{1}{2}$ inches long by $\frac{5}{8}$ inch wide, the outer table being driven down below the level of the inner table. In the posterior wound, the skull was comminuted and depressed in a space about $1\frac{1}{4}$ inches long by $\frac{3}{8}$ inch wide, the outer table being depressed about one-fourth of an inch below the level of the surrounding bone. The man was entirely conscious, and showed no symptoms from the injury. He was a vigorous, healthy-looking man; said he had never been sick, and that he drank moderately. Pulse 60.

Ether was given, and Dr. Gay trephined the skull at the outer side of the anterior wound, and raised and removed all the fragments in the anterior depressed portion, the opening extending to the median line over the superior longitudinal sinus. The dura was exposed, and, so far as examined, did not appear to be lacerated. The posterior depressed portion was not touched. The whole was done antiseptically, and a dressing of iodoform gauze applied.

The man remained in the Hospital thirty-one days,

during which time the wounds steadily closed, until, at the time of his discharge, only two superficial, granulating surfaces, each of the size of a quarter-dollar, remained. There was no pus for the first two weeks after the operation; after that, a moderate amount from the granulations. Pulsation was visible in the anterior wound for about three weeks. During the whole time the man had no symptoms of any kind, and no pain, except immediately following the operation. The temperature, during the first two weeks, never rose above 99.2° ; after the first two weeks it was normal. The pulse, for three days following the operation, was about 90. It then fell to about 60, where it remained till the man began to sit up, after which time it was about 75.

These two cases illustrate the difference in result between good and bad treatment.

In the case of M. D., although a depression of three-sixteenths of an inch existed, the wound was sewed up. It consequently healed, leaving the seat of mischief sealed over. Later on, the ignorant and stubborn patient refused proper treatment; and, as a result, the cerebral abscess, sudden unconsciousness, and death followed.

In the case of J. S., although the injury was apparently much more severe, he received appropriate treatment within three hours after the accident; free drainage was maintained, no symptoms occurred, and the man made a good recovery.

Clinical Memorandum.

A CASE OF ABDOMINAL PREGNANCY.

BY ENOS H. BIGELOW, M.D., FRAMINGHAM.

JANUARY, 1887. C. A., American, thirty-three years, of rather slight frame and active habit, medium height, average weight about one hundred and fifteen pounds. Seven years ago she bore a child now living. Was married a second time in 1882. Since this last marriage she has suffered from occasional attacks of pain in the bowels, accompanied with difficulty of micturition and some vaginal discharge.

In June, 1886, not long after a menstrual period, she complained of severe pain in the abdomen, together with nausea and difficulty in urinating. She had however had, previously to this, similar, but less severe, attacks. An examination made at this time showed per vaginam the presence of old pelvic inflammation and adhesion, the uterus being immovably fixed posteriorly.

Through the summer and fall she had several attacks of severe pain, at first attributed entirely to the presence of leucorrhœa, with heat and tenderness about the uterus, indicating some peri-uterine inflammation, or endometritis; later, however, the presence of pregnancy being demonstrated, the pain was thought to be due to the enlargement of a uterus which was surrounded by inflammatory tissue, and more or less fixed thereby. In November, the placental souffle was very evident, and appeared close to the ear placed at the right groin. The abdomen was uniformly distended and sensitive to the touch, making palpation painful and unsatisfactory.

Some time in October it was remarked that the

movements of the fœtus, which had been distinctly felt, ceased entirely. Late in November there was an offensive discharge from the vagina, and the woman's strength began to fail. Hectic fever, a low typhoid condition, sallowness, and other symptoms of blood-poisoning, developed slowly. Examined per vaginam the os and cervix were patulous, admitting the finger as far as the internal os. The uterus was so fixed and surrounded by inflammatory deposit as to make it impossible to define its outline or size.

December 8th. Dr. Z. B. Adams saw the woman in consultation, and suggested extra-uterine pregnancy as a possible explanation of her condition, and advised that she be etherized with a view to more accurate diagnosis.

December 14th, she was etherized and a more thorough exploration made. The uterus was found to be empty, and of about the normal size, and a diagnosis of extra-uterine, probably abdominal, pregnancy, was made.

The advisability of operation by abdominal section was carefully considered. The patient and friends were informed of her unfortunate condition, and an operation was offered but not strongly urged. The arguments in favor were faithfully presented, but, because of the difficulty anticipated in dealing with the placenta, no encouragement could be given that it would be successful in preventing a fatal termination, whereas on the other hand, the case could not be proved to be absolutely hopeless if left to nature. She declined operation.

The woman gradually sank and died of septic peritonitis, January 23, 1887.

Autopsy twenty-four hours after death. Emaciation extreme, abdomen greatly distended. Three gallons of chocolate-colored fluid in abdominal cavity. The peritoneum was necrosed and showed large patches of lymph. Stomach and bowels empty. Fœtus perfectly formed, sixteen inches in length, was free in the cavity of the abdomen. The spine presented and the head lay under the right lobe of liver and in contact with it. The placenta was attached very firmly to the right peritoneal surface extending four inches above the crest of the ilium and occupying the pelvic cavity of that side. The right tube was thickened, distended with dark fluid, and involved in old adhesion. No rupture of either tube was discovered. The uterus was compressed and lay low in the pelvic cavity, posteriorly placed and against the rectum.

Difficulty of diagnosis. An hysterical woman; a uterus involved in adhesions resulting from previous pelvic inflammation, fixed and immovable, and revealing nothing to the touch of its form and size; and the presence of a general peritonitis with abdominal distension and tenderness, and fluid in the dependent parts. Under ether, however, it appeared that the womb was empty, and the presence of a tumor resembling a fœtus together with a pretty clear history of pregnancy, made a correct diagnosis possible.

— *Life* remarks that in Boston they do not say stomach-ache, they call it "gastric neuralgia," but it gets there just the same.

— It is said that a favorite tænicide medicine in use in the New York hospitals is named, for obvious reasons, the "Early Bird."

Therapeutical Memorandum.

THE VALUE OF THE BILE SALTS WHEN USED IN CONJUNCTION WITH INUNCTIONS OF COD LIVER OIL.

BY HOBART AMORY HARE, M.D., (UNIV. OF PA.),
Demonstrator of Experimental Therapeutics and Instructor in Physical Diagnosis in the University of Pennsylvania.

WITHIN the last few months I have had occasion to use cod liver oil by inunction several times when the stomach was not in a condition to bear its internal use, and while I have hitherto frequently prescribed this line of medication, I never fully realized the difficulties and the disagreeable conditions produced until such a line of treatment was introduced in my own family. In the first place the amount of rubbing necessary is a great objection to its use when the patient is very weak, or when the oil is being applied to a young child where the area is comparatively limited. Again, the amount of exposure during the inunction in the endeavor to protect the clothing is by no means slight, and if the greatest care is not exercised in regard to this, the invalid's clothes, which are necessarily stale enough, are made positively unbearable to both himself and friends. It occurred to me that as one of the functions of the bile salts was to aid the passage of fats through animal membrane, that perhaps they would act in the same manner when applied to the skin, and practical results have proved this theory to be true. The fact that cod liver oil inunctions are productive of good results is so well known, that any report of such cases is superfluous, and I shall therefore simply describe the method which I have used. In obtaining the salts I have simply gone through the process used commonly in a physiological laboratory, but it may not be out of place to briefly give the method here. To about 300 cc. of ox-gall is added nearly thrice that quantity of ordinary alcohol, and the flask shaken thoroughly. All the mucus is now precipitated and the supernatant fluid is filtered. To the filtrate is added a large excess of sulphuric ether and after a time a plaster-like mass forms at the bottom of the vessel, which slowly becomes crystalline. These crystals are now placed on a filter paper and washed with a mixture made up of ether and alcohol, equal parts. The filter paper is dried and the substances then seen are the taurocholate and glycocholate of soda. Having carefully removed these salts from the paper they are ready for use.

In my experiments I have found that a small pinch of this powder will aid very materially in the speed with which a teaspoonful of the oil is absorbed, and that the rapidity of absorption is in direct ratio with the quantity of bile salts used. Thus, if half a teaspoonful of the oil be placed on the thin skin of the inside of the thighs, and bile salts added to the oil on one side, both legs being rubbed equally hard, it will be found that the oil with the bile salts added disappears in nearly half the time that is required for the absorption of the pure oil. In addition to the increased rapidity of absorption it will be noticed that even after all the oil has been rubbed in on both legs, there still remains a strong odor of the oil and some greasiness on the limb rubbed with pure oil, while on the opposite limb the odor is greatly decreased, as is also the greasiness, which may indeed be entirely absent, proving that all the oil has passed from the surface,

Several repeated applications of bile salts and oil to the same spot within twenty-four hours, has failed to produce any sign of irritation of the cuticle. I think, therefore, that this use of the bile salts deserves more than a mere trial, and the avoidance of the odor and the hand-rubbing is certainly a strong point in its favor, aside from the increased quantity of the oil which is by this means absorbed.

At my suggestion, Messrs. Fairchild Bros. & Foster, of New York, the well-known manufacturers of digestive ferments, have undertaken the preparation of these bile salts, and any physician desiring to use them can obtain them from this firm.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

E. O. OTIS, M.D., SECRETARY, *pro tem.*

MEETING February 7, 1887.

DR. E. J. FORSTER, in the chair.

DR. M. H. RICHARDSON showed two specimens of stone in the bladder. The first illustrated the difficulty often met with in searching for stone. It was taken from the bladder of a man about sixty who had been catheterized daily for a year with a metallic instrument, and yet no suspicion of stone had been entertained by the attending physician. On careful examination a faint click had been detected at the Massachusetts General Hospital, by Dr. Richardson. Even then it was so doubtful that for some time the presence of a calculus had been doubted by other surgeons present. The stone was easily found and crushed with the lithotrite, and weighed twenty-one grains. The patient made a good recovery. The second case was that of a man who died of some lung trouble, probably phthisis, some months after an operation had been done by Dr. Richardson for the removal of a phosphatic stone from the bladder. There had been no difficulty in the operation and the patient seemed all right as far as the bladder symptoms went. An examination after death revealed the presence of a small stone which was encysted on the wall of the bladder so as to be almost wholly concealed. At the end of the operation the bladder seemed to be quite empty, and the water came into the evacuator perfectly clear. The failure to detect the very small presenting portion of the stone at the final introduction of the searcher was probably due to the almost complete covering up of the stone by the inflamed and swollen mucous membrane. It seemed to the speaker that this would have been a better case for suprapubic lithotomy than for crushing, had it been possible to know that there was an encysted stone. Such errors would be avoided if the supra-pubic operation were done in all doubtful cases.

DR. F. B. HARRINGTON presented the notes of a case of

OSTEO-SARCOMA OF THE LOWER JAW: OPERATION, and exhibited specimens of the tumor prepared by Dr. Whitney.

DR. RICHARDSON said that this was one of the largest and bloodiest operations he had ever seen. He inquired if there were not troublesome cicatricial con-

tractions from the loss of the mucous membrane, mentioning a case of his own in which this had occurred to such an extent that the mouth could be only slightly opened.

DR. HARRINGTON replied that in this respect he was more fortunate.

DR. F. C. SHATTUCK presented a paper upon

THE SUBSEQUENT HISTORY OF A PATIENT WITH AN ABDOMINAL TUMOR DIAGNOSTICATED AS FLOATING SPLEEN IN 1877.¹

DR. RICHARDSON asked if there were any evidences of kidney disease given by the urine at the time of the original examination.

DR. SHATTUCK replied that he thought the urine was not examined; at least he had no record of it.

DR. HARRINGTON asked if the hæmaturia might not have been due to the cancer rather than to the strangulation or stoppage of the ureter, as suggested.

DR. SHATTUCK replied that as the patient had several attacks of renal hæmaturia during the four years, the question was as to the possible growth of the cancer all this time.

DR. GANNETT said he agreed with Dr. Harrington that the hæmaturia was caused by the cancer which had existed all this time. He also presented a diagram showing the abnormal arrangement of the peritoneum about the kidney.

DR. SHATTUCK said that as he understood the matter, a kidney may become displaced and gradually elongate the peritoneum, thus becoming an acquired movable kidney in distinction from a congenital one, which lies lower than normal, but is fixed. This man's kidney was out of place and enlarged nine years before his death. Cancer of the kidney (in children at least) is of comparatively short duration.

DR. GANNETT said that acquired movable kidney happened in most cases in those who having been very fat lost much of their adipose tissue.

DR. SHATTUCK stated that movable kidney is most common on the right side in women and occurred frequently, irrespective of loss of fat about the kidney or elsewhere.

DR. RICHARDSON asked if the tumor at the time of death was any larger than at the first examination.

DR. SHATTUCK thought not, but at the last there was in addition the enlarged liver, lymphatic glands, etc.

DR. FORSTER said he had seen the case at a later period than Dr. Shattuck, and it seemed to him that the tumor increased after the man entered the hospital.

DR. CHANNING inquired how long Dr. Shattuck thought the kidney had been in the position and condition noted, and was answered that that could not be definitely told, undoubtedly for some time before the first examination.

DR. GANNETT inquired if Dr. Shattuck had made any note of the splenic percussion, and was answered that there was no dulness in the splenic region.

— FRANCISO MAGIN, an eminent Italian ophthalmologist, director of the anatomical school at Florence, and later professor of ophthalmology at Bologna, died at San Remo, February 2, 1887, aged 59.

¹ See page 273 of this number of the Journal.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, February 17, 1887.

ADDRESS BY THE PRESIDENT.

The President, DR. A. JACOBI, delivered an address, the object of which was to discountenance the various methods resorted to by certain members of the profession to advertise themselves in the newspapers and in other ways.

DR. C. L. DANA read a paper on

SPASTIC ATAXIA, FUNCTIONAL AND ORGANIC, AND THE COMBINED SCLEROSES OF THE SPINAL CORD.

The object of the paper, he said, was to show a class of cases, not very rare, which correspond to some extent with ordinary progressive locomotor ataxia, but to a much more marked degree with spastic paraplegia. This affection it was important to recognize, both for prognosis and treatment. He had been able to collect forty-five cases of combined sclerosis, observed by various authorities, including two, the history of which, with the autopsies, were reported for the first time in the present paper; but all but sixteen of these he felt obliged to exclude, on account of various circumstances, which, he thought, prevented them from coming properly under the head of the class of cases of which he was treating; those so admirably described by Gowers, and designated by him as ataxic paraplegia. Dr. Dana had notes of seven cases, six of which occurred in males, and one in a female; and he related several of them in detail.

In describing the symptoms, he said that there was gradually-increasing weakness of the limbs, with some loss of power of coördination; but the lancinating pains of tabes were, as a rule, absent, while the knee-jerk was increased, instead of being lost, as in the latter affection. The "Argyll-Robinson" pupil was also seldom seen. As the disease advanced, the muscular power became more and more impaired, while the incoördination did not proportionally increase, but was over-shadowed by the increasing paralysis. The increased myotatic irritability continued, and stiffness and rigidity developed as its consequence. "Thus," as Dr. Gowers had so well described it, "the aspect of the patient comes to be that of spastic paraplegia: the feet drag as the patient walks, shake from clonus when he stops, and the legs are hauled forward with visible effort at each step." Sexual power was often lost early in the disease. The sphincters were frequently impaired, but the impairment rarely reached a considerable degree. There was, as a rule, no wasting of the muscles, and no change in their electrical excitability.

The pathological condition found, *post mortem*, by Dr. Dana, was chronic cervico-dorsal myelitis, affecting the lateral columns primarily, the gray matter secondarily. In a case, the drawings from which he exhibited, there were secondary degenerations in the lateral columns, and ascending and descending development of sclerosis in the columns of Goll. In addition, there was sclerosis of the crossed pyramidal tracts, most marked in the dorsal region, and sclerosis in the cerebellar tracts to a moderate extent. The sclerosis in the columns of Goll was most marked in the cervical region. According to Gowers, in all cases the spinal cord has presented sclerosis of both posterior and lateral columns; but the precise extent and degree of

the degeneration seem subject to considerable variations. As a general rule, he says the sclerosis of the posterior columns differs from that of tabes in two particulars: First, it is not more intense, and often is less intense, in the lumbar than in the dorsal region of the cord. Sometimes, indeed, in the middle and lower parts of the lumbar region, the posterior columns may be free from sclerosis, although it is considerable in the dorsal region, and at the junction of this with the lumbar enlargement. The second difference is that the sclerosis has rarely the special intensity in the root-zone of the postero-external column that characterizes the lesion of tabes.

The prognosis as to life, Dr. Dana went on to say, was better than in simple tabes dorsalis. The disease had little tendency to cause death; indeed, according to Gowers, the fatal cases had, for the most part, been untypical, and did not convey an accurate idea of the character of the disease. The chief danger to life was from the accidents common to all chronic spinal affections, and especially from kidney disease secondary to retention. So far as the prospect of recovery was concerned, the prognosis was unfavorable; and one case was on record, in which the affection had already lasted thirty years.

The treatment did not vary greatly from that of locomotor ataxia. Rest was a very important element, and electricity, both static and in the form of the faradic current, was useful. Orthopædic appliances to support the enfeebled limbs were often of great service. Anti-syphilitic treatment should always be thoroughly tried; and later, large doses of iodide of potassium were to be resorted to. In conclusion, Dr. Dana said that, while no name had as yet been found which properly described the disease clinically, he thought the designation, combined fascicular sclerosis, was applicable from a pathological point of view. (During the reading of the paper he exhibited a number of sections of the cord, photographs, and drawings illustrating the subject.)

DR. M. A. STARR said that he thought we still had to look for a thoroughly satisfactory name; and that the one proposed by Dr. Dana, combined fascicular sclerosis, ought not to be accepted, since the pathological changes met with after death showed that the affection was not entirely fascicular in character. The diagnosis between tabes and combined sclerosis, he remarked, was often very difficult; and, again, the occurrence of general paresis in connection with tabes sometimes made us hesitate in arriving at a diagnosis.

DR. G. W. JACOBY expressed the opinion that our knowledge of this affection would not be increased much by the study of purely clinical pictures.

DR. E. C. SEGUIN related a case of his own, and presented sections of the cord of his patient, stating that they seemed to show that there were instances in which the pathological changes were intermediate between fascicular sclerosis and disseminated sclerosis.

The PRESIDENT suggested that perhaps the sclerosis followed the course of the minute bloodvessels, whose extensive network, it had been shown, served to connect and bind together the various fasciculi of the spinal cord. This anatomical fact might, he thought, offer a satisfactory explanation of these mixed forms of sclerosis. He regarded the subject of the paper as one of great importance to general practitioners, on account of the frequency with which disease of the spinal cord was now seen.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, March 1, 1887.

The President, CHARLES L. DANA, M.D., in the chair.

PRESENTATION OF THE CORD AND NERVES IN A CASE OF ALCOHOL PARALYSIS. MULTIPLE NEURITIS.

DR. H. M. BIGGS presented the case. Bertha S., aged thirty-five, married, admitted to the Hospital, September 20, 1886. History imperfect. Nothing of importance in the history up to the beginning of her present illness, about five weeks before admission, when she began to have sharp shooting pains in both legs, but more severe in the right. She began to lose power in her limbs, and one week later was unable to walk because her limbs were "too weak." The loss of power seemed to begin in her feet. She complained of pain in her back and weakness when she tried to stand. Later, she began to have pain and lose power in her arms. She says she has been a moderate drinker, and denies syphilis.

On admission, the patient was almost completely paralyzed in lower extremities; could barely raise her limbs from the bed. The muscles of the upper extremities, especially the extensors, were also somewhat affected. There were some spots of hyperæsthesia and partial anæsthesia irregularly distributed over the lower extremities, and also considerable numbness. Sensation in the upper extremities seemed to be normal. The reflexes were lost. There was marked atrophy in the legs and thighs on both sides, particularly of the extensors of the foot, and a moderate amount in the arms. The extensors here were also most affected. She complained of very severe pain in the arms and legs, which kept her awake at night, and there was marked tenderness on pressure. Temperature at 9 A.M., 100; at 5 P.M., 101.2. Pulse, 9 A.M., 104; at 5 P.M., 112. Urine 1,018; albumin one-eighth in bulk; no casts.

Two days after admission the patient was found to have a moderate amount of fluid in the right pleural cavity. Twenty-four ounces of serum were withdrawn. She gradually failed, lost strength, emaciated; the pleurisy developed into an empyema, for which a free opening was made in the chest. Before death, which occurred in February, 1887, she had lost all power over both lower extremities, and the arms were partially paralyzed. Atrophy was very marked in both lower extremities and forearms. Pain was constant and paroxysmal, and very severe. Tenderness on pressure, and pain on movement of muscles marked. Contraction of the muscles had gradually developed until thighs were sharply flexed on trunk, and legs on thighs. Attempts to straighten the limbs caused the most severe pains. The bladder and rectum, the muscles of phonation, deglutition, and respiration, and the nerves of special sense were entirely unaffected. The reactions of degeneration were present. The patient died of exhaustion resulting from the empyema.

Autopsy: Patient greatly emaciated. Legs and thighs markedly flexed. Muscles of the leg of a yellow color, and apparently converted almost entirely into fat. Muscles of thigh much less affected. Spinal cord, nerve roots and trunks normal in appearance.

Microscopical appearances: spinal cord apparently

normal, with the exception of slight sclerosis in the columns of Goll in cervical region. Nerve roots normal. In one of sacral nerves before its exit from spinal canal was found a marked increase in the endoneurium with diminution in the number of the nerve fibres, and an irregularity and indistinctness in these appearances. The right sciatic nerve showed the same changes more marked. In the posterior tibial the process was even more advanced, and in this only an occasional nerve-fibre could be detected. Microscopically the gastrocnemius was composed almost entirely of adipose tissue; only here and there atrophied muscle fibres were found. The small nerve-trunks in the muscle showed advanced degenerative neuritis, with comparatively little new growth of connective tissue in the nerves.

The president thought that in this case it had been fully demonstrated that the alcohol paralysis was due to a neuritis and not to a myelitis.

DR. M. A. STARR had seen the specimens, and said there was no question with regard to the existence of neuritis in this case, and the normal condition of the anterior cells of the spinal cord. There was slight sclerosis in the columns of Goll which he was unable to explain. The same condition had been observed in a case of Hamilton recorded by Granger Stewart. He referred to a well-prepared specimen by Dr. Van Gieson in a case of Dr. Ball's, not yet published; also to the manner of preparing specimens.

DR. BIGGS said that contrary to the ordinary condition found, the process seemed to be more a degeneration of nerve-fibre, than an interstitial neuritis, especially in the smaller nerves.

DR. NOYES spoke of the frequent occurrence of amblyopia with alcoholism, and said it was due to a partial neuritis of the optic nerve, referred, as had been shown to the centre field, and not to the field at large. He suggested that in cases like the one reported by Dr. Biggs, the neurologists should make careful examination of the optic nerves. In reply to Dr. Starr, whether scotoma was due as frequently to tobacco as alcohol, he said it might be due to either, but the patients frequently combined the two habits.

The president said the name, alcohol paralysis, was rather begging the question; this patient, it seemed, had been only a moderate drinker. The same fact had been noticed in other cases.

Abstract of DR. STEVENS's paper on

IRRITATIONS ARISING FROM THE VISUAL APPARATUS CONSIDERED AS ELEMENTS IN THE GENESIS OF NEUROSIS.

Two classes of influences were recognized as causes of functional nervous disorders; the remote and the immediate. The remote causes may be sufficient to perpetuate a neurosis when once a nervous irritation has been instituted. While immediate causes rarely induce long-continued disorders, a pre-existing influence may serve to continue it indefinitely. It is of little practical importance that some exciting circumstance has given rise to a nervous trouble. The event has passed and cannot be recalled. If there is an underlying cause it is of much more importance.

Persons in whom underlying causes of neurosis exist, are said to possess a neuropathic predisposition, and those subject to it are liable, from trifling immediate causes, to suffer from various neuroses. In a considerable proportion of cases the neuropathic ten-

dency is hereditary, but the result is not always manifested in the same form in different generations.

A third class of cases which should be recognized may be designated as *modifying tendencies*, among which may be mentioned vitiated atmosphere; the period of life, and the performance of certain physiological functions.

Often as a result of the predisposing influence, when one form of complaint is supposed to be cured, the subject of it is simply suffering from some other form.

Must the predisposing cause of neurosis be central, pervading the whole organism, or must it of necessity be located in the great nerve-centres, or may it be entirely local and outside those great centres? Undoubtedly it may be local, and confined to any portion of the nervous system.

Inasmuch as the tendency is often hereditary, may not the evil consist of some peculiarity of anatomical structure or of physiological adaptations which are inconsistent with the most regular and easy performance of the function of a part or parts; and may not certain classes of mechanical peculiarities be unusually liable to become factors of physiological disturbance?

If we answer in the affirmative, we assume a hypothesis which must be maintained by long-continued observations, conducted in a spirit of judicial independence, and free from the bias which might result from occasional and exceptional experiences. The conclusions announced this evening are based upon observations in more than five thousand cases in private practice, and of a considerable number in public institutions, all of which have been made with as much precision as the exacting demands of an active professional life would permit. The central truth, as arrived at by these observations, may be stated, as it has already been done in a memoir to the Royal Academy of Medicine of Belgium, in 1883, as follows:

Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances; and, more frequently than other conditions, constitute a neuropathic tendency.

In the proposition, all causes of nervous irritation are recognized. It is held that the influences indicated are preëminent, but not exclusive permanent causes. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one preëminently important element is demonstrated, it is not to be rejected because it may not include the whole.

The speaker proposed only to illustrate the result of his experience by exhibiting some photographs of cases of notable neuroses, which showed very remarkable changes of physiognomy, such as habitually occurred when certain hurtful tensions of the ocular muscles were relieved. If he had designed to present only the most remarkable cases of the class to which these belonged, he would have chosen only a few of these. The design was, however, only to show, by these contrasting photographs, the very notable improvement which, in obstinate, and even by ordinary means, hopeless cases of the most important neuroses, might be expected from relief from certain hurtful tensions of the eye-muscles.

The portraits were in pairs, the first having been taken at the commencement of treatment, the second at a later period; the interval being, on an average,

about one month. The first series represented cases in his private practice; the second series, cases which were under his care for a short time at the Willard Asylum for the Insane, last summer. The first series had been made by various photographers; the second by Dr. P. M. Wise, Superintendent of the Willard Asylum. Thirteen pair of photographs were exhibited, nine of the first and four of the second series. In all these, very striking contrasts existed between the first and second portraits.

In No. 1, a weary and listless young girl, a sufferer from headache, and who had never been able to attend school, is seen to be transformed, in twelve days, into a vivacious and thoroughly awake child, following relaxation of each of the inner eye-muscles. The change in health was marvellous. In No. 2, an epileptic girl, whose vacant gaze and half-open mouth indicated a profound degree of dementia, within a single month, put on an appearance of robust health and of lively intelligence. In another case, a boy, choreic from infancy and imbecile, whose constant movements were too rapid, even, for the modern photographer, showed in the second photograph, from which the distortions of the face and wrinkles in the skin had disappeared, a clever mental state.

The speaker related, in brief, some of the results of a short season among the most hopeless cases of the Willard Asylum for the Insane. Two of these hopeless cases, who had, during the month preceding treatment directed to the eye-muscles, been subjected to about one hundred and seventy convulsions, suffered only about forty convulsions in the month succeeding that treatment, notwithstanding the withdrawal of all bromides.

Fifty per cent. of epileptics so treated had remained well for a length of time varying from many years to only a single year, but sufficiently long to indicate that a great change had been wrought. Thirty-two per cent. had received very marked relief, but short of absolute cessation of the complaint. They were all better without drugs than they had formerly been with. In seventeen per cent. no good results had been obtained.

The speaker thought that, with a better understanding on his own part of the extremely complicated condition of the ocular muscles often found in epilepsy, this record could be improved.

The method of procedure in examining for muscular defects was given. It differed radically from that proposed by Grafe, and generally adopted, and from other methods which had been suggested. His method of performing tenotomy was also described.

In conclusion, Dr. Stevens said he thought it was not unreasonable to look for the future advance in medical practice along two great lines: The one related to microorganisms; the other to irregular phenomena, resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties, we might look with confident expectation to the cessation of the peculiar irregularity which constituted the special form of nervous disease.

Dr. E. C. SEGUIN said, with regard to the aetiology of neuroses and serious mental disorders, that he thought we ought to look a great deal deeper than the exciting and superficial causes which occurred in many cases of that kind. In epilepsy and chorea, for instance, he thought we had to look for the efficient

cause, not in disturbed external apparatus, but to hereditary predispositions and faulty tendencies. That faulty external apparatus would cause more attacks, or possibly aggravate the mental disorder, he thought no one would deny. Consequently, the optic apparatus, the genital apparatus, etc., should be put in perfect order. As to the great improvement after tenotomy in epilepsy, the records of surgery and medicine were filled with cases, in which trauma of various kinds had interfered with epileptic manifestations for months, or even years. It seemed to him, the report of a case within six months after tenotomy was rather premature. He referred to one of his cases of epilepsy recently submitted to division of the ocular muscles, the bromides, at the same time being withdrawn; and three days later she commenced to have from six to twelve convulsions in the twenty-four hours—more than she had ever had before the operation. He had had patients go three years without an epileptic attack, and then have a relapse.

DR. H. D. NOYES thought the precise ocular conditions of the cases reported should have been recorded; perhaps they were in that part of the paper not read. He had with him exact records of a number of cases of ocular trouble, with the result of treatment. It had not fallen within his experience to meet with the class of cases referred to by Dr. Stevens. He dwelt upon the importance of making a thorough ocular examination, including that of the muscles of the eye, in every case. He had come to realize more and more the importance of insufficiency of the external recti. He had obtained benefit in many cases from prisms. He spoke of the method of examination and of performing tenotomy. The paper deserved the most careful consideration.

DR. D. B. ST. JOHN ROOSA said that that part of the paper which especially concerned the ophthalmologist was as old as ophthalmology itself, and it did not call for discussion to-night. The real point in the paper was, he thought, that the correction of errors of refraction, improper relation between the ciliary and internal recti muscles, and other deviations of the ocular muscles, was capable of curing constitutional disease. He took it that epilepsy was a constitutional disease, and not merely a functional disturbance. The same was true of chorea. The question was: Did these operations cure epilepsy and chorea? But it had been shown that people with chorea got well without ever having errors of refraction corrected. It had also been shown that the vast majority of people who were not myopes were hypermetropies, yet suffered no inconvenience from it. In this, the author's second paper, another step had been taken, namely, that these constitutional diseases—epilepsy and chorea—were due, not solely to error of refraction, but to want of coördination between the recti and ciliary muscles. Then the prism test came upon the field, and we had to exercise the ocular muscles by prisms. Then, in the order of advance, came the doctrines taught in the paper of to-night. Granting the claims of the paper—that the patients had for a time after correction of an ocular difficulty been greatly relieved, possibly cured—yet that was a long way from assuming that the ocular disturbance, whatever it was, was the cause of the epilepsy. Many great men having strabismus had not become choreic, epileptic, or insane.

DR. A. L. RANNEY thought that, following the exhibition of the photographs, little need be said in con-

firmation of the views advanced by Dr. Stevens. The photographs were so startling that they would be accepted in any court of justice, by an unprejudiced jury, as proof that unmistakable benefits had been derived from the treatment. He had, personally, seen and examined several of the cases, and he considered the published histories as decidedly under-estimated. Dr. Ranney had performed the operation for the relief of ocular insufficiency nearly two hundred times; and had carefully examined the condition of refraction and accommodation, as well as that of the ocular muscles, in several hundred subjects afflicted with various forms of nervous disease. He did not pretend to pose as an oculist, but as a neurologist. Originally, he was a skeptic; but his skepticism became no longer tenable when he saw a choreic and epileptic imbecile in Dr. Stevens's office, who was perfectly restored in a short time to health and mental sanity by the method he had described. He thought the paper would tend to establish a new era in neurology. Regarding the operation, in no case had he had bad effects from it, but the treatment required careful regard to detail.

Respecting the view that the eye is an important factor in creating and prolonging the so-called "neuropathic predisposition," the following facts were pertinent:

(1) No one has yet shown in what this predisposition lies. Hence, if Dr. Stevens has shown that eye-defect is an important element in these conditions, a great advance has been made.

(2) There is no recognized pathology in functional nervous diseases.

(3) Heredity is very common in these affections.

(4) My records, in common with those of Dr. Stevens's, go to show that eye-defect is found in a very large proportion of such subjects.

(5) Many of the eye-defects found can be shown to be congenital, being inherited, like feature.

(6) The manifestations of the neuropathic predisposition vary with each case, and are called forth often by trivial circumstances, which are too frequently regarded as of great clinical interest.

In the treatment of the severer forms of functional nervous disease (for example, in chronic epilepsy), one radical cure without the use of drugs offsets a thousand failures, as a proof of the scientific value of a discovery. Dr. Stevens had seven cases free from epileptic seizures for more than five years after tenotomy of the eye-muscles, and without the aid of drugs. This could not be explained by chance. Then the records of the Willard Asylum were hard to contradict.

During the past year and a half he had seen sixteen epileptics in private practice; in only one was no defect of the eye-muscles found. He had an opportunity to operate on the eyes in eight of the cases: Three of these were cured; two had had no fits for over one year. In the five cases still under observation, the attacks had been lessened in all, drugs having been withdrawn. One had been reported by Dr. Stevens. In headache and neuralgia, he had some very remarkable results from tenotomy of the eye-muscles; also satisfactory results in hysteria and hystero-epilepsy.

DR. HERMAN KNAPP said his practice had not brought him much in contact with people who had neurotic conditions, and most of those whom he had seen had passed into other hands. He was very much surprised to learn that there was so high a percentage of ocular difficulties in the patients Dr. Stevens ex-

amined in the Asylum. He thought nervous people generally showed not only one complaint. Many people, especially young ladies who suffer from headache, etc., cease to complain after correction of a deviation of the eye-muscles, etc. He had listened with the greatest attention to Dr. Stevens; and he felt quite sure that his work was not only legitimate, but that it was highly promising. He was only afraid we would not be spared disappointments in that line of treatment.

DR. GRUENING said his experience had been very much like that of Dr. Knapp. He always examined for muscular defect, and said that when one placed a prism before the eye, it disturbed binocular vision. For the correction of this apparent muscular defect an operation was performed; but the muscle was sewed to its original place, or the lateral attachment was not divided, and this was only the simulation of an operation. He had benefited many patients by cylinders.

DR. STEVENS, in closing the discussion, said there was no suggestion in the paper regarding cures. He did not believe in cures. Take away the cause of the trouble, and they got well. If the patients could not be said to be cured, it was still a very fortunate thing that they had got rid of their chorea, epilepsy, etc.

CHICAGO GYNÆCOLOGICAL SOCIETY.

REGULAR meeting, Friday, January 21, 1887.

The President, CHARLES WARRINGTON EARLE, M.D., in the chair.

DR. CHARLES T. PARKES made the following remarks upon

A CASE OF INTERSTITIAL PREGNANCY, WITH REMOVAL OF THE PRODUCT OF CONCEPTION THROUGH THE UTERINE CAVITY,

with the exhibition of the specimen.

The specimen, which I exhibit to-night, comes from a case, which has been of extreme interest to me, and is, I think, the remains of a conception, which was certainly outside of the uterine cavity, and which I succeeded finally in delivering through the womb. It was taken from a lady, thirty-three years of age, who seven years ago, was delivered of a child at full term. The child is now living. A year after that, she was taken with hæmorrhage and had quite a severe bleeding, every month or second month, for two years. Some time after her pregnancy, she was operated upon for laceration of the cervix, but the operation had little effect upon the hæmorrhage. Two years ago she again became pregnant, and was delivered at the proper time. This child is still living. The lady came under my charge last September, for hæmorrhage from the uterus. On examination I found a globular mass in the lower portion of the abdomen, as large as two fists, very hard and tense. When I felt it through the abdominal walls, my impression was that it was a fibroid growth. Upon digital examination, I found the cervix dilated sufficiently to admit the finger very readily, which went over the surface of a smooth mass in the uterine cavity. This led me to think that it was a fibroid tumor with a broad base, probably a submucous tumor, which gave rise to the

hæmorrhage. On that supposition I placed her on the ergot treatment and kept it up for a week, twenty drops of the fluid extract every six hours. This gave rise to such severe attacks of pain that the patient could not bear the treatment any longer, but it had the effect of diminishing the flow of blood and increasing the dilatation of the cervix. I took pity on her on account of the pain and gave a couple of hypodermic injections of morphine; when the pain ceased, the cervix began to contract again and soon reached its normal size, and the patient recovered from the acuteness of the disturbance, but the hæmorrhage still continued, accompanied with a flow of muco-pus. I attended her from the 16th of September until the 14th of October; as she was getting along pretty well, I supposed the action of the ergot would gradually force this mass down so that it could be removed. My visits ceased and I heard nothing more from the patient, except an occasional report that she was getting along in the same way, until the 10th of December, when her husband came into my office and showed me a little piece of bone, or a piece of hard substance that looked like bone, which he said his wife had picked off the napkin. It had the appearance of foetal cranial bone. He asked me what it meant, and I told him I could not say, but would see his wife. On inquiry, I found that the flow of blood had ceased, but the flow of pus had increased, and occasionally there was extruded a piece of this bony substance. On digital examination, I discovered the os and cervix filled with particles of this bony substance, and after removing them I found it impossible to introduce my finger into the cervix. The external tumor was reduced considerably in size, and was low down in the pelvis, and could be felt projecting through the anterior vaginal wall. I then decided to dilate the cervix. I introduced as many tupelo tents as I could get into the cervix—at first but two of fair size—to their full length, and allowed them to remain there over night, when I removed them and introduced four more. That evening I removed them, and the cervix was dilated so that I could easily introduce my finger. As I had examined the uterus with the sound at my first visit, and it went around this mass to its full length, I supposed I had nothing but a fibroid to deal with. When I had dilated the cervix with these tupelo tents, I found I could not get at the mass of the growth, my finger going into the cavity of the uterus. At the distance of one joint and a half inside the cervix, I found a little opening, and projecting through this opening—about as large as the end of a pencil—were some of these particles of bone. Then the query arose, how was I to get into this cavity, and what was it? a double uterus, with multiple pregnancy at the last conception—one delivered and the other retained? I was at a loss to know what it was, but finally concluded it to be an intra-mural pregnancy. I had the particles examined under the microscope, and they showed the structure of foetal bone. Then I thought of using the tents, to increase the dilatation, but was troubled with the fear that I should have a severe septicæmia come on as soon as this outside cavity was opened to air. But I was convinced that unless I tried to do something, the patient would pass out of my hands; so I decided to keep on with dilatation. On the 20th of December I began introducing the tents, and within two or three days after their removal, the cervix was again contracted so that it would not

admit the finger. I introduced the tents again, and met the same difficulty in exposing the mass. The thought struck me that if I could not get the large body out of the small opening, I could diminish the size of the mass; so I introduced small forceps into this opening, and took it away piecemeal. All this time I had the entire uterus under my command, because it was an easy matter to bring the cervix down to the vulvar orifice. On the 24th, I introduced tents and dilated it, so that I could introduce two fingers very readily, and finally got one of my fingers into the opening in which this body (indicating the specimen) was found. I then began to separate it and pull it away, getting hold of it with strong forceps. Sometimes I succeeded in bringing away a large mass of flesh, which looked exactly like that from a macerated fœtus, the skin macerated and parchment-like. This was continued up to the 30th. Passing over the New Year, and allowing the patient to rest without interference, on January 9th, I introduced four tupelo tents, a little longer than the ordinary, and fortunately succeeded in getting one or two into the opening in which the body was found; so when I removed them that evening, I was enabled to bring away the entire mass and pass the finger into the cavity afterwards. It was very irregular, as though the uterine tissues had been forced into the irregularities of the foreign body. Since that time the patient has improved, the bleeding has ceased, the uterus has diminished in size, and she is up and about the house. I have had all parts of this specimen examined under the microscope. The fleshy mass shows connective tissue, muscular fibres, blood-vessels and hairs. The osseous material shows all the characteristics of fœtal bone.

DISCUSSION.

THE PRESIDENT. Was there a history that would lead you to suppose, that at any time during her invalidism there was a pregnancy, or a pelvic hematocle, or anything of that kind?

DR. PARKES. At the time of her last pregnancy, she was very large and yet was delivered of a child that weighed but six pounds. Her abdomen was very large for some time after the delivery of this child. Again, there is a history several years back, of a period when menstruation ceased, and she supposed she was pregnant, but nothing came of it.

DR. W. W. JAGGARD said the interesting specimen presented by Dr. Harkes was a typical lithopædion—a calcareous capsule, containing the fœtal structures infiltrated with lime salts.

He thought the diagnosis of interstitial pregnancy highly probable. It was impossible to make a positive diagnosis without a post-mortem examination of the maternal organs. Carl Braun¹ was responsible for the statement that the formation of a lithopædion occurred only in case of extra-uterine pregnancy. Spiegelberg,² however, indicates that this proposition is too general. The formation of a *uterine lithopædion* occurs infrequently in the human female, but is not unusual in ewes. Koerber³ extracted by abdominal section a lithopædion from the rudimentary horn of a *uterus bicornis*.

The formation of a lithopædion, therefore, was not a reliable sign in the differential diagnosis between uterine and extra-uterine pregnancy.

RHODE ISLAND MEDICAL SOCIETY.

GEORGE D. HERSEY, M.D., SECRETARY.

THE usual quarterly meeting was held in Providence, March 17, 1887, the President, DR. HORACE G. MILLER, in the chair.

A communication was received from the Secretary of State, announcing that the General Assembly had amended the charter of the Society, granting power to hold real and personal property to the amount of one hundred thousand dollars. The Society voted to accept the amendment.

The President appointed a Building Committee of five members, namely, Drs. J. H. Eldredge, of East Greenwich; Lloyd Morton, of Pawtucket; and J. W. Mitchell, G. T. Swarts, and G. D. Hersey, of Providence.

DR. GEORGE L. COLLINS was appointed to serve on the Library Committee, in place of Dr. O. C. Wiggin, resigned.

Delegates to the American Medical Association were elected as follows: Drs. H. G. Miller, Albert Potter, J. W. Mitchell, J. H. Eldredge, George W. Jenckes, A. G. Browning, H. Canfield, L. Morton, G. T. Swarts, W. R. White, M. Fifield, J. H. Morgan, H. Terry, A. E. Tyng, H. R. Storer, C. V. Chapin, W. J. Burge, and W. B. Goldsmith.

DR. F. T. ROGERS reported

A CASE OF TUBAL PREGNANCY.

The patient, twenty-two years of age, married three years, fell unconscious from her chair in a hotel dining-room, and was carried into an adjoining waiting-room, where unavailing efforts at resuscitation were made. On the physician's arrival, he was unable to revive the patient with hypodermic injections of brandy and ammonia, and she died two hours after the attack, no history of pregnancy having been obtained. It was afterwards learned, however, from her husband, that she had passed the catamenial period two weeks; and a *post-mortem* examination revealed a six-weeks fœtus in the dilated right Fallopian tube, a ruptured sac, and copious hæmorrhage into the abdominal cavity. In this case no accurate diagnosis could be made, on account of the imperfect history; and laparotomy, the only possible procedure offering relief, was not suggested.

Dr. Rogers also presented photographs of an unusual monstrosity. A female child, weighing eight and a half pounds, had a soft tumor at the base of the cranium, nearly as large as the head, and a shining, tense enlargement of the labia majora, to which the funis was attached. Dissection was forbidden by the parents; but, fortunately, a good photograph of a frozen section in the median line was secured. The occipital was entirely disconnected from the other cranial bones, having a rudimentary foramen magnum, but no articular condyles. The first cervical vertebra articulated with what was probably the sphenoid, and the vertebral column terminated between the spines of the scapulae. Between this point and the pelvis there was no bony structure. The anterior tumor contained brown, gelatinous fluid, with some folds of intestines. The anus was imperforate.

DR. C. M. GODDING exhibited a carefully-mounted specimen of malformation from an infant which lived two days. The rectum and bladder emptied into a common cloaca, with which a rudimentary uterus was

¹ Lehrb. d. g. Gynæk., 1881, p. 128.

² Lehrb. d. Geburtshilfe, 1882, p. 342.

³ Gaze. hebdom., No. 34, 1886.

also connected. The child had also a malformation of the heart, there being an entire absence of the ventricular septum.

DR. W. R. WHITE reported

A CASE OF ACUTE INDIGESTION IN A PRIMIPARA, aged eighteen years, who had eaten a hearty Thanksgiving dinner the day previous. At the beginning of the second stage of labor, the pulse, previously 80, suddenly fell to 48, and foetal heart-sounds could no longer be recognized. Labor was speedily completed, and the child, apparently dead, was resuscitated with difficulty. The mother's pulse remained at 48; she complained of headache and photophobia, and in the evening was delirious, with a temperature of 102°. These serious symptoms all disappeared after profuse vomiting; pulse and temperature became normal, and the patient made a good recovery.

DR. ELY suggested that toxic ptomaines developed from fermenting, undigested food might cause such results as were described.

DR. E. B. SMITH reported

A FATAL CASE OF PULMONARY GANGRENE FROM PYÆMIA, FOLLOWING AN ABSCESS IN THE GLUTEAL REGION.

The patient, a woman, aged twenty-two, had otherwise been in good health.

DR. R. F. NOYES reported

A CASE OF HYDATIFORM TUMOR OF THE LIVER, and exhibited mounted specimens of the echinococcus. The patient, a stevedore, aged forty-two, was admitted to Rhode Island Hospital, with pulse 110, respirations 30, and temperature 100°. The liver somewhat enlarged, its surface smooth. No nodules or tumor could be felt. Tenderness and pain were caused by pressure over the posterior portion of the right hypochondrium; and spontaneous pain was complained of in this region, and through the right thorax and shoulder. Examination of the chest revealed nothing abnormal, except that hepatic dulness was higher than normal. Considerable cough and expectoration, the sputa containing numerous cells, resembling pearls of tapioca. The day following, the pain increased; pulse and respirations were more hurried; temperature sank to 97°, and there was marked bulging of the right side of the thorax, with flatness on percussion, and almost entire absence of respiratory murmur. The patient became cyanotic, and died two days after admission.

Autopsy. The thoracic cavity contained five pints of yellowish opalescent fluid, floating in which were a multitude of small cysts. The parenchyma of the lung was ulcerated in several places and communication thus established with the bronchi. Upon the under surface of the right lobe of the liver was found a cavity of the capacity of three pints, filled with yellowish fluid in which were thousands of transparent cysts. The cavity communicated with the thoracic by an ulceration through the diaphragm.

DR. G. T. SWARTS read a paper on the

PURIFICATION OF WATER FOR DRINKING PURPOSES, and exhibited and explained the construction of the Luther, Aborn, Acorn, Gem, Ideal, Diamond and Howe filters, and gave the results of a series of experiments he recently made to test their value in filtration of micro-organisms. These filters were arranged

upon the same line of pipe in the Bacteriological Laboratory of Harvard Medical School. A faucet was left on the same line of pipe beyond the filters for drawing the water for the unfiltered analysis, and a faucet beyond that to draw off any sediment which might accumulate, as is usually the case in a "dead end," however small the pipe.

All the filters were tested at the same time and under the same conditions as follows:

Water was drawn from the last faucet until it was evident that all air and detritus had been washed from the section of pipe to which the filters were attached. About four litres of water was then drawn through each filter to remove any dirt and dust which might be left in them from packing and putting together. From each filter 50 cc. of water was then drawn into a sterilized Erlenmeyer's flask having a sterilized cotton plug. One cc. was then taken from the flask with a sterilized pipette and mixed with 10 cc. of sterilized nutrient ten per cent. gelatine (Koch's formula), and flowed upon a sterilized glass plate, which was placed upon a glass slab over a jar of powdered ice, and the whole protected with a sterilized bell-jar until the gelatine had hardened. This plate culture was then placed in a sterilized glass chamber with moisture, and allowed to remain for forty-eight or seventy-two hours in a room at a temperature of 70° F., at the end of which time each individual microbe or micro-organism introduced with the water into the gelatine, has grown by its own multiplication an individual colony. The colonies in each culture were then carefully counted and compared with a similar culture made with unfiltered water.

The results obtained show that some filters on the first use successfully removed a certain proportion of organisms from the water. A test made seventeen days later showed in every case a marked increase in the number of colonies in the filtered as compared with unfiltered water. For instance, the unfiltered water contained thirty-six colonies of growth while the filtered water showed the presence of colonies to the number of 2,000, 9,000, and 10,000. An examination on the seventieth day showed an increase in case of one filter, of 117,000 colonies.

Other experiments were made to determine how far the consumer could cleanse his filter or sterilize it in some simple manner. The results showed, however, that even with every possible precaution, the number of organisms in filtered water exceeded the number in the unfiltered by several thousands.

These experiments go to show conclusively that the organic matter retained in the meshes or interstices of the filtering media, contain organisms which increase rapidly while the filter is or is not in use, and especially if its position is in a heated kitchen or in proximity to a hot-water pipe.

—The late Dr. Wakley, editor of the *Lancet*, bequeathed to his *alma mater*, University College, London, his freehold residence, Heathlands, Longcross, Chertsey, and eight acres of land, for the uses of a convalescent home for patients from that hospital, to be called the Wakley Convalescent Home, in memory of his late father, Thomas Wakley, the founder of the *Lancet*. He also gave \$5,000 towards the maintenance of the Home.

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CACHEXIA STRUMIPRIVA.

At the Naturforscher-Versammlung in Berlin, on September 23, 1886, the connection of this affection with total extirpation of the thyroid gland was discussed.¹ Eighteen cases in which the operation had not been followed by cachexia strumipriva were reported by Baumgärtner and Bardeleben. The former thought that many of the dangers attending the operation could be avoided by improved technique; and that it would be wrong to reject the procedure as unjustifiable. No satisfactory explanation of the apparent connection of cachexia strumipriva and thyroidectomy was offered.

Notwithstanding the above opinion it is far from being universally accepted that one can surely avoid such disastrous consequences of the operation in question as cachexia strumipriva or tetanus, and in view of this fact partial resection,² extirpation of the isthmus, and parenchymatous injection, or electrolysis have been recommended as substitutes.

But these methods, aside from not being always applicable, have also several disadvantages which influence unfavorably the result of the operation.³ For this reason Wölfler⁴ proposes anew⁵ the ligation of the thyroid arteries, and claims that the former failures following this procedure were due to secondary hæmorrhage resulting from unskilful or improper after-treatment of the wound. Also that the inferior thyroid artery was not ligated. Wölfler found that ligation of the thyroid arteries in dogs was followed by a marked contraction of the gland without gangrene ever occurring. Accordingly in a male patient, aged twenty-nine, whose uniformly enlarged gland had caused alarming dyspnoea, Wölfler ligated the right superior and inferior thyroid arteries. The result was surprisingly satisfactory; for not only was

the patient rescued from immediate danger, but seven months later the right lobe was found to have contracted to less than one-half its former size, while the left had also become somewhat smaller. The anatomical reasons for the ligation of both superior and inferior arteries, and the technique of the operation, are fully stated in the original publication of the author.⁶ Attracted by Wölfler's success on October 8, 1886, Weinlechner⁷ ligated both superior thyroid arteries in a patient whose right thyroid lobe equalled in size a man's fist. The left lobe was also enlarged but to a less degree. The indications for operative interference were excessive dyspnoea, and cyanosis. The reported result was even more striking and satisfactory than in Wölfler's case; for on the twenty-seventh day after the operation the gland was found to measure seven cm. less in circumference than at the time of its performance, while in Wölfler's patient, when the inferior and superior thyroid arteries on the same side were ligated, the amount of contraction recorded at the end of seven months was only six cm.

The marked success of these cases surely warrants a thorough test of this method and their final termination will be awaited with deep interest, especially since a review of the investigations and opinions regarding the function of the thyroid, and the results caused by its removal in man and animals, shows thus far only a conflict of opinion. One class of observers believes that the function of the organ is unimportant to the animal organism, while an opposite view is held by the opponents to this theory.

This unsatisfactory state of uncertainty and the importance of discovering the true value of surgical treatment in these distressing cases has incited F. Fuhr⁸ to an extensive series of experiments for the purpose of ascertaining: (1) If the thyroid gland is an organ important to life. (2) An explanation for the contradictory opinions and experimental results. (3) In case thyroid extirpation is unimportant what explanation there is for the remarkable group of symptoms reported to have followed the operation by so many different observers. The conclusions of this laborious and carefully conducted investigation are: (1) That extirpation of the thyroid gland in dogs, whether complete at one operation or gradual, is always fatal with symptoms referable to disturbances of the central nervous system. The significance of these symptoms is not, however, positively established since an organ whose function is presumably that of regulating the blood tension of the central nervous system, and especially of the brain, has been annihilated. (2) The group of symptoms that the dogs presented cannot be the result of some injury of surrounding structures at the time of operation, or of a septic process. (3) If a dog survived the operation it was because at least one third of the main gland remained in the form of one or more accessory glands. (4) That other experimenters who have obtained dif-

¹ Loc. cit.

² Wien. Med. Presse, 1886, No. 46.

³ Arch. f. Experim. Path. u. Pharmacol., 1886, xxi, 5, u. 6, p. 387.

¹ Berl. Klin. Wochenschr., October 4, 1886, page 687.

² Mikulicz Wien. Med. Wochenschr., 1886, 1, 2, 3, 4.

³ Wien. Med. Wochenschr., xxxvi, 29.

⁴ V. Die operative Behandlung des Kropfes durch Unterbindung der zuführenden Arterien. Wien. Med. Wochenschr., 1886, xxxvi, No. 29, 30.

⁵ Johann Muys. Neue vernünftige Praxis der Wundärzte. Frankfurt, 1629.

ferent results have either mistaken other structures for the thyroid, or have failed to completely remove the true gland. Fuhr concludes by saying that physiologically it does not require another half-hundred of unfortunate victims to prove the doubtful value of total extirpation whatever may be its justification from the present surgical standpoint.

That the above results are correct, time and subsequent experience can alone demonstrate, but they are surely rational, and if true will go far to harmonize the conflict of opinion now met on every hand.

Before dismissing this important subject it is perhaps advisable to call attention to another expedient to avoid the dangers apparently consequent to total extirpation offered by the intracapsular enucleation operation of Professor Socin, the so-called intra-glandular or "shelling out" removal of the diseased areas only, which Garré,⁹ of Bâle, has strongly advocated. It is assumed that total extirpation is an unjustifiable operation, and in a large proportion of the cases of goitre submitted to operation the disease appears in circumscribed masses, each separated from healthy gland tissue by a capsule of greater or less thickness. The operation consists in "shelling out" these diseased centres after opening the capsule. To those interested in this method Müller's report of Brun's¹⁰ cases is of value.

The latest reports in regard to the results of applying electrolysis to goitre seem to promise safe and favorable results.

THE FOURTH DECENNIAL CENSUS OF MASSACHUSETTS.¹

THE first part of the first of the three volumes on the Census of 1885 is devoted to population and social statistics, as Part II will also be. Volume II will deal with manufactures, the fisheries and commerce; Volume III will relate to agriculture, property, mines, pits and quarries, both to be ready this year.

The collection of statistics has been by 570 enumerators appointed by the Bureau of Statistics of Labor, as required by law, upon the recommendation of selectmen of towns and mayors and aldermen of cities; the result of which has been that the head of the bureau recommends that in future enumerators be appointed by the Civil Service Commission, as the clerical force is already appointed. The work, as a whole, is very satisfactory, however, the bad work of the enumerators "who proved unfit for any duty requiring care and integrity" having been supplemented by re-enumerations or by careful corrections.

The population increased 290,229 from 1875, from 1,651,912 to 1,942,141 or 17.57 per cent. as compared with 30.38 per cent. from 1865 to 1875.

The males in 1875 numbered 794,383, and repre-

sented 48.09 per cent. of the population, whereas the females were 857,529 in number, or 51.91 per cent. In 1885 the males numbered 932,884, or 48.03 per cent. of the population, while the females numbered 1,009,257, or 51.97 per cent., an excess of females over males of 76,373, or 108.19 females to 100 males. In 1840 the excess of females over males was but 7,672, or 102.13 females to every 100 males; in 1855, 32,301, or 105.87 females to every 100 males; in 1865, 63,011, or 110.46 females to 100 males; in 1875, 63,146, or 107.95 females to 100 males. Two cities representing a population of 42,486, or 2.19 per cent. of the whole population, show an excess of 1,756 males, while 21 cities, with a population of 1,045,010, or 53.81 per cent. of the total population, show an excess of 58,000 females. 124 towns, having a population of 229,816, or 11.83 per cent. show an excess of 5,706 males, while 198 towns, representing a population of 622,955, or, 32.07 per cent. show an excess of 25,835 females.

Boston and its suburbs, representing 574,249 people, contain 29.57 per cent. of the entire population of the State. The same cities and towns had in 1875 a population of 480,419, the gain within this limit during the past ten years being 93,830, or 19.53 per cent. The cities and towns within a radius of twelve miles from the State House have a population of 731,746, or 37.68 per cent. of the population of the State. The population of the cities and towns within this circle in 1875 was 603,909, a gain of 127,837, or 21.17 per cent. during the last ten years as compared with 17.57 for the State, or 23.66 per cent. for the cities and 10.64 per cent. for the towns. Boston, with a population of 390,393, comprehends 20.10 per cent. of the population of the State; eight towns, ranging in population from 30,000 to 70,000, represent 20.84 per cent. of the population; 22 towns, ranging in population from 10,000 to 30,000, represent 20.06 per cent.; 85 towns, ranging in population from 3,000 to 10,000, represent 22.60 per cent., while 232 towns, ranging in population from less than 500 to 3,000, represent 16.40 per cent. only.

Massachusetts has a population of 241.56 to the square mile. In 1880 it had 221.8 to the square mile as compared with Rhode Island 259.9, New Jersey 151.7, Connecticut 128.5, New York 106.7, Pennsylvania 95.2, Maryland 94.8, Ohio 78.5, Delaware 74.8, Minnesota 9.8, Texas 6.1, the United States 13.92, Belgium 481.71, the Netherlands 312.86, Germany 216.62, Switzerland 177.10, Austria-Hungary 156.98, Great Britain and Ireland (1881) 289.92, France (1881) 180.88.

By law, every male twenty years of age residing in the State on the first day of May in any year, and not a pauper or exempt by law, is a poll, and should be taxed as such. The Census reports the number of such persons on May 1, 1885, to be 567,959, this number being 29.24 per cent. of the whole population. Of this number 442,616, or 77.93 per cent. of the whole number of polls, are given as legal voters;

¹ The Census of Massachusetts, 1885. Prepared under the Direction of Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Volume I. Population and Social Statistics, Part I. Boston, 1887.

⁹ *Centib. f. Chir.*, 1886, No. 45.

¹⁰ Intracapsular Extirpation of Thyroid Cysts. E. Müller. *Ann. of Surg.*, August, 1886.

26,212, or 4.62 per cent. of the number of polls, as not voters; and 99,131, or 17.45 per cent. as aliens; that is, men of foreign birth, who have not secured citizenship.

The whole number of voters, those who might vote were it not for non-payment of poll-tax or failure to become naturalized, is 442,616, as against 351,113 in 1875; the voters in the latter year formed 21.25 per cent. of the whole population, while now they constitute 22.79 per cent. Of the 99,131 aliens 35,600 are Irish, 33,754 from British America, 13,937 from Great Britain, 14,578 from various countries of Europe, 347 from China.

The whole number of aliens in the State, or 99,131, constitutes 48.07 per cent. of the whole number of foreign born males 20 years of age and over, the latter being 206,227; that is to say, of the latter number of foreign born males 20 years of age and over, 48.07 per cent. have not been naturalized. This total number of aliens as distributed by place of birth shows some interesting features. For instance, of the total number of males 20 years of age and over born in British America, or 49,531, those not naturalized are 33,754, or 68.14 per cent. They are subdivided, as follows: of 5,307 English Canadians, 3,181, or 59.94 per cent.; of 22,427 French Canadians, 17,292, or 77.10 per cent.; of the total number of males 20 years of age and over born in Nova Scotia, or 13,645, those not naturalized, or aliens, number 8,703, or 63.78 per cent.; of 5,041 males 20 years of age and over born in New Brunswick, 2,799, or 55.52 per cent., are not naturalized; of 1,011 males 20 years of age and over born in Newfoundland, 470, or 46.49 per cent. are not naturalized, while 1,303 out of a total of 2,090 males 20 years of age and over born in Prince Edward Island, or 62.34 per cent., have not become naturalized. The Chinese males 20 years of age and over number 383; of this number 347, or 90.60 per cent. are still aliens. The foreign born males 20 years of age and over from the Continent of Europe, not including Great Britain and Ireland, number 25,408: of this number 14,578, or 57.38 per cent., are still aliens. The highest percentage of aliens coming from Europe is shown for Italy, there being 2,190 males 20 years of age and over and 1,874 aliens, or 85.57 per cent. The aliens born in Portugal, or 2,175, represent 75.05 per cent. of the 2,898 males 20 years of age and over born in that country. The Germans have naturalized to a large extent, for out of 10,908 males 20 years of age and over, 4,473, or 41.01 per cent. only, have not become citizens. Looking at Great Britain and Ireland, we find that the Irish born males 20 years of age and over number 98,199, of which number 35,600, or 36.25 per cent. only, are still aliens, the Irish thus ranking all other nationalities in the extent to which they become naturalized. Of the English males under consideration, 45.00 per cent. have not become naturalized, while 45.76 per cent. of the Scotch have not taken on the naturalization citizenship.

The average size of families is 4.58. Blacks (10,446), mulattos (5,038), Chinese (278), Japanese (10,) and Indians (520), constitute the same percentage of the population as in 1875, namely, 0.99.

The number of single males is 531,113, or 56.98 per cent. of the whole number of males, while the number of single females is 539,038, or 53.41 per cent. The number of married males is 368,457, or 39.50 per cent. of the whole number of males, while the number of married females is 371,129, or 36.77 per cent. The total married persons number 739,586, or 38.08 per cent. of the whole population. In 1875, 39.06 per cent. of the whole population were married. The number of widowed males is 32,154, being 3.45 per cent. of the total number of males, while the number of widowed females is 97,158, or 9.63 per cent. The divorced males number 1,037, while divorced females number 1,919. This difference is undoubtedly due to the fact of desertion on the part of the husband, leaving the wife within the Commonwealth to seek her divorce.

In 1885, 688,284 males, or 73.78 per cent. of the total males, are native born; and 244,600, or 26.22 per cent., foreign born, as against 74.86 per cent. native born and 24.68 per cent. foreign born, respectively, in 1875. For females, 726,990, or 72.03 per cent., are native born, as against 73.60 per cent. in 1875; and 282,267, or 27.97 per cent., are foreign born, 25.98 per cent., in 1875, being foreign born.

Of native born males, 20 years of age and over, 32.20 per cent. are single, and 62.19 per cent. are married. Of foreign born males of similar age, 25.90 per cent. are single, and 67.92 per cent. are married. For single females, the percentages are 29.09 for native born and 25.67 for foreign born; while, for those who are married, we find 57.97 per cent. foreign born, and 56.16 per cent. native born.

The number of males 80 years of age and over in the State is 5,892, and of females, 9,624. The average age for males is 28 years and 3 months; 29 years and 2 months for females; and 28 years and 9 months for both sexes. In 1875, the average age for males was 27 years and 6 months, and for females, 27 years and 10 months, or an average age for the whole people of 27 years and 8 months. The average death age for 1885, as given in the Massachusetts Registration Report, is 34.23 years. The average age of the population above 20 years is, for males, 40 years and 7 months; for females, 40 years and 11 months.

A very interesting table is given of the nativity of the population, the abbreviations used being *n*, for native; *f*, for foreign; and *unk*, for unknown.

The total population of the city of Boston, or 390,393 persons, includes 121,720 native born persons of native parentage, which is 47.34 per cent. of the whole number of native born persons in the city; while there are 503 foreign born persons of native parentage. Of the whole number of persons having foreign parentage, 102,786, or 39.98 per cent. of the total native born, are of native birth, that is, were born in

this country. The total number of foreign born persons having foreign parentage is 130,896, or 98.20 per cent. of the total foreign born, making a total of 233,682 persons, or 59.86 per cent. of the total population of the city having foreign parentage. The persons of native parentage represent 31.31 per cent. of the total population; and persons of mixed and unknown parentage, 7.16 and 1.67 per cent., respectively.

PARENT NATIVITY	Popula'n	NATIVE BORN.		FOREIGN BORN.	
		Males	Females	Males	Females
THE STATE.	1,942,141	688,284	726,990	244,600	282,267
Both Parents, <i>n</i> . .	855,491	407,618	445,621	966	1,286
Father, <i>n</i> , mother, <i>f</i>	52,085	24,530	25,519	844	1,192
Father, <i>n</i> , mother, <i>unk</i>	7,138	4,430	2,675	21	12
Father, <i>f</i> , mother, <i>n</i>	67,656	31,499	33,937	955	1,265
Both parents, <i>f</i>	919,869	198,238	204,955	239,700	276,976
Father, <i>f</i> , mother, <i>unk</i>	1,285	552	395	201	137
Father, <i>unk</i> , mother, <i>n</i>	7,838	4,364	3,433	19	22
Father, <i>unk</i> , mother, <i>f</i>	1,381	598	541	138	104
Both parents, <i>unk</i>	29,398	16,455	9,914	1,756	1,273

There are 576,597 persons in the State whose mothers were born in Massachusetts; of this number of persons, 575,092 are native born persons, and 1,505 foreign born persons. Of the whole number of persons having mothers born in Ireland, or 556,952 persons, 293,245 are native born, that is, born in this country, while 263,707 are foreign born. The total number of persons having fathers born in Ireland is almost exactly the same as for persons having mothers born in that country. For Great Britain, there are 132,333 persons in Massachusetts having fathers born somewhere in Great Britain, and 119,804 persons whose mothers were born in Great Britain. Although 72.87 per cent. of the persons are native born, but 48.05 per cent. of the total fathers, and 48.89 per cent. of the total mothers, are native born. The total persons born in Massachusetts represent 57.54 per cent. of the total population; but the fathers born in Massachusetts represent only 29.87 per cent. of the total fathers, and the mothers born in Massachusetts but 30.28 per cent. of the total mothers. Analyzing the percentages of foreign born, we find that the foreign born persons constitute 27.13 per cent. of the total persons; while the foreign born fathers constitute 51.95 per cent. of the total fathers, and the foreign born mothers 51.11 per cent. of the total mothers.

There are 568,633 persons in the State whose fathers were born in Massachusetts. Of this number of fathers, 449,140 married Massachusetts born women; 83,013 married women born in other parts of the United States, while 31,443 married foreign born women. There are 346,081 persons who had fathers born in other parts of the United States than Massachusetts, these fathers marrying 79,450 Massachusetts born women, 243,888 women born in other parts of the United States, and 20,643 foreign born women. There are 988,810 persons whose fathers are foreign born. Of these foreign born fathers, 42,648 married

women born in Massachusetts; 25,008 married women born in other parts of the United States, while 919,869 married foreign born women.

Similar facts as regards intermarriage for mothers are also shown: There are 576,597 persons having Massachusetts born mothers; these mothers having married 449,140 men of Massachusetts birth, 79,450 men born in other parts of the United States, and 42,648 men of foreign birth. Of the mothers born in other parts of the United States than Massachusetts, that is, the mothers of 354,383 persons, 83,013 married Massachusetts born men; 243,888 married men born in other parts of the United States; and 25,008 married foreign born men.

ON CHRONIC POISONING BY TOBACCO.

At a meeting of the Royal Imperial Society of Physicians of Vienna, held February 18th, Favarger made a communication on the above old, but ever new subject, of which the subjoined is a *résumé*. The symptoms of chronic nicotism do not generally manifest themselves till after the usage of strong tobacco for ten years or more, and ordinarily follow the free smoking of Havana cigars. As for the manner of smoking, there are four types of smokers:

(1) Those who swallow the smoke; in these cases the nicotine acts probably, directly on the stomach: (2) Those who only breathe in and breathe out the smoke: here the detrimental action remains limited to the pharynx and the larynx; (3) Some smokers keep their cigar constantly between their lips, and are in the habit of swallowing a certain quantity of nicotine mingled with their saliva: (4) There are other smokers who use cigar-holders that are soon fouled with nicotine, and are never properly cleaned.

Chronic poisoning by nicotine manifests itself generally by disturbances of the circulation and digestion. One of the most frequent symptoms is palpitations, then next in the order of frequency is cardiac asthma, and still more rarely occur attacks of angina pectoris. Physical examination of the heart gives sometimes negative results, and sometimes reveals the existence of chronic myocarditis, or of fatty degeneration of the heart. Among the digestive derangements are noted: loss of appetite, pain in the epigastric region, diarrhoea, or constipation. Among the symptoms pointing to disorder of the nervous system are insomnia and attacks of syncope.

Favarger reported a remarkable case of fatty degeneration of the heart in a man aged sixty, who had been for many years an inveterate smoker of strong Havanas. Several weeks before his death, he was attacked after a meal with violent palpitations, and a paroxysm of dyspnoea came on the next day. Till the time of his death, the temperature remained low, (from 34.6° to 36.6° C.); the pulse very frequent and small (110 to 160), and the pupils much contracted. At the autopsy were found pleuritic exudations, dila-

tation, with fatty degeneration of the heart, and an ulcer of the stomach, which had determined a mortal hæmorrhage.

In this case, said the reporter, the fatty degeneration of the heart could not be attributed to alcoholism, or any other known cause, except that which was the most obvious, namely, the excessive use of tobacco. This view was confirmed by the abnormal frequency of the pulse, by the great fall in the bodily temperature, and by the contraction of the pupils. Although no arterial atheroma was noted, there existed, nevertheless, in this case a functional stenosis (?) of the coronary arteries, equally attributable to nicotine, and to this constriction of the nutrient arteries of the heart causing ischæmia, was due presumably the fatty degeneration of that organ.

As for the ulcer of the stomach, it may have been directly engendered by the topical action of saliva impregnated with nicotine, or it may have been the result of circulatory disturbances, according to the process indicated by Rokitansky and Virchow.

As for the treatment of chronic nicotism, Favarger recommends as prophylactic means: (1) Never to smoke when the stomach is empty but always after a meal. In this way the number of cigars smoked will be limited, the nicotine will be made to act on a full stomach, loss of appetite will be prevented, and the antidotal ("anti-nicotine") action of the tannin contained in the wine, tea or coffee of the meal will be obtained. Tannin, according to Favarger, is the best antidote to nicotine. (2) Smokers should avoid holding their cigars long in their mouths. (3) Cigar-holders should be frequently renewed, and regularly cleansed. Smokers should smoke the milder cigars occasionally, instead of always choosing the strongest.

According to Erlennmeyer¹ smoking cigars is vastly more injurious than smoking a pipe, because the preparation of tobacco for the latter purpose destroys as much as two-thirds of its nicotia, while the former loses but little of its active principle in the manufacture.

More than twenty-five years ago, Dr. B. W. Richardson presented the following conclusions as the result of an exhaustive study of the effects of tobacco-smoking:

(1) The effects produced are very transitory. (2) The evils of smoking are functional in their character, and statements that it causes insanity, epilepsy, chorea, apoplexy, organic disease of the heart, cancer and consumption, are devoid of fact. (3) The habit of smoking is deleterious to the young. (4) Tobacco is a luxury, but probably the least hurtful of the luxuries. Stillé, in commenting on these propositions, remarks that there are several diseases not enumerated by Dr. Richardson, which excessive smoking unquestionably develops. One of these is amaurosis, many cases of which have been traced to tobacco-smoking by no less competent authorities than Mackenzie and Siebel. "The former, many years ago, hinted his

suspicion that it is a frequent cause of amaurosis, and the latter is now of opinion that there are few persons who have smoked during a long period more than five drachms of tobacco per diem, without having their vision, and frequently their memory impaired." Farnsworth, in the *American Medical Times* (October, 1862), cites a case of impaired vision from the same cause with general anaesthesia. "In spite of a well-directed treatment, the disease grew worse until the discovery was made that the patient was in the habit of smoking a pipe almost continually with the coarsest kind of tobacco. On relinquishing this practice he gradually recovered."

THE LATE AUSTIN FLINT, M.D.

IN MEMORIAM.

THIS week, there is to be unveiled, at Bellevue Hospital, New York, a tablet in memory of the late Dr. Austin Flint, which is erected by the Commissioners of Charities and Correction. It consists of a large and massive plate of brass, set in a panel of antique oak, and was made by the Gorham Manufacturing Company. The inscription, which is in Roman letters of black enamel, with initials in red enamel, and surrounded by a band of conventional palm-leaves, relieved, at intervals, with neat scroll-work, reads as follows:

IN MEMORY OF AUSTIN FLINT, M.D., LL.D.

Entering the profession with broad culture and thorough education, he remained an active physician to the last day of his life. As a medical writer, he added to the knowledge of the American profession and to medical science. As a teacher, he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquirements, labors, and wise counsels.

Erected by the Commissioners of Public Charities and Correction: H. H. Porter, President; Thomas S. Brennan, Charles E. Simmons.

This will be recognized by the profession throughout the country as a well-earned tribute and suitable memorial, at the seat of his later labors, of one of the foremost medical writers, teachers, and practitioners which our country has yet produced—a man whom New England claims as a son.

MEDICAL NOTES.

—Sir Henry Thompson appeals to the medical public in protest against the use of his name in the advertisements of Friedrichshall mineral water, which he named once in a lecture, twenty years ago, with approval. This was when there were only one or two laxative mineral waters in England, and he no longer endorses the original statement. But the advertisers persist in the use of his name, and he cannot help himself, except by an occasional disclaimer in medical journals.

—The Faculty of Medicine in Berlin has issued a schedule of studies for its students, in which the

¹ Stillé, *Therapeutics*, Vol. II, p. 320.

latter are strongly advised to follow courses in meteorology, mineralogy, geology, anthropology, psychology, and logic. The plan, of course, is not obligatory; but while the Faculty uses no compulsion upon its students in the matter, it holds itself competent to give them good advice.

— Professor Dobroslavine, of St. Petersburg, recommends, as a means of purifying (clarifying?) drinking-water, the addition to each twelve liters of water of fifty centigrammes of perchloride of iron and seventy centigrammes of crystallized carbonate of soda. He claims that the precipitate thus formed carries with it all suspended impurities, leaving the water, after forty-five minutes, perfectly clear.

— The United States Minister at Santiago, under date of January 15, reports cholera as slowly extending along the valley of the Aconcagua, following the course of the river to the sea, near Valparaiso. About 600 cases had been reported up to that date, of which about 250 had proved fatal. The victims were almost exclusively confined to the poorer classes. A dispatch dated February 15th, at Santiago, gave the number of cases from Saturday to Monday noon as 435, and the deaths at 213.

— Dr. J. C. Cutter, a graduate of the Harvard Medical School, and a former house-officer at the Boston City Hospital, who went to Japan in 1878, on a comparatively short contract, as Professor of Physiology and Comparative Anatomy in the Agricultural College at Sapporo, and to act as consulting physician to the former Colonization Bureau (*Kaitakushi*), has had his commission several times renewed; and, it is said, that a proposal to remain until 1889 would have received his assent, had not a pressing message reached him by telegraph from America. The *Japanese Daily Mail* speaks very highly of Dr. Cutter's services at Sapporo, under the Colonization Bureau, the Department of Agriculture and Commerce, and the Hokkaido Administration. In addition to his professional duties, he has done considerable literary work, and two of his books have been translated into Japanese.

— A correspondent of the *Medical Press and Circular* says that in the Highlands of Scotland, as in the Continental Highlands, a belief in miracles, and in incantations and superstitious practices of the grossest nature in curing certain forms of disease, still exists, of which the following incident, occurring the other day at a village on the west coast of Ross, is an illustration: A middle-aged fisherman was seized with a somewhat sharp attack of an eruptive disease, popularly known by the name of shingles, which, according to the local wiseacres, could be cured only by an application of blood drawn from a black cat with a knife or other instrument, with which the umbilical cord of at least seven male children had been divided, and applied with a feather from the wing of a black domestic hen, which had hatched not less than three broods of chickens. To this sanguinary ordeal, the patient, at the solicitations of his friends, agreed to

submit with becoming resignation and unquestioning faith in its efficacy. Having been undressed and laid on his back, with his head toward the south, operator A walked round him three times with the cat, in accordance with the course of the sun. He then held the cat over the patient's breast, while B, with the proper instrument, cropped its right ear, and, as the blood trickled on the sufferer's breast, besmeared it over the affected parts with the feather from the black hen, at the same time muttering incantations in the vernacular. Strange to say, the treatment failed to effect a cure; and, as the patient is still unwell, he is about to undergo a repetition of the performance.

BOSTON.

— City Physician McCollom, who was deputed by the zealous Boston Board of Health to visit Holyoke, ostensibly to ascertain if the alleged infected foreign rags from which the small-pox was supposed to have sprung were imported through Boston, is said to have made his report, in which he states that there were both foreign and domestic rags in the assortment at the mill where the handlers contracted the disease; the foreign coming by way of New York, the domestic from various localities; but the inspector came to no conclusion as to which was responsible for the infection, the evidence seeming to him negative. This report is quite different from that which appeared in some of the daily papers as being the purport of Dr. McCollom's conclusions; and which appeared, we may say, in advance of any report being made by Dr. McCollom at all. The conclusion is the only one which a sensible and unprejudiced man could reach under the circumstances.

— The lower branch of the Legislature has rejected the bill for Registration of Dentists.

— Prof. Jacob A. Wortman, who is attached to the Army Medical Museum, at Washington, as its anatomist, has been here for some days. He has been deputed by the Surgeon-General's office to study the methods, and examine the recent work at the anatomical laboratory of the Harvard Medical School and the Museum of Anatomy, in common with those of such others as may be likely to offer instructive suggestions for the prosecution of the work at the Washington Museum. This is a well-deserved compliment to the skill and industry of the anatomical department at the Harvard Medical School.

NEW YORK.

— The police recently arrested no less than sixty-eight Chinese in an opium-joint and gambling den, occupying a tenement on the Bowery.

— The thirtieth annual commencement of the New York College for Veterinary Surgeons and School of Comparative Medicine was held at the Carnegie Laboratory, March 16th.

— The twenty-sixth annual commencement of Bellevue Hospital Medical College took place quietly at the

Carnegie Laboratory, in the evening of March 14th; and after degrees had been conferred on 134 graduates by the President of the College, Dr. Isaac E. Taylor, the Faculty and Class adjourned to Delmonico's, where a dinner provided by the former was enjoyed.

—The Board of Health has amended the section of the Sanitary Code governing the removal of stable-manure, so that, in future, such material on any city premises must either be baled or removed as soon as a cartload has accumulated, it being also provided that the baled manure shall not be allowed to become a nuisance. This change has been made at the request of the Medical Society of the County of New York, on the recommendation of its Committee on Hygiene.

Miscellaneous.

INTRA-SCROTAL HYDATID CYST.

DR. PHILIP E. MUSKETT, surgeon to the Sidney Hospital, read before the New South Wales branch of the British Medical Association a case of hydatid of the scrotum, which is thus summarized in the *Practitioner*, February, 1887. The patient, a man, aged twenty-five, a native of Lancashire, was brought to Brisbane at the age of three. Swelling of the scrotum began in 1878; it was tapped in 1884, and again within eight months, and iodine injected. In July, 1886, the tumor was painless and transmitted light, and the testicle could be felt at its posterior part. It was tapped with a small trocar; but inflammation ensuing, a larger trocar gave vent to a purulent fluid which continued to drain through the opening; and a membrane, presenting the usual unmistakable characters of a hydatid sac, being grayish in color, translucent and elastic, and in its collapsed condition being such as would about fill an egg-cup, forced its way out and was extracted. The sinus then ceased to discharge, and the scrotum resumed its normal condition.

ADMINISTRATION OF GASEOUS ENEMATA.

At a recent meeting of the Philadelphia County Medical Society, in the discussion of some remarks of Dr. J. Solis-Cohen on the "Administration of Gaseous Enemata," Dr. William Osler said that "recently, at the University Hospital, a patient very nearly expired after an injection of a mixture of carbon dioxide and sulphuretted hydrogen. He was not aware at the time that sulphuretted hydrogen, if given in sufficient quantities, is capable of producing poisonous effects, even when taken by the rectum. He mentions this accident, lest similar mistakes should arise. Evidently, the amount of sulphuretted hydrogen which is given must be small. At the Biological Society, at Paris, some experiments were related, which showed that even a few cubic centimeters are sufficient to poison a good-sized dog. In the experiences which are related in French journals, the odor of sulphuretted hydrogen is readily observed in the breath, but this has not been noticed in any of the Blockley patients. This is an exceedingly interesting, not to say comical, method of treating phthisis, but it is too early to say

what the results are likely to be. Certainly, however, in Dr. Bruen's hands, at the Philadelphia Hospital, they have been extremely good."

COCAINE-POISONING.

In the *St. Louis Medical and Surgical Journal*, Dr. McIntyre records the following case of cocaine-poisoning: The patient, a well-built man, aged forty, was found, as pale as death, lying on the doorstep of his shop. His pupils were much dilated, and the conjunctiva insensitive; respiration was slow and difficult; the pulse was 140. The patient was unable to articulate, but frequently made signs for water, which was scarcely placed in his mouth when it was rejected, as he could not swallow it. He had fallen into this state owing to a hypodermic injection of three centigrammes of cocaine, twenty minutes before. Dr. Nichols, his ordinary medical attendant, had already, on several occasions, given him hypodermic injections of from three to four centigrammes of this drug, repeating them every half-hour, until twenty centigrammes had been administered; and he was, therefore, much surprised to see one dose produce symptoms of poisoning. The patient was a very intemperate man, and the injection was given as a remedy for the after-effects of drunkenness. Dr. Nichols, who had had a large experience in the use of cocaine for depression following intoxication, said that its effect was to destroy for a time the desire for alcohol. In the present case, the treatment consisted of morphine and alcohol in repeated doses. The patient was in a serious state for some time, but gradually recovered. At the end of four hours he was able to be taken home in a carriage, and fourteen hours after the injection he was quite well.

ON THE USES OF BORIC ACID.

DR. J. T. SEARCY in the *Atlanta Medical and Surgical Journal* writes enthusiastically in praise of boric acid, which as an antiseptic, he says, is better than iodoform, besides being cheaper. The best shape in which to use it is as an impalpable powder. Open wounds, before they are closed, may be freely dusted over with this powder, and compound fractures may be so treated, with often the happiest results. No application so effectually destroys the offensiveness of foul sores. Cancerous and other ulcers are benefited by boric acid, in combination with iodoform or not. It makes an excellent injection for gonorrhœal inflammations, in the strength of ten grains to the ounce of water for the urethra, and half an ounce to the pint of hot water for the vagina. Eczema, both in its moist and in its dry stages, is helped by it, as a rule. Dusted finely on itching surfaces, it proves usually a very grateful application. It is almost a specific for ring-worm: moisten the surface first, and with the wet hand, or a piece of sponge, rub the powder into the skin firmly once or twice a day. All itching is soon allayed, and the part gradually gets well. Persons troubled with offensive secretions of the axilla or the feet, will find this a very efficient and safe application. A combination of iodoform one part, boric acid two parts, vaseline four parts, makes an excellent ointment for venereal sores.

Correspondence.

REPORT OF MASSACHUSETTS MEDICO-LEGAL SOCIETY. CORRECTION.

NEW BEDFORD, MASS., March 19, 1887.

MR. EDITOR,—Regarding the report of “An Anomalous Arrangement of the Veins of the Neck,” in the report of the Massachusetts Medico-Legal Society, on page 262 of No. 11 of the current volume of the JOURNAL, I am informed by Dr. Pinkham that my statement was an erroneous one, as there was no internal jugular vein or other large vein except the vessel occupying the usual site of the external jugular. Will you kindly print this in correction?

Very truly yours,
W. H. TAYLOR, M.D.

ARSENICAL WALL-PAPERS AGAIN.

BOSTON, March 19, 1887.

MR. EDITOR,—I have been much interested by the recent articles on arsenical wall-paper poisoning, and beg to be allowed to contribute another case which occurred in my own house. Several years ago I had occasion to have my house re-decorated, and having heard a great deal on the subject of arsenic in wall-papers, I was very particular to select none but guaranteed papers. These were furnished by one of our most reliable houses, Messrs. Gregory

& Brown, who showed me certificates of freedom from arsenic, signed by a Mr. Lee, a chemist, who was at that time employed by the firm to make analyses of their papers.

After the completion of the work, one of the bedrooms was occupied nearly two years by a gentleman who constantly complained and particularly in the morning, of not feeling well, but with no very distinct symptoms. The same room was next occupied on two separate occasions by a guest, who each time left the house with undefined illness, which was of sufficient seriousness to warrant consultation with a physician. Another guest was affected in the same way. Still another complained after a few days occupancy, of sore throat, coryza, and irritation of the nose and eyes, and headache. A little more than two months ago the room was occupied by my daughter and her infant child. Both were made so ill, particularly the baby, that my daughter cut her visit short in order to get the child home to her husband, who is a physician. It was by him suggested that the secret of the trouble with that particular room might lie in the wall-paper, and I therefore sent a specimen of the paper to Dr. Charles Harrington, of the Harvard Medical School, who reported that it contained a dangerous amount of arsenic.

Messrs. Gregory & Brown on being informed of this fact hastened to do everything in their power to remedy the trouble, insisting on removing and replacing the paper at their own expense. This was done, and since that time there has been no trouble of any sort. In this case the blame rests not upon the dealers but upon the chemist, who, I am informed, is no longer in their employ.

Yours very truly,
A. V. S. ANTHONY.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,481,920	731	300	22.26	18.76	.70	11.06	4.20
Philadelphia	993,801	456	146	10.56	15.18	3.74	2.64	1.76
Brooklyn	745,108	287	120	10.50	21.70	.70	4.20	1.15
Chicago	745,108	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	—	—	—	—	—	—	—
Boston	400,000	172	52	11.02	15.66	1.74	4.64	1.74
New Orleans	242,750	—	—	—	—	—	—	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	88	29	6.84	3.42	1.14	1.14	—
Pittsburgh	210,000	75	32	30.59	15.84	3.96	9.24	10.56
Montreal	210,000	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	51	17	3.92	31.36	—	1.96	1.96
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	25	10	20.00	28.00	—	10.00	—
Portland	40,000	20	3	—	20.00	—	—	—
Worcester	68,383	24	13	8.32	24.96	—	4.16	—
Lowell	64,051	30	7	16.66	10.00	3.33	—	3.33
Cambridge	59,660	13	2	—	30.76	—	—	—
Fall River	56,863	13	4	23.07	—	—	7.69	—
Lynn	45,861	15	5	12.33	20.00	6.66	6.66	—
Lawrence	38,825	13	5	—	15.38	—	—	—
Springfield	37,577	12	3	—	25.00	—	—	—
New Bedford	33,393	24	10	4.16	20.80	—	4.16	—
Somerville	29,992	7	1	14.28	28.56	—	—	—
Salem	28,084	17	5	5.88	17.64	—	5.88	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	10	—	30.00	20.00	—	20.00	—
Taunton	23,674	10	5	—	—	—	—	—
Haverhill	21,795	6	1	—	33.33	—	—	—
Gloucester	21,713	3	3	—	—	—	—	—
Brockton	20,783	4	2	25.00	25.00	—	25.00	—
Newton	19,759	10	1	—	20.00	—	—	—
Malden	16,407	6	1	—	16.66	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	7	1	—	42.84	—	—	—
Newburyport	13,716	2	0	—	—	—	—	—
Northampton	12,896	4	1	—	—	—	—	—

Deaths reported 2,471: under five years of age 750; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 316, acute lung diseases 371, consumption 202, diphtheria and croup 131, measles 55, typhoid fever 36, scarlet fever 26, diarrhoeal diseases 21, cerebro-spinal meningitis 12, puerperal fever 12, erysipelas nine, whooping-cough seven, malarial fevers six. From scarlet fever, New York 12, Brooklyn eight, Philadelphia five, Boston one. From diarrhoeal diseases, New York 15, Pittsburgh, Charleston, Worcester, Lowell, Chelsea and Haverhill one each. From cerebro-spinal meningitis, New York five, Philadelphia three, Fall River two, District of Columbia and Pittsburgh one each. From puerperal fever, Philadelphia and Boston, three each, Richmond, District of Columbia and Pittsburgh two each. From erysipelas, New York six, Brooklyn, Boston and Somerville one each. From whooping-cough, Brooklyn three, New York two, Richmond and Pittsburgh one each. From malarial fever, New York four, Brooklyn and District of Columbia one each. From small pox, New York one.

In the 21 cities and greater towns of Massachusetts, with a population of 1,041,216 (population of the State 1,941,465) the total death-rate for the week was 20.27 against 18.55 and 20.68 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending February 26th, the death-rate was 21.3. Deaths reported 3,767: infants under one year of age 836; acute diseases of the respiratory organs (London) 466; measles 140, whooping-cough 94, scarlet fever 47, diarrhoeal diseases 39, diphtheria 31, fever 21.

The death-rates ranged from 13.5 in Nottingham to 33.0 in Huddersfield; Birmingham 18.9; Hull 20.1; Leicester 21.5; Liverpool 24.1; London 20.9; Manchester 20.1; Newcastle-on-Tyne 27.3; Portsmouth 21.9; Sheffield 21.4.

In Edinburgh 21.0; Glasgow 24.9; Dublin 30.7.

The meteorological record for the week ending March 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Mar. 12, 1887.																			
Sunday, . . . 6	30.208	29.0	34.0	20.0	100.0	100.0	100.0	100.0	S.E.	N.E.	N.	21	18	11	N.	R.	R.	—	—
Monday, . . . 7	30.089	29.0	32.0	22.0	93.0	89.0	85.0	89.0	N.	S.E.	S.E.	6	4	2	O.	O.	O.	—	—
Tuesday, . . . 8	30.253	36.0	46.0	29.0	85.0	37.0	47.0	54.0	W.	N.W.	N.W.	10	19	10	C.	C.	C.	—	—
Wednes., . . 9	30.241	31.0	40.0	23.0	64.0	64.0	79.0	69.0	N.	E.	S.	6	14	5	C.	F.	O.	—	—
Thursday, . . 10	29.771	33.0	38.0	30.0	100.0	100.0	93.0	98.0	E.	N.	N.W.	6	14	21	R.	N.	N.	—	—
Friday, . . . 11	29.746	27.0	31.0	23.0	76.0	55.0	52.0	61.0	N.W.	N.W.	N.W.	20	31	29	O.	O.	O.	—	—
Saturday, . 12	29.807	34.0	42.0	25.0	66.0	54.0	64.0	61.0	N.W.	N.W.	N.W.	18	16	18	O.	F.	F.	48	1.80
Mean, the Week.	30.016	31.0	38.0	25.0				76.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 12, 1887, TO MARCH 18, 1887.

CARTER, WM. F., captain and assistant surgeon. Leave of absence extended four months on surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 19, 1887.

PARKER, J. B., surgeon. Ordered to the United States Steamship "Ossipee."

SIEGFRIED, C. A., surgeon. Ordered to Baltimore, Md., on special duty.

HUGG, JOSEPH, surgeon. Placed on retired list, March 17, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 12, 1887.

BANKS, C. E., passed assistant surgeon. To proceed to Chicago, Ill., and assume temporary charge of the Service, March 10, 1887.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, March 29, 1887, at 7.45 P.M. Communications: I. "Cases showing Unpleasant Symptoms due to Antipyrin," Edward T. Twitchell, M.D. The discussion will be opened by J. Howard Thurlow, M.D. II. "The Effect of Ether upon the Peripheral Nerves," Henry P. Bowditch, M.D. "A Report of Four Cases of Penetrating Wounds of the Knee-Joint treated at the Boston City Hospital," Oliver H. Howe, M.D., Former House Surgeon.

S. ALLEN POTTER, M.D., Secretary.

DEATH.

Died, in East Boston, March 19, 1887, John Beveridge Fulton, M.D., M.M.S.S., aged fifty-two years.

RESIGNATION.

Dr. Francis Minot has resigned his position as Visiting Physician at the Massachusetts General Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Physiological Laboratory. Harvard Medical School, Boston. Collected Papers II. 1880-86. For Private Circulation.

Congenital Hemophilia, with the History of a Remarkable Case. By Edmund C. Wendt, M.D., Curator and Pathologist of the St. Francis Hospital, and of the New York Infant Asylum. New York, 1887. (Reprint)

Circulars of Information of the Bureau of Education. No. 2, 1886. Proceedings of the Department of Superintendence of the National Educational Association at its Meeting at Washington, February 23-26, 1886. Washington, 1887.

A Contribution to the Study of the Operation of Shortening the Round Ligament.—Alexander's Operation. By Thomas A. Ashby, M.D., Professor of Gynecology in the Baltimore Polyclinic and Post-Graduate Medical School, etc. Baltimore, 1887. (Reprint.)

A Compend of Electricity and its Medical and Surgical Uses. By Charles F. Mason, M.D., Assistant Surgeon, United States Army. With an Introduction by Charles H. May, M.D., Instructor in Ophthalmology, New York Polyclinic. Philadelphia: P. Blakiston, Son & Co. 1887.

In the United States Circuit Court, for District of Maryland. City of Carlsbad, Loebel Schottlander, and Eisner & Mendelson Company, Complainants, vs. The Charles A. Vogeler Company, Defendants. Bill in Equity. Jerome Carty, Solicitor and Counsel for Complainants, Record Building, Philadelphia.

A Practical Treatise on Obstetrics. Vol. I. (4 vols.), Anatomy of the Internal and External Genitals, Physiological Phenomena (Menstruation and Fecundation). By A. Charpentier, M.D., Paris. Illustrated with lithographic plates and wood engravings. This is also Vol. I. of the "Cyclopaedia of Obstetrics and Gynecology" (12 vols.), issued monthly during 1887. New York: Wm. Wood & Co.

The Past, Present and Future Treatment of Homœopathy, Eclecticism, and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience. By Henry I. Bowditch, A.M., M.D., Harv., formerly Professor of Clinical Medicine in the Harvard Medical School; Ex-Secretary and Ex-President of the American Medical Association, etc. Boston: Cupples, Upham & Co. 1887.

Lecture.

ON THE PHYSIOLOGY OF EXERCISE.¹

BY EDWARD MUSSEY HARTWELL, PH.D., M.D.,
Associate in Physical Training, in the Johns Hopkins University, Baltimore.

ONE of the principal obstacles to the success of any comprehensive effort to make physical training an integral factor in the education of American youth, is found in the very general misapprehension as to what physical education is, and what its effects are. If the teachings of modern physiology and psychology in regard to the functions of the muscular and nervous systems of the human body were apprehended, even by those classes which we are wont to call educated, it would be a comparatively easy matter to secure the votes and appropriations necessary for the adoption or trial of rational and approved systems of physical exercise.

The fundamental and essential characteristics of exercise are so generally misstated and its proper effects so frequently overlooked, that I have chosen the physiology of exercise as my theme. I cannot hope to present a complete and satisfactory theory of exercise, but I may be able to point out the situation of quarries whither we may repair with profit, for the foundation-stones on which such a theory should be based.

Exercise is so comprehensive and elastic a term, when taken in its general sense, that it may easily be made to cover a multitude of actions, and some sins. The word is so nearly synonymous with practice that it has come to be used oftenest by those who devote themselves to preaching on conduct, on education, or on health. One need not make lengthy or frequent excursions into the domains of theology, of pedagogics or of hygiene, to discover that the meanings of exercise are many and mixed. The casual reader will hardly be struck by the points of resemblance between the exercises made use of by the Greek athlete and the Roman gladiator in preparation for their contests, and the exercises ordained for the training of catechumens and of aspirants for canonization. To the ancient Puritan a week-day sermon was a delightful "exercise," while most of his less serious contemporaries held that shooting, hunting, and riding "which be martial exercises," were the only kinds of exercise proper for gentlemen. At first sight there appears to be no common element in such exercises as the foregoing, and those which our modern teachers of French, of pugilism, and the piano, are accustomed to set their pupils, unless it be the exercise of patience. Still, speaking broadly, it is possible to find in all the secondary meanings of the word, some trace of its primary signification; namely, a repeated action for the sake of training or practice.

It is interesting to note that our word exercise and *exercitus*, the Latin word for the body of best-trained men in the State, the army, are derived from the same verb *exerceo*. The Greek synonym for *exerceo* is *ἀσκεῖν* and meant originally to work raw material. In classic times it meant to exercise, to train in the strict athletic or gymnastic sense; later, in the early

days of the Church, it signified to discipline the flesh, to mortify the body, and to it in this sense the English word ascetic owes its origin and present meaning. The original ascetic was simply an industrious and careful gymnast or athlete.

Our universal friend, the average man of to-day, is theoretically in favor of exercise. "Exercise," you frequently hear him say, "does a man good." The average woman has not attained to the same degree of certitude. If you ask the average man to define his notions of the good which exercise does, he will probably indulge in cloudy generalities concerning its influence in realizing the *mens sana in corpore sano* ideal. It is astonishing what an amount of service that line of pagan Latin has done in confusing thought and preventing inquiry as to the nature of exercise. Press the average man a little to abandon the general and become specific, and you may learn that muscular exercise is particularly good for opening the pores; for cleansing the blood; for quickening the spirits; for getting up one's muscle; and that it is above all valuable for enabling the rising generation to work off its superfluous animal spirits. Every such alleged advantage of exercise is vague or meaningless in the light of our present knowledge. The physiological terminology and ideas of the average man are seldom so recent as the revival of learning, and in many instances antedate the Christian era. The facts that we are in search of have not been quarried on the windy heights of hortatory literature or in the fat meadows of the common mind. If they have been brought to light anywhere it is in fields where physiologists and physicians have been digging so profitably during the last two hundred years.

The best comprehensive definition of exercise that has come under my notice is that given by Du Bois Reymond, Professor of Physiology in the University of Berlin. "By exercise, we commonly understand," he says, "the frequent repetition of a more or less complicated action of the body with the coöperation of the mind, or of an action of the mind alone, for the purpose of being able to perform it better." Practically all human actions are comprised under the two heads of this definition of exercise. Bodily actions demand our first consideration, since without them mental power, artistic feeling, and spiritual insight cannot be made to answer any earthly purpose.

It is far easier to underrate than to exaggerate the part which muscular actions play in human life. Imagine the condition of a man perfectly formed, generously endowed, and in his prime, whose single lack should be that sensible, warm motion that has its seat in the muscular tissue. The position of a fly in amber would be lively and preferable to the isolation of such a man. Of course he could not "do business"; but he could think and fear and hope. He must face the future, lying like a log in whatever position he may happen to fall. His face will be absolutely destitute of expression, and his eyes fixed under closed lids. He can neither smile nor weep. His hunger cannot be appeased, nor his thirst slaked. His heart may "burn within him," but it shall not pump blood; so that he will be pulseless as well as breathless and bereft of speech. Unable to stir the tip of a finger or to raise a hair; he will be powerless to express his thought or aspiration, or to impress his conceptions or wishes upon any creature. In short, such a man would be an incorruptible cadaver. Spirit we might not call

¹ This paper, originally given as an address before the American Association for the Advancement of Physical Education, at Brooklyn, New York, November 26th, 1886, has been amplified and re-written since, and was delivered, in substantially its present form, as a Hopkins Hall Lecture, in Baltimore, February 18, 1887.

him, in face of the belief that ghosts are privileged to take nightly walks.

Without muscular tissue, then, *we cannot live or move*. Its importance to the body is also to be inferred from its mass and weight. Nearly, if not quite, one-half of the body, by weight, is made up of muscular tissue. In it is contained one-quarter of the blood; and by it, fully one-fourth of the energy stored up in the body is turned into work. This tissue consists of fibres which are, for the most part, collected into the distinct organs, which we call muscles. The muscles of the lower animals are familiarly known to us as lean meat; our own have been, at various times, stigmatized as fleshy members. All muscle-fibres are endowed with contractility, by virtue of which they shorten when acted upon by certain agents, termed stimuli.

A large class of human muscles are stimulated by the action of the will, and are, therefore, called voluntary, though some of them habitually, and all at times, respond to other stimuli as well. There are more than five hundred muscles in the human body which are under control of the will. They are mostly arranged in pairs, as, for instance, the muscles of the two hands are alike in number, and identical in form and function. Muscles which do not respond to volitional stimuli are termed involuntary. They are found in the walls of bloodvessels, in the intestinal canal, and other organs.

When examined microscopically, voluntary muscle-fibres show certain faint cross-lines or striæ, and are, therefore, often called striated or striped muscle. Similarly, involuntary muscle is called smooth or plain muscle-tissue, because its fibres are destitute of striæ. The heart, though an involuntary muscle, is made up of striped fibres, intermediate in character between the sorts named. For our present purpose, it is best to confine our attention wholly to muscles of the voluntary sort.

A freshly-dissected muscle of one of the higher animals presents a smooth surface, rounded outlines, and a glistening appearance. It is usually red in color, though it may be pale or colorless. It is usually distinguishable into three well-marked parts, namely, a soft, red, contractile, central portion, termed the belly, which tapers towards each end; and its two terminal tendons, which are dense, white, inelastic cords, whose function is to connect the muscle with its points of attachment. The surface of the fleshy portion of the muscle is covered by a smooth, glistening sheath of connective tissue. Inward prolongations of this sheath pass into the substance of the muscle, and divide it into bundles of fibres, technically called fasciculi or packets. Each fasciculus consists of a number of fibres running parallel to each other. The fibres are separated from one another by connective tissue, just as the fasciculi are. The muscle-fibre is the ultimate and essential element of muscular tissue. Each fibre consists of a soft, contractile, semi-fluid substance, contained in a tubular sheath — the sarcolemma, the word means *flesh-skin* — which is transparent, tough, and elastic. Fibres vary in diameter from $\frac{1}{800}$ to $\frac{1}{100}$ of an inch, and are seldom longer than $1\frac{1}{2}$ inches. These fibres are arranged in linear series, and do not inosculate with each other. The amount of shortening in a contracting muscle is equal to the summated contractions of its individual fibres.

It may aid you to picture to yourselves the structure

of muscles, to liken the ultimate muscle-fibre or cell to a single sausage. The sarcolemma would then correspond to the sausage-skin, and the contractile contents of the sarcolemma to the sausage-stuff. The muscular fasciculus would represent many parallel rows of sausages, placed end to end, and bound together and invested by a tough, elastic membrane, so as to form a kind of rope. The muscle, as a whole, would stand for a collection of such ropes, lying parallel to one another, in the form of a large bundle, widest in its middle region, and tapering towards each end. If to each end of the packet of sausages you attach a dense cord, made up of inelastic fibres, you would complete a structure which should be roughly comparable with some of the typical single muscles, so far as the mere arrangement of their muscular tissue is concerned.

If we lay bare a muscle in a living animal, we may cause it to contract before our eyes, either by bringing a heated body close to it; by giving it a slight tap; by applying certain chemical substances to it, such as ammonia, lime-water, or common salt; or by giving it an electric shock. The details of muscle-physiology have been worked out chiefly through the study of cold-blooded animals, since their tissues are longer-lived, and suffer less injury from the manipulation required in making experiments than do those of warm-blooded animals, like the dog and cat. But a sufficient number of observations have been made upon the higher animals, including man, to warrant the belief that their muscles act in essentially the same way as the muscles of frogs and turtles.

When a muscle outside the body is acted upon suddenly by an appropriate stimulus, it quickly shortens; and then, if it has been loaded with a weight, rapidly returns to its former length. A weighted muscle outside the body, or one in the body, which acts against resistance, does work every time it contracts. Its work is chiefly of the sort which physicists have named mechanical work, and is equal to the product obtained by multiplying the weight lifted by the distance through which it is lifted against the force of gravity. Its measure is expressed in foot-pounds. A muscle with no weight attached does no "work" when it contracts; nor does it do any work if it is loaded with a weight too heavy for it to lift. Of two muscles equal in cross-section, the longer can do more work; whereas, if two muscles are of equal length, that which contains the greater number of parallel fibres will do more work than the other. It is estimated that a square-centimetre of human muscle can just lift a little more than twenty pounds. Muscles are somewhat elastic; and, in the body, are slightly over stretched.

But a single muscle is a more complicated structure than you would suppose from my description of it; and, under normal conditions, is excited to contract by nervous stimuli, and not by any of those which have been mentioned. It was necessary to mention them, as showing what is termed the independent irritability of muscle. Besides its contractile substance, its tendon, and the sheaths which invest its fasciculi and fibres, every muscle has bloodvessels and nerves, whose functions must be considered before we can arrive at a clear understanding of muscular exercise. Fresh blood is supplied to the muscle-substance by the heart, through its arteries, and the fine network of arterial capillaries formed by the minute subdivision of the

arteries. As elsewhere in the body, the arterial capillaries open into, and are continuous with, the venous capillaries, which, becoming united into larger and larger vessels, form the veins of the muscle, or the channels by which the blood is returned to the heart from the muscle. Muscle-arteries, and veins usually lie alongside of each other in the connective tissue which surrounds the fasciculi, while their capillaries form a fine meshwork of vessels, lying between and upon the muscle-fibres, but without penetrating the sarcolemma of any fibre. The walls of the capillaries are permeable to lymph, as the fluid portion of the blood is called. The fibres are, therefore, bathed in lymph, and derive their food-supply from it by absorption through their tubular sheaths.

Before considering the part which nervous stimuli play in muscular contraction, we must glance at the structure and functions of the elements which make up the nervous system. Nerve tissue like muscular tissue is irritable, in that it is responsive to stimuli, but it is irritable in a vastly higher degree; unlike muscular tissue it is in nowise contractile. The elements of the nervous system take the form either of nerve fibres, or of nerve cells. An aggregation of nerve cells constitutes a nerve ganglion. The fibres serve for the conduction of stimuli and connect central nervous organs, such as parts of the brain and spinal cord, with organs at the periphery of the body, such as the eye and the hand. Nerve cells not only transmit impulses, but also act as physiological centres for regulating motion, sensation, nutrition, secretion, etc. Nerve fibres are known as afferent when they conduct impulses toward nerve centres, and as efferent when they transmit impulses outwards from nerve centres. Since stimuli which are transmitted centripetally from organs in the periphery give rise to sensations, afferent nerves are very commonly called sensory; and since impulses which are transmitted centrifugally to the motor organs from the centres give rise to motion, efferent nerves are called motor nerves. A single instance will serve to illustrate the use of sensory and motor fibres. If a fly alight on my forehead the sensory fibres of the skin are stimulated. Afferent impulses then travel up the fibres to centres within the brain. As a result of the slight shock imparted to the nerve cells, that part of me which is in communication with that group of cells is rendered conscious of a new sensation, and I feel disturbed. If I am sufficiently disturbed to feel irritated, my will causes the centre to send efferent impulses along motor nerves, which pass to the muscles of my arm and hand, and my hand is moved to brush off the fly, which, being amply furnished with sensory and motor organs of his own, usually retires in glee or terror, as the case may be, before my hand can reach him.

From their appearance nerve fibres are divided into white fibres and gray fibres; and from their structure the white fibres are termed medullated, or fibres with a pith; and gray fibres are called non-medullated, or fibres without a pith. The medullated fibres are the more highly developed of the two. The essential, conducting part is in each kind of fibre known as the axis-cylinder. It consists of a very fine cylindrical thread or strand of fibrils transparent semi-fluid, and highly irritable protoplasm, when alive. In medullated fibres the axis-cylinder occupies the central fourth of the fibre. Outside it and surrounding it, just as the wax of a can-

dle surrounds its wick, is the medullary sheath of white substance, and outside of the medullary sheath is another sheath known as the primitive sheath, or neurilemma, which serves as a protection to the parts within. The neurilemma is comparable to the sarcolemma of the muscle fibre. Medullated fibres, which vary in breadth from $\frac{1}{12000}$ to $\frac{1}{3500}$ of an inch, are aggregated into bundles termed *funiculi* or ropes, corresponding to muscular fasciculi. The funiculi are enclosed in connective tissue sheaths. An aggregation of funiculi forms a nerve trunk, the "nerve" of ordinary speech. The main difference between non-medullated and medullated fibres is this: the former has no medullary sheath interposed between the neurilemma and the axis-cylinder. The medullary sheath of the latter gives it its white appearance and its name of white fibre.

Nerve cells present too many and too varied forms for description here. Suffice it to say that the simplest forms are roundish in shape; others, oval in shape with prolongations at each end, are termed bipolar; others are irregular in shape with many branches or processes. All of them contain living and highly irritable protoplasm of a granular gray appearance, usually enclosed by a sheath or cell-wall. It only concerns us to remember that some of the processes serve to connect cells with other cells, and that the axis-cylinders of nerve fibres are direct and unbranched prolongations of the irritable cell substance.

To return to the motor nerves of the muscles. The nerve fibres found in the muscles are of the white or medullated sort. The motor nerve belonging to a muscle usually enters the muscle at its middle point. It then divides and subdivides into so many branches that every muscular fibre receives a nerve fibre. Where the nerve fibre pierces the sarcolemma the axis-cylinder spreads out, forming an eminence of protoplasm within the sarcolemma. This eminence is known as the "motorial-end plate." The branches of the axis-cylinder traverse this end-plate, and subdivide into fibrils which penetrate the contractile substance of the fibre. Only the axis-cylinder of the nerve passes within the sarcolemma; since the outer sheath of the nerve fibre coalesces with the sarcolemma itself, and the medullary sheath ends at the sarcolemma.

We have, then, the contractile substance of the muscle fibre connected with the irritable stimulus-generating and transmitting substance of the central nerve cell, the connecting link being the axial fibre of the motor nerve, which is simply a portion of the nerve cell's contents long drawn out, in the form of a strand, until it reaches the muscle fibre, where it spreads out to form the end-plate, and then subdivides into fibrils which penetrate the muscle substance. What is true of a single muscle fibre is true of all the fibres in a given muscle; and what is true of one voluntary muscle is true of the entire five hundred. Voluntary muscles have sensory as well as motor fibres. They are the channels for the impulses which give rise to muscular sensibility, and are connected with centrally situated nerve cells which minister to our muscle sense. The sense, that is, which keeps us informed concerning the condition of the muscles, and the extent to which they are contracted.

A single muscle then is to be considered as an aggregation of a vast number of contractile fibres, arranged in myriads of linear series which in turn are

gathered into bundles, all of which, along with their accompanying nerve fibres and nutrient bloodvessels are supported and bound together by means of elastic connective tissue. The muscle, so made up, has its own special sheath, and is bound by its inelastic tendons to the bones which it is set apart to set in motion. It was stated that muscular contractions could be brought about through the direct application of chemical, thermal, mechanical, or electrical stimuli to the muscle itself. If the nerve of a muscle be excited by pinching it, by beating it, by applying certain chemicals to it, or by electrifying it, the muscle is indirectly stimulated to contract by means of the motor impulses discharged into it through its motorial-end plate. The motor nerve may be stimulated at any part of its course. Again, the muscle may be set in action through stimulation of the centres whence its nerve fibres emerge. The same stimuli have no effect upon the muscle when applied to the centre, if the path between the centre and the muscle have been blocked by severing or compressing the nerve. Such severance or compression may take place in the body as the result of certain diseased conditions of the nerve, or the parts adjacent. Motor paralysis is then the result.

The effects of exercise upon a muscle and the parts connected with it next demand our attention. It must suffice merely to note the most important of them. Immediately a muscle begins working, under whatever stimulus, the blood-stream passing through it becomes changed, both in respect of quantity and quality. The arterial twigs which ramify within it dilate; more blood is poured into the capillaries surrounding its fibres; and more blood flows through the veins from the muscle.

The blood which enters the muscle is bright red in color, rich in oxygen, and poor in carbonic acid. That which leaves it is dark blue in color and of a higher temperature; richer in carbonic acid, and poorer in oxygen; and contains various products, due to the chemical changes which take place in the food-material supplied to the muscle-substance, and in the muscle-substance itself. If the supply of arterial blood to a muscle is cut off or diminished, its irritability is lowered, that is, a stronger stimulus is necessary to make it contract. The same result follows, also, if it is fed with blood deprived of oxygen, or otherwise poisoned; or if the muscle-vein is tied, and the waste-products, normally drained off through the veins, are retained within the muscle. The irritability of a muscle is also lowered by prolonged stimulation, even when its in-going and out-going blood-streams are unobstructed. If these disturbed conditions do not persist until the muscle-fibres pass into the condition known as death-stiffening; the irritability of the muscle may be restored, either by sending fresh blood through it, by sending a stream of some indifferent fluid through it, or by ceasing to stimulate it.

In the first case, restoration is brought about through the renewal of its supply of food-material and oxygen; in the second, by clearing out the noxious waste-products; and in the third, by allowing it to rest awhile. These, then, are the main conditions demanded for the health of a working muscle: A full supply of proper food and oxygen; unimpeded and sufficient drainage; and rest at due intervals. Given these three conditions in the body and exercise of a muscle causes it to increase in size and weight, through the increased

size and number of its fibres. Furthermore, a working muscle differs from a resting muscle in that it is appreciably hotter; by the presence of a low murmur, called the muscle-sound, which is caused by the more rapid vibration of the particles of the slightly over-stretched fibres; and on account of certain electrical peculiarities which it presents.

A muscle habituated to so exercise can do more work, and do it better, than an unexercised muscle, and for two reasons. Exercise makes the muscle larger, harder, and stronger, improving it simply as a tool in all its structure; and secondly, the muscle responds more quickly and completely to the stimuli which stir it up to work. In other words, the muscle becomes more obedient to its stimulators, the nerve-centres, through its better acquaintance with them. A muscle, then, is a neuro-muscular machine for developing power, for transforming the potential energy stored up in its substance, and the blood brought to it, into one or another form of the energy of motion.

If we consider a single muscle as a mechanism for developing energy of motion, it may be compared to a peculiarly-arranged collection of cartridges loaded with powder, and connected by wires with a series of electrical batteries. Each muscle-fibre would, in that case, stand for a single cartridge, the shell of the cartridge being represented by the sarcolemma; the charge of powder by the chemical components of the contractile substance; the wire from the battery by the motor nerve-fibre, and the cells of the battery by the cells of the nerve-centre; and the electric current by the nervous stimulus, which, passing along the axis-cylinder through the nerve-plate into the contractile substance, gives rise to the phenomena which attend a muscular contraction.

When a cartridge is exploded, chemical actions take place, which result in the sudden formation of gas, accompanied by the development of light, heat, and sound, and the production of a residue of smoke and ashes. If the cartridge-shell be tight and tough, the motion of the molecules of the suddenly-formed gas will be communicated to its particles, and the shell be shaken or moved from its position. By varying the construction and arrangement of the cartridges, we may cause the liberated energy of the explosive to set projectiles in motion, to rend rocks, or to move parts of mountains. The results of chemical explosions in the muscle-cartridges are less violent than those above noted, but they are sufficiently similar and well marked to be called parallel to them. The potential energy of the muscle-fibres is transformed into the energy of motion, through the decomposition of the chemically-unstable contents of the sarcolemma. Heat, sound, electrical changes, and mechanical motion are involved. The mechanical arrangement of the parts of the muscle are such that the total motion of the mass of its fibres is communicated, by the tendons of the muscle, to the parts of the body with which it is connected. So long as the muscle-fibres are properly nourished, and not too severely stimulated, the muscle-cartridges may be said to reload and maintain themselves in a state of readiness to go off on the receipt of stimuli from the central battery.

Muscles are more perfect power-machines than are steam-engines and rifled cannon, not only because they develop more work out of the energy stored up in the substances on which their activity depends, but also because they are distinguished from all machines of

human manufacture by the fact that they are self-improving machines, that is to say, they become tougher and stronger as structures through exercise, and, at the same time, more capable and adaptable functionally. Growth or increase in the size and number of its structural elements and development, or increased facility in its functional activity, are the main effects of exercise in the case of a single muscle. The same is true of the muscular system as a whole. Exercise enlarges and strengthens it on the one hand, and renders it more responsive and discriminative, as regards stimuli, on the other. The body, as a whole, is a machine in which the potential energy of organized material is transformed into the work which we see manifested in motion, animal heat, and the chemical actions involved in nutritive, secretory, and excretory processes. It is estimated that the tissue-changes of which a human adult body, weighing one hundred and forty pounds, is normally the seat, involve the transformation of more than a ton of material in the course of a year. Muscular activity is one of the chief agents in promoting wholesome tissue-changes in all the bodily organs, and in determining the normal growth and development of the organism as a whole.

It is beside my purpose to dwell at length upon the effects which exercise of the muscular system exerts upon the other systems of bodily organs. At the same time, the general effects of exercise are too important to be passed over without notice. The following account of them, given by Dr. G. Wilson, a well-known English writer on hygiene, may here suffice:

"Not only are the muscles themselves benefited by exercise," he says, "because they are brought into action, but, by their action, they increase the rapidity of the onward flow of the blood to the heart; the heart itself beats more vigorously; a larger quantity of blood is sent through the lungs; more oxygen is absorbed; a greater quantity of heat is engendered; and the skin and the other organs of secretion are brought into action, to get rid of the superfluous heat and the products of combustion. Thus the heart, lungs, skin, and other organs of the body are brought into more active play by muscular activity; the brain and nervous system are invigorated; the digestion is improved; and the whole machinery of the body is kept in efficient working order. On the other hand, through want of sufficient bodily exercise, the constituents of the food which pass into the blood are not sufficiently oxidized; effete products accumulate; the muscles become flabby or fat; the digestion is disordered; the nervous system becomes enfeebled; the function of secretion is impaired; and ill health or disease ensues. Indeed, it may be laid down as a rule that, other things being equal, those who take a sufficient amount of exercise in the open air, or are employed in active outdoor labor, will enjoy the best health and live the longest; and this is borne out by the statistics of the Registrar-General, which clearly prove that gamekeepers, farmers, and agricultural laborers are among the healthiest classes of the community."

Dr. Wilson holds that, as a rule, the amount of exercise required by a man of average height and weight is equivalent to a daily walk of eight or nine miles along a level road. "This rule, of course," he adds, "only applies to a man in the prime of life, for growing lads or women, who by the way, are rated as physically equal to lads of sixteen, the amount of ex-

ercise required would be somewhat less." This rule is for the average adult Englishman, whose height may be set at 5 feet, 6.6 inches, with a corresponding weight of 137 pounds. The height of the average American man is 5 feet 7.69 inches, and his weight is 141.93 pounds. I incline to believe that a growing boy needs more exercise than a mature man, since the boy needs exercise to promote growth quite as much if not more than to keep his bodily machinery in repair and smooth working order.

If we bear in mind that next, perhaps, to an adequate supply of proper food, nothing so promotes the normal growth and development of the body, as well regulated muscular activity; it is interesting to compare the children of different classes of the population as regards their height and weight. Although Dr. Bowditch, Professor of Physiology in the Harvard Medical School, and others in America have made valuable observations in this field, still, as more interest has been shown in this kind of investigation in England, where classes as such are more easily studied than with us, and the value of exercise, especially that derived from athletic sports, has been longer and more generally recognized, I shall bring forward, here, only English results for the most part.

The very complete and valuable tables published by Dr. Charles Roberts, of London, touching the mean height and weight and annual rate of increase in the case of some 7,800 boys and men, between ten and thirty years of age, belonging to the artizan class on the one hand, and 7,700 males between ten and thirty, belonging to the most favored class on the other, show that the mean height of the artizan class is for the whole period about three inches less than the mean height of those belonging to the most favored class. In the latter class public school boys, military and naval cadets, university and medical students were included. Although the inferior stature of artizans may be to some extent an inherited characteristic, it is held to be chiefly due to "the continuous operation of various conditions of life which retard and arrest growth, and which are most influential when growth is most rapid." Among the conditions so operating, "scanty feeding and wearing toil" as contrasted with "abundant nourishment and moderate exercise" occupy a prominent place. These tables also show a progressive gain as regards weight, on the part of the favored over the industrial class, both absolutely and in relation to height throughout the entire period under review. At the age of ten years the boys of the most favored class exceed the artizan's sons by one pound in weight; at twelve their excess in weight has increased to four pounds, and at thirteen they are ten pounds ahead. At the age of twenty, well-to-do English youths have a mean weight of eighteen pounds greater than that of handicraftsmen of the same age living in large towns. As regards chest-girth, and well directed exercise tells directly upon chest capacity, the most favored class is clearly superior to the industrial, which superiority is progressively increased until nearly adult life. In another of Dr. Roberts's tables it is shown that the sons of professional men living in the country exceed town boys of the same class by about an inch as regards height, at all ages between ten and twenty, and as regards weight by an amount varying from one to seven pounds. It also appears that the sons of soldiers, policemen, messengers and the like, are from one to four inches less in stature

and from four to thirteen pounds less in weight than boys of the same age whose fathers are devoted to intellectual pursuits; that the sons of artisans and factory operatives are the shortest and lightest of all youthful Britons, with the exception of idiots and imbeciles, of the same age, who have a mean height of an inch less even than youths of the artisan class. American boys seem to be a little taller and a little heavier than their English cousins of the same age and class.

Dr. Boulton, another English student of anthropometry, made observations extending over ten years on a certain group of children, all of whom were healthy, and the offspring of well-to-do parents. Dr. Boulton finds that "average English children brought up under favorable circumstances grow from two to three inches a year. A growth of less than two inches or over three should excite apprehension. The former would indicate arrested development. The rate of growth should be regular, and being so prognosticates future good stature." As to weight for height, whether a child grows two, two and a half, or three inches in a year, weight for height should be in each case identically the same, and all healthy children should grow broad in proportion to their height. "Between three and four feet the increase in height should," he says, "be two pounds per inch and, between four and five feet, two and a half pounds per inch. Well nourished children of healthy parents, in favorable surroundings, generally attain these averages. But what of children that fall below the standard? I find there is a seven-pound margin of safety, and that children falling more than seven pounds below this standard are devoid of reserve of stamina on which to draw, and consequently succumb quickly to many constitutional diseases. This then may be called the preventive medicine margin beyond which lies the dangerous land of cachexia."

Cachexia is a medical term signifying a depraved or lowered state of nutrition or of nutrient activity, in which the power of the tissues to repair injury or to resist inherited tendencies to disease is dangerously diminished. Amongst the best-marked cachexiæ are the cancerous, the malarious, and the phthisical. There is a condition of mind and body not infrequently seen nowadays in children and youth, especially among females, which is characterized by an irritable, easily overwrought, and unsteady nervous system, arrested muscular development, disordered digestion, and enfeebled powers of assimilation, which might well be called *cachexia scholastica*, since it is largely and sometimes directly brought about by ignorant and foolish parents and teachers who force and cram and overwork the undeveloped brains of children, and at the same time by neglecting or frowning upon their play and exercise, do their best to retard the growth and development which they ought to promote and might regulate.

The late Alexander Maclaren's experience with the first squad of twelve non-commissioned officers sent to him to be qualified as instructors in gymnastics in the British army, may serve to show how systematized and well-directed exercise may be made to influence bodily development in a comparatively short time. The twelve men alluded to ranged between nineteen and twenty-nine years of age, and had seen from two to twelve years' service. At the end of eight months' gymnastic training the increase in the measurements of the men was as follows:

	Weight.	Chest girth.	Fore-arm girth.	Upper-arm girth.
The smallest gain. .	5 lbs.	1 inch.	$\frac{1}{2}$ inches.	1 inch.
The largest gain. .	16 "	5 "	1 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "
The average gain. .	10 "	2 $\frac{1}{2}$ "	$\frac{3}{4}$ "	1 $\frac{1}{2}$ "

"The muscular additions," says Maclaren, "to the arms and shoulders and the expansion of the chest were so great as to have absolutely a ludicrous and embarrassing result, for before the fourth month several of the men could not get into their uniforms, jackets and tunics, without assistance, and when they had got them on they could not get them to meet down the middle by a hand's breadth. In a month more they could not get into them at all, and new clothing had to be procured, pending the arrival of which the men had to go to and from the gymnasium in their great coats."

(To be continued.)

Original Articles.

FIVE CASES OF LARGE VISIBLE PULSATING ARTERY ON THE POSTERIOR WALL OF THE PHARYNX, WITH REMARKS.¹

BY J. W. FARLOW, M.D., BOSTON.

CASE I. E. N., a girl, thirteen years old, came to me at the Boston Dispensary, complaining of nasal catarrh and enlarged cervical glands; she had also an atrophic pharyngitis. My attention was immediately drawn to two large, pulsating vessels on the back of the pharynx, about quarter of an inch inside the posterior pillar of the fauces, and lying directly beneath the mucous membrane. By slightly depressing the

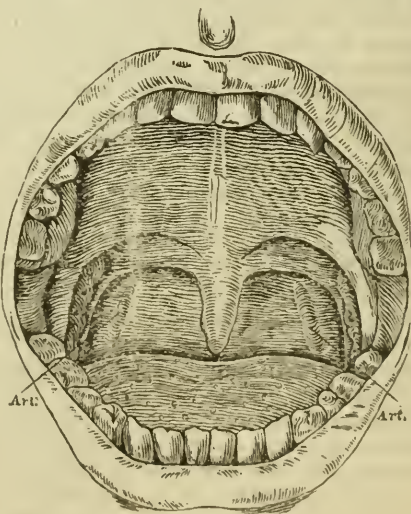


FIG. 1.

tongue the lowest point of the pulsation was easily seen, the upper limit was a little higher than the base of the uvula. The vessels were nearly vertical, and the left one had a more marked pulsation than the right. To the finger the impression was given of an artery fully as large as the radial. Fig. 1 will give

¹ Read at the meeting of the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, February 9, 1887.

a very good idea of the vessels. The patient knew nothing of this condition of her pharynx. Thinking that the large cervical glands might, by pressure, be the cause of this pulsation, I watched carefully to see if the vessels diminished in size as the glands grew smaller. But such was not the case. The glands entirely disappeared and the nose much improved, but the pulsation continued as before. I saw her the other day, eighteen months after her first visit, and found no change in the vessels.

CASE II. Mary C., eighteen years old, came to me complaining of nasal catarrh and some atrophic pharyngitis. There was a large, pulsating vessel on the posterior wall of the pharynx on the left side, as in Case I, but none was seen on the right. There were no large cervical glands.

CASE III. Annie M., twenty-three years of age, came to me for post-nasal catarrh. On the back of her pharynx were two large, pulsating arteries, almost an exact counterpart of Case I.

CASE IV. This was a woman about thirty years old, and was seen at the Massachusetts General Hospital, by Drs. F. I. Knight and F. H. Hooper. No notes of the case are at hand, but Dr. Hooper thinks the large vessel was on the back of the pharynx, about half-way between the uvula and the posterior pillar of the fauces on the right side.

CASE V. A little girl, four years old, came to me for nasal catarrh. On the posterior wall of her pharynx on the right side was a large pulsating vessel as in the other cases. The glands of the neck were slightly enlarged. A sister, five and a half years old, has beginning atrophic pharyngitis and rhinitis but no artery visible.

All the other cases seen by me were women, and in all the pharynx was atrophic, in two markedly so, the mucous membrane being thin, dry and shining.

This condition must be very rare, for I find no mention of it in text-books or in the literature of the subject. In my service of five years in the throat-room of the Boston Dispensary, I had never met with a case, and yet my three cases were seen within a week or two of each other, as is often the case with rarities.

In regard to what vessels these are, let us look at the normal blood-supply of the pharynx. The pharynx receives its blood principally from the ascending pharyngeal, a branch of the external carotid and the ascending palatine, a branch of the facial. (See Fig. 2).

Cruveilhier² says: "The ascending pharyngeal is the smallest branch of the external carotid. Its calibre is in inverse proportion to that of the palatine branch of the facial. I have seen it as large as the occipital. Its pharyngeal branch sub-divides at the base of the skull into several branches which penetrate the very dense fibrous tissue at the insertion of the pharynx to the occiput. These then turn downward, and terminate in the walls of the eustachian tube and the muscles of the pharynx. In a case of absence of the palatine branch of the facial I have seen the pharyngeal branch very large, supply the tonsil and ramify and lose itself on the veil of the palate."

Sappey³ says: "The ascending pharyngeal is distinguished from the other branches of the external carotid by its small size and vertical direction."

Gray⁴ says: "The largest of the pharyngeal branches of the ascending pharyngeal passes inward, running upon the superior constrictor and sends ramifications to the soft palate, eustachian tube and tonsil, which take the place of the ascending branch of the palatine when that vessel is of small size." With regard to the ascending palatine, Gray says: ⁵ "It passes up between the stylo-glossus and stylo-pharyngeus to the outer side of the pharynx. After supplying these muscles, the tonsils and eustachian tube, it divides near the levator palati into two branches; one follows the course of the tensor palati and supplies the soft palate and palatine glands. The other passes to the tonsil, which it supplies, anastomosing with the tonsillar artery. The tonsillar branch passes up along side of the pharynx and perforating the superior constrictor, ramifies in the substance of the tonsil and the root of the tongue."

According to the above descriptions it seems as if, in my cases, the vessels were the ascending pharyngeal arteries, from their situation on the superior con-

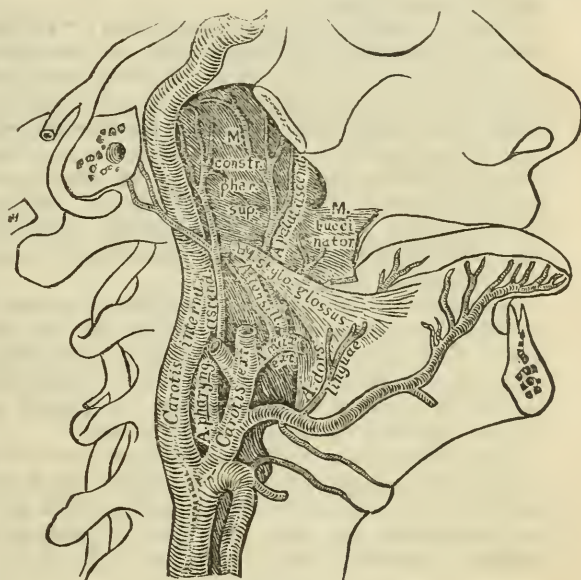


FIG. 2.

strictor and their vertical direction, and inasmuch as mention is made of the increased size²³ of the vessel when the ascending palatine is small, it is possible that the latter vessels in my cases were unusually small. The atrophy of the mucous membrane allowed the pulsating vessel to be seen more readily.

The surgical importance of these cases is sufficiently evident. In case it were necessary to make an incision in the back of the pharynx, as in retro-pharyngeal abscess, we see how great the risk of an alarming hæmorrhage might be. In all cases, where possible, it is advisable to examine with the finger, before operating, to see whether an artery of abnormal size or situation is present.

Dr. Porter⁶ relates a case of recurrent hæmorrhage from behind the left tonsil, which he thought came from the tonsillar artery or from a branch of the ascending pharyngeal; also a case of hæmorrhage from an ulcer on the posterior surface of the soft palate, probably from the same vessels.

² Anat., Vol. 3, page 86.

³ Anat. Descrip., Vol. 2, page 575.

⁴ Anat., p. 454.

⁵ Anat., page 451.

⁶ Tr. Am. Med. Association, 1882, page 511.

Dr. E. Carroll Morgan, of Washington, D. C., who has recently written a paper on "Hæmorrhage following Uvulotomy," writes me as follows: "Obstinate bleeding following uvulotomy is, in my opinion, often due to the condition your cases so well illustrate. Literary research has surprised me, I confess, and I have now collected seventeen cases of dangerous hæmorrhage after this simple operation. Twelve of these have never been published, and were obtained by personal letters. Strange as it appears, the possibility of an anomalous artery being a factor in the dangerous hæmorrhages which here followed uvulotomy has never been mentioned in connection with reported instances."

These arteries must also be taken into consideration in cases of surgical treatment of the tonsils. Many cases of hæmorrhage following tonsillotomy are reported. In most of them no mention is made of the finding of an artery of unusual size, but it seems to me that a careful examination would have revealed this condition in some of the hitherto unexplained cases of hæmorrhage.

Downie,⁷ speaking of tonsillotomy, says: "Of the vessels in the immediate neighborhood, the ascending pharyngeal is the only one which might be damaged, and this only in unwarrantably free incision into the tonsils, never in excision. Billroth⁸ removed the left tonsil of an hysterical lady. The organ was pulled toward the middle line and a fold of the pharyngeal mucous membrane was probably drawn out and cut with the tonsil. A fearful hæmorrhage occurred, which Billroth thought came from some large branch of the ascending pharyngeal.

In Schmidt's "Jahrbücher," Vol. 186, is related a case of severe hæmorrhage after cutting off the left tonsil. Various hæmostatics were tried unsuccessfully, and in three hours the common carotid was tied. In this case the cause of the hæmorrhage was thought to be some abnormal ramification of the vessels.

Other similar cases might be cited, but these will serve to show the importance of bearing in mind the possibility of having to do with a condition such as I have described, and also the need of making a thorough examination before operating on the throat.

A CASE OF EMBOLISM OF THE LEFT VERTEBRAL ARTERY, WITH AUTOPSY.¹

BY F. W. STUART, M.D., OF BOSTON.

G. W., aged sixty-two, came to the Carney Hospital on December 31, 1885, with the following history: His grandfather, father, two brothers and one sister had died of what he called "softening of the brain," and the account given of the disease, rendered it probable that they had had general paresis. In other respects the family history was negative. The patient considered himself well until three years ago, though he had for years been very corpulent, weighing at one time two hundred and fifty pounds. In the fall of 1882, he fell and injured his knee, but attached no importance to the injury, though it obliged him to limp about for a time. Soon after he began to have trouble with his eyes and was operated on for cataract

at the Eye and Ear Infirmary, where he learned incidentally that he had fractured the patella of the left knee.

For the last three years his health had been poor, loss of strength, weight, and appetite being the most prominent symptoms, added to which for the last few months there had been attacks of severe pain in the stomach, and vomiting, which lasted for from twenty-four to forty-eight hours and always began at night, when they were also most severe. The patient was positive that the attacks began about midnight, and the ingestion of food seemed to bear no relation to them.

The vomitus was as a rule, of a black or dark brown color, and once or twice was distinctly like coffee-grounds in appearance. The patient admitted having used alcohol rather freely during his younger days, though for ten years past he had been a total abstainer.

When at the hospital he was cachectic and some chronic affection was suspected. Physical examination failed to reveal anything except a decrease in the area of liver dulness. Careful examination of the urine, chemically and microscopically, showed nothing pathological. No diagnosis being made, an expectant treatment was entered upon, under which the patient improved, and ceased visiting the hospital.

On March 10, 1886, during the service of Dr. W. N. Bullard, he reappeared, and a diagnosis of probable cirrhosis of the liver was made. This was his last visit to the hospital, and nothing further was known of his condition until May 17th, when I was called to attend him.

I then learned that during the interval between March 10th and May 13th, no evident change in the patient's condition had taken place, though he had been subject to attacks of dizziness and dyspnoea, so that he desired to have the windows opened, and these attacks had always been accompanied by profuse sweating.

He had on that day, May 13th, answered the door bell several times, but on returning the last time, he said that he had come near falling, and laid himself on the sofa. He answered several questions put to him by his wife, and nothing further was thought about his condition until an hour later, when it was noticed that he failed to recognize a friend who had entered the room. All attempts to rouse him were in vain, and finally he was put to bed, where after a few hours he became brighter, and it was not until May 17th, four days later, that I was sent for. I found the patient lying apparently comatose, though he could be aroused to answer questions, which he did slowly but intelligently. He moved all of his extremities promptly as requested, and continued to repeat the motion, as it were automatically, not even ceasing always when requested to do so. None the less there was distinct paresis. The patient recognized all visitors, and conversed with them intelligently as far as they noticed. It is certain that he recognized them sufficiently to greet them by name and properly, according to their relationship but a few minutes after they had gone he did not know of their visit, and often asked why they had not called. Difficulty in swallowing, indistinctness of articulation, and incontinence of urine completed the manifest symptoms. When asked if he wished to urinate he would pass considerable quantities of urine at a time, though repeated suggestions failed to relieve the dribbling. There was marked constipation. The patient himself complained only of weakness.

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, February 9, 1887.

⁷ Edinb. Medical Journal.

⁸ Lancet, 1870, Vol. II.

I then called Dr. W. N. Bullard in consultation. The patient's condition was noted to be as above. Physical examination showed the patient to be pale and cachectic in appearance, temperature normal, pulse 80. There was a cataract in the right eye, and iridectomy had been performed on the left, so that both pupils were dilated. The left reacted to light. The reflexes were normal, and no anomaly of sensation could be detected beyond that due to mental obtuseness. Further examination revealed nothing pathological except the small liver.

Though the cause of the existing condition was recognized as distinctly cerebral, the exact nature of the lesion could not be determined upon, though a hæmorrhage was considered to be the probable cause of the trouble.

From this time, May 19th, until his death, the patient lay in bed in a semicomatose condition, replying to questions intelligently, in spite of some aphasia which appeared to be ataxic in character, but when not addressed or otherwise roused, apparently unconscious of his surroundings. There was no aphasia, properly so-called, that is, he always used the proper word when he spoke at all, although his speech was hesitating and indistinct. The paresis, which nowhere amounted to absolute paralysis, continued unabated. There were no convulsions and the patient gradually sank away, becoming constantly weaker and weaker, and died May 27th, ten days after I first saw him.

Autopsy was made May 29th, thirty-six hours after death. The body was of medium development, somewhat emaciated. The relations of the cranium to the head, and of the head to the face, were normal. The cranium alone was opened. The bone was normal in thickness, the dura, everywhere strongly adherent, could not be removed except with great difficulty. The longitudinal and transverse sinuses were empty. The pia mater was much injected, the vessels being dark and swollen. There was no fluid in the meshes of or under the pia which was neither adherent nor thickened. The brain was of normal size and consistency, its bloodvessels everywhere dilated and very prominent. They all contained numerous atheromatous patches, yellow, hard, and not contracting on section of the vessel. These patches occupied one-third to one-quarter of the whole extent of the larger arteries from the vertebral upwards. Between these hardened yellow patches the arteries were dark blue and dilated, though little or no blood was found in them.

There was no fluid in the lateral ventricles. Puncta cruenta were very few and not well-marked. The choroid plexuses were dilated and enlarged. No signs of hæmorrhage or softening were found in the substance of the cerebrum, cerebellum, pons or medulla oblongata. A grayish body the size of a pea was found at the anterior portion of the falx, there adherent. A small white thrombus was found occluding the left vertebral artery and extending into the basilar, which it partly occluded.

—An "American System of Gynecology," Messrs. Lea Brothers & Co., of Philadelphia, is announced as shortly to appear. Among the contributors are such prominent authorities as Professors Barker, Battey, Englemann, Garrigues, Goodell, Reeves Jackson, Lusk, Mundé, Reamy, Thomas, Van de Warker, and others.

RECENT PROGRESS IN PUBLIC HYGIENE.

BY SAMUEL W. ABBOTT, M.D., SECRETARY MASSACHUSETTS STATE BOARD OF HEALTH.

WATER-PURIFICATION.¹

DR. PERCY FRANKLAND's paper upon this subject, before the British Institution of Engineers, is one of general interest, and treats of the effects of the following processes upon purification of water.

- (1) By filtration.
- (2) By agitation with solid particles.
- (3) By precipitation.
- (4) By natural agencies.

The experiments conducted had reference both to the chemical and to the biological phases of the question.

(1) *Filtration.* The following table shows the results of some of the biological experiments, with reference to the effect of filtration.

Filtering material.	Efficiency.	Organisms per cubic centimetre.		Reduction per cent.	Gals. ¹ per sq. ft. per hour.
		Unfiltered water.	Filtered water.		
Ferruginous green sand.	Initial.	80	—	100	—
	After 13 days.	8,000	1,000	88	0.73
	After 1 month.	1,280	780	39	1.14
Animal charcoal.	Initial.	Too many to count.	—	100	—
	After 12 days.	2,800	—	100	0.46
	After 1 month.	1,280	7,000	447 ²	0.86
Iron sponge.	Initial.	80	—	100	—
	After 12 days.	2,800	—	100	0.40
	After 1 month.	1,280	2	99.8	0.45
Pulverized red brick-dust.	Initial.	3,000	730	76.0	—
	After 5 weeks.	6,000	400	93.0	0.48
Coke.	Initial.	3,000	—	100	—
	After 5 weeks.	6,000	90	98.5	0.50

¹ Approximate rate of filtration. ² Increase.

The unfiltered and filtered waters were both submitted to chemical analysis, and in the case of coke and also of wood-charcoal, the chemical action of the filters was insignificant. The waters employed were urine-water and an aqueous extract of garden-soil.

The filtering stratum was made six inches in depth, and the filtering material made to pass through a sieve of forty meshes to the linear inch.

(2) *Agitation with solid particles.* In these experiments water containing micro-organisms was shaken for a definite length of time with a given quantity of finely divided matter, of similar fineness to that employed in the previous experiments on filtration. The water was allowed to subside and the clarified water submitted to examination — as soon as possible after complete subsidence had taken place — as it appeared probable that if the organisms were simply carried to the bottom by the subsiding particles, without suffering any injury, they would rapidly again become distributed through the upper layers of water by multiplication. This was amply verified by experiment.

Spongy Iron. Water shaken with one-tenth of its weight of spongy iron for fifteen minutes. Water allowed to subside for a half-hour before examination.

¹ Water-purification; its biological and chemical basis. By Percy F. Frankland, Ph.D., Associate of the Royal School of Mines. A paper read before the Institute of Civil Engineers, April, 1886. London.

Result:—Untreated water contained 609 organisms per cubic centimetre; after fifteen minutes agitation contained 63 organisms per cubic centimetre; reduction, 90 per cent.

Chalk. Urine water shaken fifteen minutes with one-fiftieth if its weight of chalk and allowed to subside five hours. Result:—Untreated water, 8,000 organisms per cubic centimetre; after agitation 270 organisms per cubic centimetre; reduction, 97 per cent.

Animal Charcoal. Urine water shaken fifteen minutes and with one-fiftieth its weight of animal charcoal and allowed to subside five hours. Result:—Untreated water, 8,000 organisms per centimetre; after agitation, 60 organisms per centimetre; reduction, 99 per cent.

Similar experiments with vegetable charcoal and coke showed a reduction respectively of ninety-six and one hundred per cent. after subsidence of twenty-seven and forty-eight hours.

Further experiments showed the process to be unreliable, owing apparently to numerous conditions which are necessary for its success. In some cases the number of organisms in the clear liquid was greatly increased, this being doubtless due to a re-ascension and multiplication of those which were at first carried down.

In one the following result was obtained:—Untreated water, 3,000 organisms per cubic centimetre; after agitation with coke and twenty-six hours subsidence, 20,000 organisms per cubic centimetre.

Experiments were also made with china-clay, brick-dust, plaster-of-Paris, and oxide of manganese with unsatisfactory results.

(3) *Precipitation.* The experiments conducted had reference to the process known as Clark's process, in which lime-water is the precipitant. Upon this process, Dr. Frankland remarks: "the biological efficiency of Dr. Clark's process is markedly superior to its power as a chemical purifier." With reference to care, cleanliness, and attention to details, he also says that failure will inevitably result when such processes are not under proper supervision.

(4) *Purification by natural agencies.* Referring to the effect of prolonged filtration through porous strata of soil, the writer says: Waters obtained from deep wells and deep-seated springs, often contain the merest trace of organic matter, which is only discoverable and capable of being quantitatively determined by the most refined analytical methods. Pasteur has also shown that many of these waters are entirely destitute of organic life, or in other words, are sterile.

Periodical examinations of all the London water-supplies have been made, and have revealed the fact that there is a certain uniformity in the position which the various water-companies occupy as regards freedom from micro-organisms, and also that such position has an unmistakable relation to certain factors in the mode of working, which might be anticipated from theoretical considerations. These are as follows:

(1) Storage capacity for unfiltered water.

(2) Thickness of fine sand through which filtration is carried on.

(3) Rate of filtration.

(4) Renewal of filter-beds.

Dr. Frankland considers that such coincidence between theory and practice as is shown by the examination of the waters thus treated by filtration, proves

that the problem of biological water-purification is as tangible as the removal of the suspended particles which have for a long time occupied attention.

His final conclusions are as follows:

I. That the complete removal of micro-organisms from water, by filtration, is unattainable without frequent renewal of the best filtering materials, and duly restricting the rate of filtration.

II. That a very great reduction in the amount of organized matter in water may be accomplished by filtering materials which have hitherto been generally regarded as almost ineffectual.

III. That organized matter is to a large extent, and sometimes to a most remarkable extent, removable from water by agitation with suitable solids in a fine state of division, but that such methods of purification are unreliable.

IV. That chemical precipitation is attended with a large reduction in the number of micro-organisms present in the water in which the precipitate is made to form and allowed to subside.

V. That if subsidence, either with agitation or after precipitation, be continued too long, the organisms first carried down may again become redistributed throughout the water.

The discussion which followed the paper was critical and severe, the participants being mainly the engineers and chemists of the different water-supplies of London.

Mr. Wanklyn thought that there was one safe and rational way of regarding organic matter in drinking-water, and that was to assume that it was dangerous, and to classify waters according to the proportion of organic matter present. He attached very little importance to searching after organisms in drinking-water.

Special stress was laid upon the importance of distinguishing between harmless and pathogenic micro-organisms. Dr. Klein was quoted as stating that certain organisms were absolutely inimical to the pathogenic organisms which accompany certain diseases, the latter being unable to exist in the presence of the former, a point of great practical importance, which might account for the occasional immunity of communities supplied with grossly polluted waters.

In Dr. Frankland's closing remarks he stated that his experiments were not conducted with reference to the question of the comparative power of different processes in rendering waters wholesome, but simply to determine to what extent such processes had the power of removing micro-organisms in general. It might be safely assumed, however, that such processes could deal with any kind of micro-organisms, whether harmless or pathogenic. In the matter of filtration, there was no reason to suppose that a pathogenic organism behaved differently from a non-pathogenic organism.

Correspondence was also published from the Directors of the Berlin water-works, inclosing a summary of the investigations of the Imperial Board of Health as to the quality of the Berlin water-supply as affected by filtration through sand. This sand was of a diameter or fineness of one-half to one millimetre, the bed being sixty-two centimetres in thickness.

The two great works which supply Berlin with water are the Stralau and the Tegel, the former having eight open and three covered filter-beds with an area of 37,500 meters. From 2.88 to 3.12 cubic

metres of water are filtered daily per square metre of area. The works at Lake Tegel have an area of 20,000 square metres in ten filter-beds, to which have been added seven more. The quality of the water is tested weekly by chemical analysis, and since 1884 both chemically and biologically. The tests extended to the following particulars:

Temperature, color, freedom from odor, taste and turbidity. Contents in micro-organisms.

Chemically, as to chlorides, sulphates, nitrates, nitrites, sulphuretted hydrogen, ammonia, lime, iron, qualitatively, and quantitatively as to residue, loss in combustion, chlorine, nitric acid, ammonia and lime.

Color as seen through twenty centimetres of water, taste and smell when cold and when heated are noted.

The biological examination was conducted with the microscope and by means of pure cultivation with ten per cent. meat-juice-peptone-gelatine, one cubic centimetre of water being employed.

The diagram presented is selected from the *Arbeiten aus dem Kaiserlichen Gesundheitsamte* to illustrate the effect of sand-filtration, both chemically and biologically, upon the waters supplied to the city of Berlin.

PURIFICATION OF SEWAGE.

At the Thirteenth Convention of the German Association for Public Health held at Breslau, in September, 1886,² Professor Arnold, of Brunswick, presented for consideration the different methods of sewage disposal at several German cities, especially at Frankfort, Wiesbaden, Halle, and Essen. The system conducted at Essen (and also at a few other places) is known as the Röckner-Rothe process. It is also in operation at Dortmund. The treatment is both mechanical and chemical. The chemical agents employed vary in accordance with the composition of the sewage to be dealt with, but it is claimed that their utilization is so complete that a relatively small quantity suffices at a moderate cost.

The sewage is at first admitted through a strainer to a catch-basin where the sand and coarse sludge settles, while the effluent flows through a salmon-ladder trough (misch canal) where it is exposed to the air and treated first with milk-of-lime, and then with other chemicals (the composition of which is not stated). From the trough it passes through a pipe and an apparatus shaped like an umbrella, to a tank, which, as well as the catch-basin, is shaped like an inverted cone. The precipitate of the sewage thus treated, here settles, and the sludge is pumped away, together with that which collects in the catch-basin.

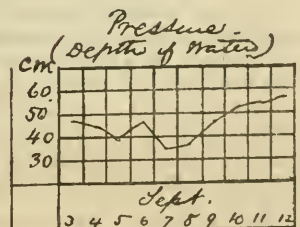
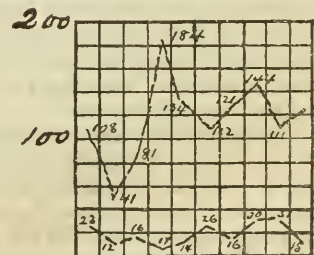
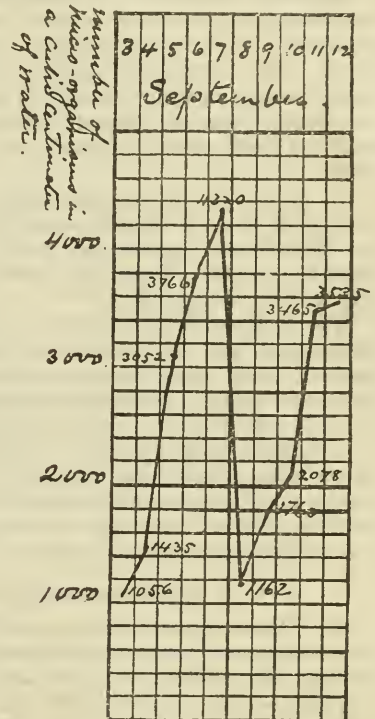
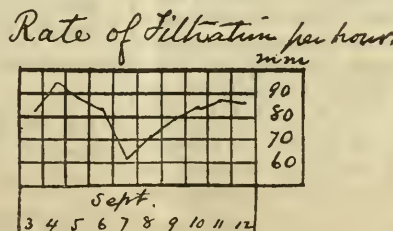
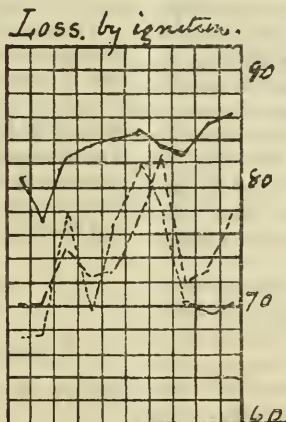
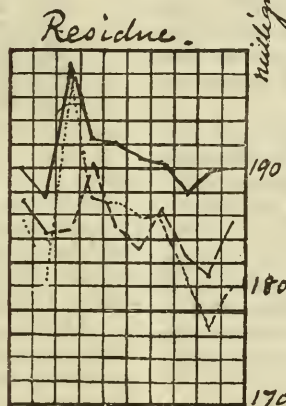
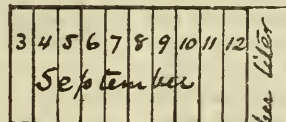
² Vierteljahrsschrift für öffentliche Gesundheitspflege. B. 19, H. 1., 1887, and Centralblatt für Gesundheitspflege.

Above the tanks (which are five metres in depth), are placed inverted iron cylinders, air-tight, from seven to eight metres in height with their lower edges dipping below the surface of the sewage-level.

The upper part of the cylinders are connected with an air-pump, by the action of which the sewage (after passing through the umbrella-shaped apparatus, and then underneath its edge), rises slowly in the cylinder

EFFECT OF FILTRATION THROUGH SAND, STRALAN WATERWORKS, BERLIN. Covered Filter No. 9 and Open Filter No. 4.

Water before Filtration, Black line, ———
Water after Filtration, Open Filter, . Broken line, - - - - -
Water after Filtration, Covered Filter, Dotted line,



in consequence of the vacuum produced. The effluent flows away near the top of the cylinder, through an ingeniously contrived syphon, and the grease is separated by itself.

By the continuous, slow, upward movement of the sewage, treated by the chemicals, the precipitate is allowed to deposit at the bottom. The presence of this sludge acts also as a filter for the subsequent sewage, and this avoids waste of chemicals, which under ordinary methods settle to the bottom, and thus have no further action on the liquid to be treated.

Dr. Kaysser, of Dortmund, sets forth the following advantages of this method of treatment:

Absolute separation of the suspended, and to a certain extent, the dissolved mineral impurities, and the production of a clean colorless effluent, free from smell. The removal of gaseous admixtures. The sludge contains matter valuable to the agriculturist in a utilizable form, and the purification is effected in an enclosed space, and can give rise to no noxious effluvia.

By means of this process, about one-fourth of the sewage of Essen is treated, amounting in wet weather to 18,000 cubic meters per day. The works have been in operation since July, 1885, and require but two men to manage them.

The sludge dried at 100° C., contains 75 per cent. of inorganic and 25 per cent. of organic substances, and the value of the nitrogen and the phosphates in one cubic metre of the air-dried sludge is estimated at 5 marks (\$1.25). It is not practicable to convey it to a distance from the works. The cost of treatment of the sewage-water after deducting the value of the sludge may be estimated at a little less than \$12 per million gallons. This high cost can be reduced one-half when the process is conducted on a large scale.

DISTANT INFECTION FROM SMALL-POX.³

Mr. Power makes another report to the Local Government Board, relative to the spreading of small-pox through the medium of small-pox hospitals, confirming his previous report of 1881, and showing that the houses within the area of a half-mile from the hospital had been attacked at three times the rate of those in the next half-mile, and four times the rate of those beyond one mile, and after having tried the effect of limitation of numbers of the persons treated in such hospitals, he concludes that the time has come when other means for "reducing the chance of spreading infection" should be tried.

Dr. Bridges, in commenting upon the theory of infection at long distances, states, "it would seem to me that a necessary condition for scientific proof of atmospheric dissemination of contagion through a circle of a mile radius, would be the elimination of all means of ordinary communication in the intervening space. This would imply the necessity of choosing for observations the neighborhood of a hospital situated a mile away from inhabited houses, and where adequate care was taken to keep the inhabitants from contact with the hospital, or with other sources of contagion. Certain facts brought before the Royal Commission appeared to indicate that, where a really secluded population like that of a workhouse, or prison, was brought into very close contiguity to a small-pox hospital, no infection followed, even though no special precaution

had been taken to protect that population by revaccination. I do not think that quite sufficient weight has been attached to these facts by those who regard the theory of atmospheric contagion at long distances as proved."

PRESERVATION OF ANIMAL VACCINE VIRUS.

The length of time during which animal lymph proves effective, as ascertained in the experience of Dr. Cory, was as follows: This lymph was collected at a period not later than 120 hours from the time of vaccination of the animal.⁴

No. of days for which lymph was preserved in tubes before using	No. of insertions with it on calves.	Successful insertions on calves.	Insertion success-rate per cent.
2	3998	3390	84.7
4	1438	1139	79.2
6 to 8	255	184	72.1
9	431	309	71.6
11 to 12	337	273	80.6
14	263	214	81.3
16	288	207	71.9
17 to 46	639	472	73.8
53 to 93	445	332	74.6
100 to 200	388	258	66.5
200 to 500	104	17	16.3
500 to 600	135	45	33.3
600 to 700	82	24	29.0
816 to 858	72	4	5.5

FOOD PRESERVATIVES.⁵

The French Academy of Medicine has considered the question of the propriety of employing salicylic acid for the purpose of preserving articles of food and drink. The committee appointed for the purpose reported through Dr. E. Vallin, adverse to the practice.

The first proposition under consideration was the effect upon health of moderate doses of salicylic acid continued for a period of several months or years. He concludes that such use would be especially injurious to the aged, to persons affected with renal diseases, and to dyspeptics.

The second proposition as to the propriety of establishing a maximum limit, for the presence of salicylic acid in articles of food and drink, which should not be exceeded without penalty. Such a measure was deemed to be impracticable, on account of the progressive disappearance of the acid in such articles, and the consequent difficulty of chemical analysis. Its use for such purposes is forbidden in Switzerland, Bavaria and Baden.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MEETING February 9, 1887.

Dr. F. W. STUART read a paper upon

THROMBOSIS OF THE LEFT VERTEBRAL ARTERY, WITH AUTOPSY.¹

Dr. W. N. BULLARD opened the discussion of this subject. He said that this case is of interest for several

¹ See page 304 of the Journal.

³ Dr. J. H. Bridges's Memorandum to Local Government Board, January 10, 1887.

⁴ Fifteenth Annual Report of Local Government Board of England, 1886, page 26.

⁵ Revue d'Hygiène, February, 1887, page 89.

reasons. In the first place carefully reported cases of thrombosis of the vertebral, and still more of the basilar artery *with autopsies* are not common. In regard to the basilar, the more important were those of Hayem and Mayet's case.

In most reported cases of thrombosis of the basilar artery death has been rapid. In this case the symptoms were developed slowly and in a more or less distinct succession, enabling us to see their gradual progression.

At the post-mortem examination, the walls of the large and medium-sized arteries throughout at least one-third of their extent were found hardened so that they did not contract and the passage of the blood through them must have been more or less retarded both by their inelasticity and by the unevenness of the calibre in different parts of the same vessel. In some portions the lumen seemed nearly obliterated, while farther on it was *in appearance* increased in size. If such thrombosis as existed here should occur in a subject whose vascular channels were in a normal condition it is doubtful if a fatal result would follow. As a fact, in a person whose cerebral arteries are healthy one or both of the vertebrals may be tied without serious results, so far as the cerebral circulation is concerned. Here the occlusion of the basilar at least was only partial and with the complication of extensively degenerated (atheromatous) arteries and a weak heart death occurred from progressive cerebral anæmia. The special value of a case of this character is that it directs attention to the important fact that in case of surgical operation, before undertaking the ligature of the large arteries which supply the cerebral circulation, the probable condition of the arteries of the brain should be carefully considered, and where there is reasonable ground for suspecting the existence of extensive atheroma, such operations should be considered contraindicated.

In such cases as this a complete examination of the urine should always be made. In this one there was no evidence of disease of the kidneys, so far as could be determined in this way.

DR. J. J. PUTNAM observed that in cases in which occlusion of one vertebral artery would occasion such serious effects, the collateral circulation is for some reason not easily re-established in the domain of the occluded vessel. When the vertebral is tied as a surgical measure, the ligature is applied at a point upon the vessel very much lower down than was the seat of the thrombosis in this case, and consequently does not include that portion of the trunk of the vessel from which the branches to the medulla and pons are given off. The occurrence of a thrombus at this latter higher point might easily effect the circulation in these important centres of the nervous system, and thus occasion the fatal result by progressive interference with the functions of circulation and respiration. Dr. Putnam mentioned the case of an aphasic in which there was no paralysis.

DR. BULLARD remarked that headache is one of the well-recognized symptoms of cerebral thrombosis. In those cases, in which severe headache is associated with muscular weakness there is often found a thrombosis of some cerebral vessel. In the case reported by Dr. Stuart, there was no paralysis at all, except possibly in relation to the sphincters. The right vertebral artery was found to be of the same size as the left.

DR. PUTNAM added that headache is frequently a symptom common to any severe form of cerebral disease. In two cases seen by him, in which there was persistent headache, one was in a woman who had syphilis, in which the headache was very severe, and was followed by aphasia, with complete relief to the pain in the head. The second was in a man, in which the headache had lasted for a year, and was followed by cerebral disease and sudden death.

DR. J. W. FARLOW presented a report of

FIVE CASES OF LARGE PULSATING ARTERY²

on the posterior wall of the pharynx. The report was accompanied by a series of illustrations showing the appearances of the pharynx, and the probable origin of the unusual vessel which occupied this strange location. Dr. Farlow stated that Dr. Otis has described the relations of the carotid artery to the tonsil, and has called attention to the possibility of dangerous hæmorrhage from such an anomaly, but no one has alluded to the occurrence of alarming hæmorrhage from this hitherto unrecognized cause.

DR. T. A. DEBLOIS said that he had the favorable opportunity to observe two of the patients which were contained in the list of Dr. Farlow's cases, and also saw the case observed by Dr. Morgan in Washington. Dr. DeBlois had a case in his department at the Boston City Hospital, in which after tonsillotomy, there was a most alarming hæmorrhage, which continued in spite of all efforts to control it, until at the end of three and a half hours the patient fainted, when it gradually ceased, and gave no further trouble. The possibility of the anomalous distribution of the pharyngeal bloodvessels should also be borne in mind in the operation for retro-pharyngeal abscess, by which they might easily be wounded. In this case they could probably be felt by the finger in the throat, though they would probably not be visible.

DR. E. W. CUSHING stated that he once performed the operation of tonsillotomy which was followed by a terrible hæmorrhage, which resisted all treatment for its control until the patient was almost exanguine. The patient became very weak, but at last the bleeding was stayed. Dr. Cushing said that while endeavoring to control the hæmorrhage, he was so unfortunate as to infect the patient's system with the germs of some septic process of which the patient died some days later, after all danger of further loss of blood had entirely disappeared. This should teach us that we should be cautious in our treatment of any condition to employ all possible precautions in the avoidance of the chances of septic poisoning.

Adjourned at 10.20 o'clock.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 3, 1887.

DR. WM. H. THOMPSON read a paper on

THE PATHOLOGY AND TREATMENT OF EPILEPSY, BASED ON NOTES OF SIXTY CONSECUTIVE CASES IN PRIVATE PRACTICE.

At the outset he related the case of a gentleman who was subject to sudden and transitory attacks of aphasia, always without any loss of consciousness whatever, and without the least sign of motor disturb-

ance of any kind. The phenomena of an epileptic fit were usually described as consisting, first, of an initial coma, second, loss of consciousness, third, convulsions; but, notwithstanding the prevalent opinion as to the essential clinical characters of the disease, he believed this case to be one of true epilepsy.

He then proceeded to inquire what the essential and invariable element in epilepsy really was, and expressed his conviction that it was *suddenness*. Epilepsy, he said, was the single truly sudden disease. The only affections which resembled it in this particular were laryngismus stridulus, and spasmodic asthma; but in them the suddenness of the attack was not absolute, as in epilepsy. Apoplexy, hemiplegia, and sunstroke could not strictly be compared with it, as they were in reality accidents. The attacks of hysteria and of neuralgia were not nearly so sudden as those of epilepsy. Other affections were more or less progressive in their onset. The only apparent exception was angina pectoris; but this affection was of the nature of shock. All recurring symptoms coming on suddenly, such as nausea, vesical disturbances, headache, etc., were ominous, as they might perhaps be the beginning of epilepsy. The importance of this element of suddenness could not, he thought, be overrated. *Petit mal* he considered the most real, as well as the most objectionable, form of epilepsy.

Dr. Thompson then referred to the cell discharge or explosive theory of epilepsy, and quoted Hughlings Jackson in regard to it. The exhaustion of the cells of the sensorium, he thought, was the result of the discharge which had taken place. In this connection he spoke of Nothnagel's "convulsion centre," and said that if no form of epilepsy except the *petit mal* had ever been observed, he felt certain that the explosive theory would never have been proposed. In answer to the views of Jackson and Gower he would state that in every convulsive seizure a motor discharge was granted, but to say that the first event in an attack of epilepsy was a motor discharge was quite a different matter. All motor phenomena, except the voluntary, he believed, were under the control of sensory impulse, and a sudden suspension of the regulating sensory impression might result from various causes. Any irregular motor phenomena were, therefore, due to a loss of the customary sensory influence. This explained the clinical facts of epilepsy without the necessity of supposing any additional nervous force to be called into action. It was comparable to the jar imparted to an ocean steamer when by the height of a wave the propeller was lifted out of the water; the customary resistance of the latter being temporarily withdrawn, but the power which turned the screw remaining the same.

He then referred to pleuritic epilepsy, the result of the injection into the pleural cavity of weak solutions of iodine, carbolic acid, etc. In cases of this kind the face became pale, respiration was suspended, and the pulse could scarcely be felt. Spasms, at first confined to one side of the face, afterwards became general, and finally there was epileptic coma. In a number of instances death had resulted; but no lesion of the brain was discovered at the autopsy. The effects here produced were certainly not due to the therapeutical agent employed, but were the result of a quite unusual impression upon the nerves of a cavity, wholly unaccustomed to this kind of an irritation. Of a similar character were the experiments of Brown-Sequard,

who found that in guinea-pigs and some other animals section of the spinal cord, or even of one or both sciatic nerves, was followed by well-marked epileptiform fits.

Dr. Thompson considered the phenomena of epilepsy to be due to the effect of our afferent sensory impression when there was present some abnormal condition of the cells of the nerve-centres. What this condition was, he was not prepared to say, but it seemed probable to him that it was one of malnutrition. It might be asked if he would assert that all cases of epilepsy were attended with sensory impressions in the face of the well-known fact that in certain instances there were definite lesions of the brain present. The answer was, that we do not get rid of the sensory element when we enter the cranial cavity. There is a sensory, as well as a motor, aphasia. A syphilitic gumma of the brain may be as truly an excitant of sensory irritability as an external influence; and the same is true of any source of irritation in the brain. He did not hesitate to acknowledge that a motor centre could be excited by the application of an electric current after trephining the skull; but the explanation of the phenomena noted, he believed, to be in the fact of a wholly unaccustomed irritation in a centre habituated to act in response to sensory impressions. The hypothesis of a sudden impression of the ordinary sensory functions, he believed, most fully explained all the phenomena of epilepsy.

Ever since he became satisfied in his own mind that the lesion of epilepsy was to be found in the sensory, rather than the motor, centres, Dr. Thompson said he had conducted his treatment in accordance with this view; and, as a result, he had grown less skeptical than formerly of the advantages of treatment in this disease. The first thing that he arrived at was the improvement of nerve-nutrition, and by far the best agent at our command for this purpose was cod liver oil. It increased the number of blood-corpuscles more rapidly than iron, and had a greater effect upon nutrition than any other remedy. It was particularly indicated in malnutrition of the nervous system because the nerve-texture was normally richer in blood-fat than any other tissue of the body. Hence it was to be regarded as the great prophylactic in all neurotic families. In epilepsy he never failed to prescribe it as regularly as he did in phthisis. Another advantage that it had was that it counteracted in a very successful manner the debilitating effects of the bromides. Phosphorus he had also found of much service in improving nerve-nutrition, and he usually employed it in the form of the officinal syrup of the hypophosphites, with the addition of one-fifth part of dilute phosphoric acid. An important part of the treatment was, in his opinion, the total exclusion of all butcher meat for a period of two years; though poultry and fish were permissible. Animal diet, he believed, predisposed to convulsions in direct proportion to the quantity in which it was used. The tendency to convulsions in the carnivora, and the absence of this in herbivorous animals, were due in his opinion to the respective diet of each class. Another thing to be avoided was eating fast, as the too rapid mastication and swallowing of food seemed to act directly on the convulsive centre of the medulla oblongata. It was possible that the habit of eating too fast might thus induce confirmed epilepsy.

Like the great mass of physicians, he had come to

place great reliance on the use of the bromides, which so successfully control peripheric irritation. If any one doubted this, let him give thirty grains of bromide of potassium to a patient with intolerant fauces in whose case he wished to make a laryngeal examination. In the long-continued use of the remedy the great thing was to control the effects of bromism.

Dr. Thompson had found that in forty per cent. of the cases observed by him, there was persistent cortical irritation, as indicated by muscular twitching during sleep, and in this class of cases he was in the habit of employing the bichloride of mercury, and sometimes oleate of mercury by inunction. This mercurial treatment he had found a very useful adjuvant to the bromides.

He used belladonna or zinc oxide in all cases in which the attacks showed any connection with disturbances in the alimentary canal. When there was reflex irritability he employed chloral hydrate or Hoffmann's anodyne in addition to the bromides. Digitalis was used in all cases characterized by vascular disturbance, or when there was involuntary discharge of urine during the epileptic attack. The published experience of Dr. Newington, who found that hot mustard baths were very useful in acute mania by cutting short the attack and inducing sleep, had led him to employ a red pepper paste at night, (one drachm of capsicum being used to the pint of hot water for this purpose), in a certain proportion of cases. In one instance, at his college clinic, a patient who ordinarily had two epileptic attacks a day did not have a single one for some weeks after this measure was resorted to; the disease being completely arrested by the peripheral excitation thus secured. These points showed, he thought, the direction in which efforts should be made by which better results might be expected in the future, and thus relieve the treatment of the grievous burden of empiricism which it had borne so long.

Dr. PUTZEL said that from a clinical point of view he did not think that Dr. Thompson's assertion that the attack was always sudden could be maintained. It was a well-established fact that there was a certain proportion of cases in which there were prodromata often lasting two or three days, or longer, such as digestive or mental disturbances. In regard to Hughlings Jackson's views, it was simply claimed by him that there was an explosive discharge of nerve-cells in epilepsy, but he did not imply that this discharge was from the motor cells especially. In fact, Dr. Putzel could not see how, in view of his well-known opinions upon this disease, he could confine the phenomena to the motor cells, since he claimed that such conditions as hemicrania, for instance, belonged to epilepsy. Furthermore, he held that an aura which may be purely mental, may at times constitute the whole attack.

Dr. Putzel thought that in *petit mal* paralytic symptoms were extremely rare. Paralytic trouble, in his opinion, was usually met with after prolonged convulsions, and occurred as the result of the exhaustion incident thereto. Besides, he could not understand how the sensory impulse inhibits the motor, as stated by Dr. Thompson. In regard to so-called pleuritic epilepsy, it was not proved that the convulsions in the cases referred to were epileptic. They were, no doubt, epileptiform, but unless a convulsive habit was established, they could not, in his opinion, be said to

belong to true epilepsy. In the same way, he did not think that the convulsions of children in teething, the attack being merely the result of a temporary local irritation, could be called epilepsy, although they were often epileptiform in character. Belladonna he had used principally in nocturnal epilepsy, in conjunction with the bromides. He agreed with Dr. Thompson that epilepsy was a disease of impaired nutrition, and that cod liver oil was often, therefore, of very great benefit in the treatment.

Dr. WM. H. DRAPER said that as regards the pathology of epilepsy, the author of the paper did not seem to have thrown much light upon that obscure subject. He had confounded with the disease certain convulsive affections which he did not think could be regarded at all as epileptic. As Dr. Putzel had remarked, he had spoken of convulsions produced by a variety of peripheral irritations as if they were true epilepsy, and in this opinion he could not agree. In infants and others we often met with conditions in which convulsions were so easily induced, and which so readily disappeared under treatment adapted to remove the source of irritation and improve the nutrition, that he did not think that these temporary conditions could properly be compared with that grave affection which we call epilepsy.

In regard to the management, he said that he agreed with Dr. Thompson as to the treatment of the impaired nutrition which was so common with cod liver oil and tonics. In addition to improving the general nutrition it was necessary to study very carefully the peripheral irritation which produced the attack; and in a large number of cases he had found that this was to be looked for in the gastro-intestinal tract. He could not say that he agreed with Dr. Thompson as to the danger of animal food in epilepsy. On the contrary, he was inclined to think that the origination of an attack was much more likely to follow the too free ingestion of starchy food and sweets. He preferred, therefore, that his patients should use principally animal food and milk, and take a diminished quantity of the carbo-hydrates; and very good results had followed the adoption of this plan of diet.

The next most important thing was the administration of some drug having the effect of diminishing the extreme excitability of the nervous centres which was always the essential precursor of an attack of epilepsy. For this purpose, nothing was equal to the bromides. These were all the elements of a rational treatment of this disease, and yet he presumed that it was the experience of every physician present that there were certain cases in which all the measures referred to were of little real value. Bromide of potassium sometimes signally failed unless pushed to the point of producing the most profound bromism; so that the patient preferred to have fits at regular intervals rather than endure the wretched hebetude which the drug induced.

Dr. E. DARWIN HUDSON, JR., said that in epilepsy the attack was characterized by a withdrawal of mental control and unconsciousness, and that he had never met with but one case of convulsions in which consciousness was retained. He believed that in this disease there was cerebral anæmia and an explosion due to disturbance of the vascular equilibrium. From a clinical standpoint it was often difficult to say what constituted epileptiform attacks and what true epilepsy. Successive seizures produced by peripheral irritation

not infrequently seemed to eventually result in epilepsy if they were allowed to go on without interference. He agreed with the other speakers that the bromides constituted the most reliable means of treatment.

DR. THOMPSON said that he did not mean to imply that epileptic attacks have no prodromata. On the contrary, it was extremely common in his experience to meet with patients who were almost always aware of the imminence of an attack. But a prodroma was not the attack itself, and it was this that he particularly referred to when speaking of the suddenness of the affection. He had studied this matter with especial care, and his conclusion was that epilepsy is to be distinguished from all other diseases by its suddenness. In regard to Hughlings Jackson's views, he said that he never understood his statements as applying only to motor discharges; but it certainly was a fact that he particularly dwelt upon the explosion of motor cells. Instead of regarding sensory impulses as being of a stimulating character, Dr. Thompson said he was inclined to look upon these as a regulating force. Hence the study of the connection between any motor disturbance and the antecedent sensory impression, seemed to him of importance as indicating the direction in which advances in our knowledge of epilepsy were to be looked for.

In regard to confounding all sorts of convulsions with epilepsy, he remarked that Dr. Putzel and others who had spoken did not regard the convulsions of dentition as of an epileptic character; but he had compared these attacks very carefully with those of acknowledged epilepsy, and he had been entirely unable to discover any difference whatever between the two. First births, and especially when the children were males, he went on to say, gave a larger percentage of cases of epilepsy than subsequent ones, on account of the greater compression of the brain to which the infants were subjected during the process of labor. He then related a case of his own in which on account of contracted pelvis, there was great delay in the delivering of the child, and after it was born, he had been obliged to use oxygen gas for three hours in order to resuscitate it. When it was nine months old the child began to have convulsions, and these continued from time to time until its death, at the age of seven years. He studied the attacks in this case with great care, to see if there was any difference between them and the ordinary convulsions of children from dentition, and he became convinced that a more mythical distinction could not exist.

DR. DRAPER replied that in saying that convulsions were epileptiform he implied mainly that they had the form of epilepsy, but not the substance. He thought there was a great difference between these temporary seizures and the regular occurrence of seizures in true epilepsy. In the *form* of attack he was quite willing to acknowledge there was no perceptible difference.

DR. A. D. ROCKWELL read a paper on

THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY.

There were a certain proportion of cases of epilepsy which failed to receive permanent benefit from the use of the bromides, as usually employed, but which apparently completely recovered after the assistance of electricity had been invoked, in connection with the bromides; epilepsy was in this respect analogous to

chorea. Arsenic was universally acknowledged to be a remedy of the greatest value in this affection; but there are certain cases in which it failed to afford relief unless its use was supplemented by electricity. Dr. Meredith Clymer, in some excellent remarks on the treatment of epilepsy, stated that he had never heard of a permanent cure of the disease under the use of the bromides, either alone or in combination. While this might be regarded as an extreme statement, the suggestion that the best results will follow only if we call to our aid every measure that will tend to increase and develop vital power would generally, command itself to all.

It was not alone, therefore, on the theory of a special influence on the nerve centres, or over the cerebral circulation, that he employed electricity as an adjuvant to the bromides, but also because of its undoubted and powerful constitutional effects. It was a tonic, but it had both stimulating and sedative effects. In 1878 Dr. Rockwell said he had read a preliminary paper on the treatment of epilepsy by electricity, but it was since that date that he had obtained the best results with this agent. In this, as in various other forms of central disease, he almost always associated and alternated central galvanization with general faradization.

Central galvanization was analogous in its effects to the bromides; producing a profound tendency to drowsiness. In some cases sound sleep had been induced with the subject in an upright position, while receiving the current through the brain. He recalled one patient under treatment by central galvanization who was repeatedly put to sleep within a minute after the beginning of the application. In epilepsy there was a disturbance of the centres of the cerebro-spinal system. There was an hyper-excitability of the nerve-cells, which was dynamic rather than physical; and this hyper-excitability was kept in check by galvanism as readily as by the bromides.

The total number of cases in which he had employed electricity was twenty-eight, but ten of the patients had abandoned the treatment too early to allow any conclusions to be drawn from them. In three cases the electricity seemed in no way to assist the action of the bromides. In eight cases the use of electricity was attended with a certain amount of benefit, varying in different instances, but not to such a marked degree as in the remaining seven cases. In two of these the patients recovered entirely, and in the other five there was very decided improvement.

Among the conclusions arrived at by Dr. Rockwell are the following:

Electricity possesses a certain value in the treatment of epilepsy.

It is not claimed that it can alone cure the disease, but in many instances it is of great service as an adjuvant to the bromides.

In the nocturnal variety its good effects are especially marked.

The methods of application should be central galvanization and general faradization.

It is important that the agent should be administered with great care. Anything like a shock should be avoided, and the applications should not be continued too long at a time.

The treatment should be kept up, with suitable intermissions, for two years after the last occurrence of epileptic symptoms.

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THE CAUSE OF CONTRACTURES IN LATERAL
SCLEROSIS OF THE SPINAL CORD.

THE symptoms by which primary, amyotrophic, lateral sclerosis are principally known have been well described by Charcot in his masterly treatise, and consist in a progressive paresis, first in the superior, then in the inferior members, with slowly-developing atrophy of the affected muscles, complicated, in the second stage of the disease, by contracture of those muscles. The attitude of the arm, forearm, and hands is very striking. The arm is applied to the body, and the muscles of the shoulder resist when any attempt is made to separate this member from the trunk. The forearm is semi-flexed and in pronation, and it is impossible to bend it without pain; the hand is rigidly flexed on the wrist, and the fingers curved into the palm of the hand. Subsequently, the same kind of spasmodic rigidity affects the lower extremities.

Vulpian, who has been conspicuously successful in wrestling with the great problems of nervous physiology, has endeavored, in a work just published,¹ to furnish an explanation of the pathogeny of this contracture. It is a symptom which appears almost invariably when the lateral tracts in their posterior parts are the seat of sclerosis, whether this be primary or secondary (descending degeneration from encephalic lesions). It is also very commonly witnessed in multiple sclerosis, and in primary sclerosis of the posterior columns, complicated with sclerosis of the contiguous portions of the lateral columns.

In answer to the question: "Is it the *destruction* of these parts of the lateral columns which determines the muscular spasms, the contracture, or is it the *irritation* of these parts?" Vulpian replies: "It is not their destruction." In numerous instances, he has practised in animals ablation of these columns, in their entirety, upon a limited portion of the cord. The animal (a chloralized dog) has come out of the anæsthesia of the operation paralyzed in the posterior extremities, which were completely flaccid, and, till the time of its death, there was never any contracture.

¹ Vulpian. "Maladies de la Moelle," t. II, Paris, 1887.

Generalizing from these experiments, Vulpian concludes that simple loss of function of these pyramids in man will not cause contracture, but that this symptom must be due to the irritation, of which the lateral columns are the seat in cases of sclerosis of these regions of the cord.

Some striking experiments have given support to this view. In dogs profoundly chloralized, he has exposed the spinal cord in the dorso-lumbar region to the extent of two to three centimeters, and carefully cauterized the lateral tracts with a crayon of nitrate of silver, or a knitting-needle heated in the flame of a spirit-lamp. When the experiment was well made (that is, when the cauterization was limited to one lateral column), he always observed contracture of the posterior limb of the corresponding side. It is true that this contracture did not generally last but two or three days, but this could be explained in this way: Experimental irritations have not the persistence of morbid irritations; if they are of feeble intensity, they are soon extinguished; if they are of great intensity, they rapidly determine a destruction of tissue, which prevents their effects from lasting. In Vulpian's experiments, the spasmodic rigidity was always followed by paralysis, more or less complete. The appearance of this paralysis at the moment when the lateral column which has been cauterized begins to undergo softening proves, Vulpian adds, that the contracture is not due to the cessation of action of the part cauterized, but to the process of irritation there set up. An argument leading to the same interpretation is furnished by the fact that the contracture does not appear as soon as the animal begins to come out of the chloral sleep, as would be the case if the spasm had for its cause the abolition of the functions of the lateral column. It is only at the end of two or three hours after the return of the animal to complete consciousness that the contracture manifests itself.

These considerations lead to the conclusion that the contractures are due to the irritation, of which the lateral columns are the seat.

Are these spasmodic phenomena the direct results of irritation of the motor fibres of the lateral conducting tracts of the cord? If that were so, sclerosis of these motor conduits should be constantly complicated with a state of spasmodic contraction of the muscles of the members which receive their nerves from the altered regions of the cord. Unfortunately for this view, many cases of symmetrical lateral sclerosis have been observed and published, in which there was little or no contracture of the muscles of the members, or of the trunk. Even in cases where the superior extremities were contracted in a marked degree, the inferior members have often been found free from spasm, and yet the autopsy has proved that the pyramidal regions of the lateral columns were altered below the points of origin of the nerves of the lower extremities. These facts seem to militate against the view that the contractures are due simply to irritation of the motor fibres in the lateral conducting tracts.

These considerations have compelled Vulpian to regard the irritation which causes the contractures in symmetrical lateral sclerosis as of a reflex kind. It has been shown that the posterior region of the lateral columns contains excito-motor nerve-fibres, connected with both horns of gray matter, and this part of the lateral columns seldom escapes participation in the morbid process in primary sclerosis of those columns. Even the pyramidal tracts of the lateral columns contain a small number, though variable, of excito-motor fibres. Moreover, the posterior horns of gray matter, on which borders the portion of the lateral columns which undergoes alteration in symmetrical lateral sclerosis, is rich, both in sensory and excito-motor elements. Of these three groups of excito-motor and sensory elements, which has the principal rôle in the production of contracture? There is every reason to believe, says Vulpian, that the irritation starts in certain of the sensory or excito-motor elements of the posterior cornua. If the contracture were due to irritation of the excito-motor fibres of the lateral columns, it should be a constant phenomena in sclerosis of those tracts, which cannot be affirmed. If it were due to irritation of the postero-cortical layer of the lateral columns, it should oftener be witnessed in sclerosis of the posterior columns, while, in fact, contracture is of exceptional occurrence in this disease.

The explanation of the contracture, then, is this: "In cases where the irritation of the lateral columns propagates itself to the excito-motor or sensory elements of the posterior horns, the persistent excitation of these elements provokes the continuous activity of certain groups of cells of the anterior horns, and thus gives rise to tonic contractions of the muscles which are supplied by nerves taking their origin in those cells.

"This physiological interpretation seems to harmonize with the results of the examination of the medullary reflex function in patients affected with lateral sclerosis, and in whom contractures tend to manifest themselves, or already exist. The reflex function in these cases is always exalted, as is shown by the exaggeration of the reflex movements provoked by the percussion of the tendons (the tendo-Achillis, the patella-tendon, etc.), and it is further exemplified by the reflex trepidation of the foot when flexed on the leg, and by the spasmodic tremblings which manifest themselves, under slight provocations, in different parts of the body."

A MASSACHUSETTS LAW FOR REGISTRATION IN DENTISTRY.

OUR readers have already been informed that the Committee on Public Health of the Massachusetts Legislature reported a bill providing for the establishment of a Board for Registration in Dentistry — a measure similar, in many respects, to the one which was passed a year or two ago with regard to practitioners of pharmacy.

The Dentistry Bill was carried successfully through the House, but, on reaching the Senate, for some reason, presumably because it was not understood by the members, it was defeated without much discussion, on its passage to a third reading, by a vote of 13 to 8, which vote gave rise to the statement in our last issue. That this action was taken somewhat in the dark was shown by the fact that a motion to reconsider received unanimous sanction the following day, when, after a moderate discussion, the bill was passed. According to the provisions of the bill, a Board of five examiners is to be appointed by the Governor and Council, to consist of dentists of good repute, who are not connected pecuniarily with any dental college. This Board is to register the name of every person engaged in the practice of dentistry within the Commonwealth, such practitioners to make oath to the fact before a notary public, and then to be allowed to practise under the license of the Board. All other persons desiring to practice dentistry are to be examined either orally, or by written test by the Board, and, if found qualified, to be certified as legally authorized to practice. The original proposition, to admit to practice all graduates of dental schools, on presentation of their diplomas, is thus seen to have been modified in the direction of a healthy stringency, by requiring actual knowledge, in the place of reputed knowledge.

All persons practising dentistry otherwise than according to the preceding regulations are punishable by fine or imprisonment, except that practising physicians, graduates from the medical department of any incorporated college, are exempt from the provisions of the act.

A somewhat similar bill was passed by the Legislature in 1882, but was found to conflict with the charter of the Massachusetts Medical Society, in abridging the privileges of practice conferred on its members; and, after that defect had been corrected, the bill was vetoed by Governor Long, it is said because it required applicants for registration to be graduates of some college, and, therefore, was held to savor of intolerance and exclusiveness.

The chief defects of the present bill, which we nevertheless regard as, on the whole, a desirable and proper one, are, first, that the protection of the public is interfered with by the inclusion within the pale of registration of all existing practitioners, in whom any amount of incompetence and ignorance is covered up by the fact of their being actually engaged in dental practice at the time the bill becomes law; so that it will be a generation before the existing incompetent dentists are eliminated from the profession, and the public is protected from their blunders.

Again, the expression, "engaged in the practice of dentistry," is capable of great latitude of interpretation; many a young lawyer and doctor are said to be in practice when they have simply put out a sign, and have never had a case. What is to hinder a man from making claim, on the same ground, to being in dental prac-

tice. Or, indeed, since the interval between special acts of practice may be quite indefinite, how can any one who has ever pulled a tooth be refused registration if he apply for it? When registration was begun in England, the term, "*bona fide* practice," was used, but even this was found to be too vague to serve as a satisfactory criterion.

We have heard the opinion expressed by men prominent in this speciality, that they would gladly see a registration bill which should apply to dentistry as a branch of general medicine, but that it was illogical to apply a supervision to the special branch, which was denied to the wider and more important whole to which the part belonged. Indeed, this argument was the strongest one that was urged against the measure in the debate in the Legislature, although it is true that the bill implies a distinct recognition of the relation of dentistry to general medicine in the provision that graduates in medicine are, *ex facto*, authorized to practice the specialty.

Whether the now accomplished registration laws for pharmacy and dentistry shall pave the way to a general medical registration, is a question that time alone can solve. But when the public comes to recognize the fact that the medical profession has no interest in such a measure comparable with the interest of the public itself in its own protection, it may arrive at the conclusion that it is as important to have a guarantee of the competence of the surgeon who operates on any other organ, as of him who operates on the teeth; and that it is a very partial protection to life to scrutinize the dispenser of drugs, while no guarantee whatever is required that the person who directs what shall be dispensed knows anything about the nature of the drugs he prescribes, or the diseases he assumes to treat.

When our legislators, having fortified the public against these minor dangers, shall address themselves to the more imminent one, they will find the members of the medical profession, like other good citizens, ready to approve their action; but there is no reason to believe that the great body of self-respecting physicians will ever take the initiative in a step where their motives are so liable to misinterpretation by the ignorant and the vicious.

THE BENEFITS OF A MEDICAL EDUCATION.

THE season of commencements is near at hand, in fact, has begun in some of the medical schools, and the diploma mills are under full blast. Soon the newly constituted doctors and doctresses of medicine, with the long-coveted and sometimes hard earned parchment, will press into the serried ranks of the profession.

We are not of the number of those who have nought but discouraging words for students of both sexes who, at the numerous medical schools throughout this great country are grappling with the difficul-

ties of medical study. With large numbers, the choice of this, in preference to every other learned profession, was a deliberate one — it was the expression of a conviction that the physician's is the most noble, liberal and beneficent calling. We do not, moreover, lose sight of the fact that many enter our medical colleges for the discipline and for the knowledge obtained through a thorough study of medicine in its collateral as well as in its essential branches. This discipline and this knowledge are of the utmost practical value. The fact is now recognized that a medical education is both a scientific and a liberal education. Without something more than a superficial knowledge of those primary branches which underlie what is known as the study of medicine, we do not believe that anybody at the present day, can be said to be liberally educated.

There is then a point of view from which we would say that the greater the number who (with ability to master it), enter on the study of medicine, the better. We would fain see society educated up to the plane of the average physician. It would not be the millennium, but it would be a great progress.

But it is another thing when medicine is studied as a means of earning a livelihood, and not cultivated, like virtue, for its own sake. It has been again and again said that ours is a crowded profession, and there are nowhere any good "openings." The newly equipped graduate who would win his bread and butter from the "practice of physic," must to a large extent obtain patronage to the detriment of his fellow laborers in the profession.

It is still the struggle for existence, in which the law of survival of the fittest has a general applicability. Many must be content with comparative poverty, while others will seem to their grudging confrères always to have more than their share. But these inequalities are inevitable to the human lot, and not even the advantages of superior attainments will always secure to the eager aspirant the "lion's share," if his competitor has more brazen assurance, and a more winning way with the public.

But the country is vast, population is ever on the increase, and multitudes of physicians are needed; the ranks of the profession are constantly being thinned by death and by other causes, and every medical student has a right to feel that somewhere there will be room for him where he will be welcome.

And, at any rate, he should rest assured that the culture and training which he is acquiring is its own reward. He may be compelled to ask his support of a community which encourages quackery more than it encourages science, and is more impressed by a fine equipage and all that, than by brains and talent, a community that fosters superstitions like hot-house plants; but he who has gone deeply into the science, discipline, and lore of medicine, will feel that he has found the only corrective and antidote to much of the nonsense that is rife; he will have the satisfaction of knowing that he has attained to a higher level, and this is no mean satisfaction.

GAS AND KEROSENE STOVES FOR HEATING APARTMENTS.

WE publish in another column a letter from a careful observer in regard to the heating of apartments by gas and kerosene stoves, which is a matter of no little importance.

Gas and kerosene stoves are used to a considerable extent for cooking and also for the heating of small apartments. For the former purpose they are mainly used in summer, in sea-shore cottages and private residences and at a time when windows are open and free ventilation is secured; for the latter purpose they are used in cold weather, most commonly in small rooms with little or no ventilation.

One gas stove consumes more oxygen than a dozen men. These stoves are made both with and without stove-pipes for connection with a chimney, and they can be used in rooms having no connection with a chimney. Their effect upon the air is bad enough in either case, and in the latter positively dangerous.

A certain firm in one of our cities, advertising such stoves, states as one of their advantages, that they can be used either with or without the stove-pipe connection. To us, the possibility of using such stoves without the stove-pipe connection, should be reason enough for condemning them.

MEDICAL NOTES.

— Professor Sweifel, of Erlangen, has received a call to Leipsic, and Dr. Mikulicz, of Cracow, to Königsberg, in Prussia.

— The late ceremonies in celebration of the ninetyeth birthday of Kaiser Wilhelm have not failed to redound to the glory of his physicians, to whom the public is ready to ascribe much of the credit of the patient's advanced age and robustness. The *Court Journal* gives a picturesque account of the physician always on duty in the room of the Emperor. The latter suffers from a weak heart, the inaction of which causes his frequent falls. This physician, we are told, while the Kaiser sleeps, keeps his fingers on the pulse, and when he perceives any indication of greater weakness, wakes the Emperor and administers strong stimulants. The picture should offer suggestions to the cartoonist.

— A newspaper dramatic critic remarking upon the expressions to be heard among a dispersing audience, after a performance of *Frou Frou* by Mme. Bernhardt; "How realistic her death scene!" and struck by the fact that probably scarcely any of the audience knew what they were talking about, asked an old physician whom he met in the lobby what he thought of it. The latter replied: "Well, it was effective. Is n't that quite sufficient? I never saw anybody die that way; but I presume Mme. Bernhardt may have. I don't believe, however, that our great actors and actresses study models of expiring people in the hospitals, as they are said to in popular legends. No two persons

die alike any more than they live alike, and if Mme. Bernhardt were to endeavor to be realistic rather than artistic, my impression is that the spectators would say that she did not know how to die correctly."

BOSTON.

— The Faculty of Harvard College has promulgated the extraordinary rule that in all cases in which the college has heretofore required a physician's certificate to the fact of illness of absent students, such certificates must specify the *cause* of illness in order that the faculty may be able to judge of the validity of the excuse for absence! The faculty may not be aware that a similar attempt to require information as to the cause of illness of government employes at Washington, was, as we informed our readers last January, resisted by one of the most prominent practitioners of that city and that his refusal to comply was supported by the head of the department, Secretary Bayard. The faculty makes the double mistake of requiring the physician to betray his professional confidences and of assuming a power of supervision over a medical opinion as to the severity of the disease, or the requirements for its treatment.

— On the arrival of the Steamship *Kansas*, from Liverpool, at East Boston, last week, two stowaways were found, who with less wisdom than is usually shown by their kind, had hidden themselves in the lower hold whence the hatches prevented them from escaping, as they hoped to do the first day out. They took no food on board with them, and consequently got nothing whatever to eat during the thirteen days of the ship's passage, except a little water which trickled down the inside of the iron ship. They made vain attempts to kill the rats which they could hear about them, but which in the utter darkness they failed to do. The lads, who were eighteen or nineteen years old, were in a state of extreme inanition when discovered, but with care rallied again.

— A complimentary banquet was given to Mr. Theodore Metcalf at the Revere House, Tuesday evening, March 29th, by the Boston Druggists' Association in commemoration of his completion of a half-century of an active business career as a Boston Druggist. Speeches were made by Dr. Oliver Wendell Holmes, William Warren, Mayor O'Brien and others.

NEW YORK.

— The coffee-booths erected by the ladies of St. Luke's Church, of Brooklyn, which have been doing a very good work during the past winter, have now been closed for the season. The receipts, which were \$65.77 less than the expenses, amounted to \$1,467.50, and there were 104,033 meals served at a cost of one cent each.

— There is said to have been quite a large amount of illness during the winter among those occupying quarters in the Capitol building at Albany, from the Governor down; and it certainly seems strange that the Legislature, which is generally supposed to look pretty sharply after its own interests, has not long

since taken efficient measures to secure a satisfactory sanitary condition of the premises. It will, perhaps, be remembered that a year ago, on account of the numerous complaints that reached them, the State Board of Health directed its consulting engineer, Prof. James T. Gardner, to make a thorough investigation of the buildings, and that he afterwards prepared a very elaborate report setting forth the existing defects and the measures which he thought necessary to remedy them. But, notwithstanding the fact that this was published in the form of a very readable pamphlet, showing how even Senators and Assemblymen do not escape the bad effects of sewage-contaminated air and poor ventilation, the Legislature has never taken any action in regard to the matter.

Miscellaneous.

THE MEDICAL NEWS ON THE HOLYOKE SMALL-POX CASES.

THE *Medical News*, March 19, 1887, says, in its editorial columns: "Dr. Abbott, of the Massachusetts Board of Health, reports the results of his investigation into the origin of recent cases of small-pox among the workers at the paper-mills at Holyoke. He traces the cases to imported linen rags that had passed through the New York Custom House, and were marked 'disinfected.' This fact may be expected to arouse attention to the present system of treating foreign rags, and to reopen the discussion of their fumigation at the seaports, which, last year, gave the Treasury Department so much trouble."

We fear some one has been trifling with the *Medical News*, the only correct statement in the above being the one that Dr. Abbott "reported the results of his investigation;" and "this fact" not being a fact at all, we need not expect attention to be aroused, etc. The Patent Disinfecting Company dies very hard. An accurate statement of the results of the investigation of the Holyoke small-pox cases may be found on page 243 of this JOURNAL, March 10th, to which may be added the statement: The two girls who were attacked worked in a room directly over the duster in which both domestic and foreign rags were dusted.

THE MEDICO-LEGAL ASPECTS OF SKIN-GRAFTING.

A SUIT has lately been before the courts of Atlanta, Ga., in which, however, it may have been based on private and personal grounds, rested ostensibly on the claim for damages done by a physician in taking from a boy, with the latter's consent, pieces of skin from the arm for grafting. The facts as given by the *Atlanta Medical and Surgical Journal*, are as follows:

"On August 30, 1886, in the presence of Drs. Hardon, Westmoreland and Howell, Dr. Henry Wile, of this city, proposed to a boy of thirteen years to submit to the removal of some small skin-grafts from his arm to be placed upon an extensive ulcerated surface on the head of his cousin, a little girl somewhat younger, whom he had accompanied to the office.

The boy readily consented, and minute grafts were excised without causing him any inconvenience.

"In the afternoon of the same day, the father of the boy went to the office and charged Dr. Wile with having cut 'his son's arm to pieces.' He subsequently swore out a warrant charging him with assault and battery; whereupon Dr. Wile waived examination and gave bond in the sum of two hundred dollars for his appearance at the City Court.

"The trial was before Judge Van Epps, without a jury, and after reviewing the facts as above given, the Judge stated that the boy had more than ordinary intelligence and discretion, and that a child of his age, under such circumstances of intellectual development, could commit crime and be punished according to law. He considered, therefore, that he had a right to give his consent, so that no crime was committed, and the case was dismissed."

ON THE TREATMENT OF NERVOUS HEAD-ACHE.

"AFTER a number of trials," says Professor Arnold,¹ of Baltimore, "with various remedies which stand in repute for the relief of nervous headache, I give now the preference in the neurasthenic variety to a combination of ether and tincture of cannabis indica, in doses of twenty drops of the former and ten of the latter. Sometimes these remedies act better after a good night's rest has been obtained from a full dose of chloral."

THE PEABODY IMPROVED DWELLINGS TRUST OF LONDON.

THE compatriots of the distinguished philanthropist whose good works live after him in so many different quarters of the globe, cannot fail to be interested in the effort which he made to secure more sanitary dwellings for the poor of London. The twenty-second annual report of the trustees of the Peabody Donation Fund, as reviewed by the *Lancet* is satisfactory, whether viewed from a financial, social, or sanitary point of view. The half million of money given and bequeathed by Mr. Peabody between the years 1862 and 1873 has by the accumulation of rent and interest very nearly doubled itself, for on December 31st last it amounted to £910,668. That the object of the donor has been faithfully carried out is evident from the fact that by the end of last year the trustees had "provided for the artisan and laboring poor of London" 11,150 rooms, without counting bath-rooms, laundries, and washhouses, and that these rooms were occupied by a population of 20,228 persons; this shows an increase of 12,431 upon the number in residence at the end of 1876, ten years before. The various buildings contained 5,014 separate tenements, including 74 of 4 rooms, 1,782 of three rooms, 2,350 of two rooms, and 808 of single rooms; the average rent of each tenement being rather more than 4s. 9d., and of each room rather less than 2s. 2d. It is stated that the average weekly earnings of the head of each family in residence at the close of the year was rather less than 23s. 10d. The report contains the usual figures bearing upon the vital statistics for last year of the population of more than twenty thousand persons inhabiting those buildings. The birth-rate was

¹ Medical and Surgical Reporter, February 26, 1887.

equal to 42.4 per 1,000, exceeding by 10 the mean rate for the whole of London. This high birth-rate is evidence of the abnormal age constitution of the population, which contains an exceptionally large proportion of young adults, and consequently of children, and necessarily a very small proportion of elderly persons. The death-rate among this population including, as is stated in the report, the deaths of those residents who were removed to hospitals, was equal to 19.3 per 1,000, which is 0.6 below the mean rate for the whole of London. Bearing in mind that this population belongs exclusively to the working classes, and further that its exceptionally large proportion of young children more than counterbalances the effect of its small proportion of elderly persons, this death-rate may be taken to afford evidence of the sanitary condition of the residential population of these buildings. It is especially satisfactory to learn that in this working class population housed in improved dwellings, the rate of infant mortality in 1886 did not record 149 per 1000 registered births against 958, the mean rate in the whole of London.

INDICATIONS FOR THE USE OF NITRO-GLYCERINE.

DR. TRUSSEWITSCH, in an instructive paper on the use of nitro-glycerine published in the *St. Petersburger Medicinische Wochenschrift*, and reproduced in summary in the *Lancet*, February 19th, points out that the value of this drug in various affections—angina pectoris, migraine, and neuralgia (which he describes as angioneuroses), as also in sea-sickness, some forms of anæmia, faintness, palpitation, and other diseases—depends upon the existence of an irregular distribution of blood, which condition may be inferred from a certain degree of pallor of the skin, especially of the face, often coexistent with a weak pulse and a small rigid radial artery, which frequently is situated at some depth. When on the other hand, headache and neuralgia occur in patients with chronic congestion of the subcutaneous veins of the face, nitro-glycerine is to be avoided; and similarly it is of no use in asthma, when the face is reddened in consequence of emphysema. If, however, a pale face exists with angina pectoris, migraine, giddiness, shock, toothache, or sea-sickness, the best results may be looked for by giving nitro-glycerine. The regulating effect of the drug exercises an influence over the congestion of internal organs similar to that brought about by bloodletting; and in these congestions, whether of lung, brain, or kidney, when they are of a temporary character, the pulse is generally found to be slow and of low tension—a fact which, as the author remarks, is sufficiently well known in reference to the fever-free periods of acute hyperæmia of the lung and kidney. Dr. Trussewitsch lays down as a rule that the condition of the pulse is the best indication for the employment of nitro-glycerine, and the most trustworthy guide as to the dose with which to commence the treatment. The smaller the radial artery is, the more rapidly it dilates under the action of the drug, and the less the secondary effects produced; on the other hand, the fuller the pulse with a distended radial artery, the less it is affected; and finally, the softer the artery, with a weak pulse, the greater the secondary, and the less the general effects. Single-drop doses of the 1

per cent. solution are sufficient in cases of small pulse, but with a full pulse it will be found that the full effects cannot be produced with less than two drop doses. When there is a soft artery with a weak pulse, subnormal doses only should be given—a quarter to half a drop. After the trial dose is given, the patient's sensations of pulsation and pain in the head, as well as the distension of the radial artery under the finger of the physician, will be the guides for increasing the dose. The author finds that the best modes of administering nitro-glycerine are the simple dropping of the solution on the tongue, and by means of tablets; much less satisfactory results were obtained when given mixed with water.

Correspondence.

FLOATING KIDNEY.

HARVARD MEDICAL SCHOOL, March 27, 1887.

MR. EDITOR,—At the close of his exceedingly interesting paper in your last number, on what proved to be a floating kidney, Dr. F. C. Shattuck asks, when did his patient's kidney first become movable. He points out that it could not have acquired a mesentery (more properly a meso-nephron) suddenly, and that the symptoms were first noticed when the young man was only eighteen.

It seems to me that there is a radical defect in the classification of floating kidneys, which should be divided into those with a meso-nephron, presumably congenital; and into those without one, presumably acquired. The presence of a meso-nephron is decidedly rare. The usual story is that through a strain, tight lacing, or the absorption of the fat around the kidney, that organ becomes loose and slides about behind the peritoneum without acquiring a meso-nephron. I presume it is possible, especially if the kidney is enlarged by a morbid growth, that one should be formed. It is a pity that in the report of the autopsy there is no mention of the origin of the renal artery, for if it came from some unusual source, this, in conjunction with the presence of the meso-nephron and the youth of the patient, would make it almost certain that the abnormality was congenital.

I find in my notes a brief account of a case which I saw in the dissecting room at Bowdoin College in 1873. The left kidney lay in the pelvis. The main artery came from the left common iliac, another came apparently from one of the mesenteric vessels, but as the specimen had suffered at the hands of the students before I saw it, I did not succeed in tracing it. There was a regular meso-nephron, but I was told that when found the kidney was not movable. I suppose there were peritoneal adhesions that fixed it. In this case the peculiarity was undoubtedly congenital. It is interesting as showing, if the statement made to me was correct, that a floating kidney may become a fixed one. Possibly the adhesions may have occurred very early. Very truly yours,

THOMAS DWIGHT, M.D.

A PROPOSITION TO TRANSLATE AND PUBLISH THE MEDICINE AND HYGIENE OF THE TALMUD.

DAYTON, OHIO, 110 East 2d Street, March, 1887.

TO THE MEDICAL PROFESSION,—Ever since the publication of my address on "Jewish Hygiene and Diet, the Talmud, and various other Jewish Writings, heretofore Untranslated," delivered before the American Medical Association in 1884, at Washington, D. C., I have constantly been urged by the profession to translate and publish the Medical and Hygienical portion of this "wonderful" com-

pilation, the Talmud. I therefore beg to state to the profession at large, that I have concluded to translate and publish from the Talmud everything relating to medicine, provided, that prior to the undertaking I can receive one thousand subscribers for the book, and such subscription may be addressed to me in the following words:

I, the undersigned, agree to take one (or more) copy of the Talmudic Medicine of Dr. von Klein, which shall not exceed \$5.00 in cost for five hundred octavo pages, or at \$1.00 per each hundred pages, payable at delivery.

Under no other circumstances will I ever undertake this labor, which must be traced from hundreds of thousands of copies, and which has heretofore not been accomplished by any living man. No more copies will be printed than the number subscribed for, and fifty extra copies for distribution to the principal medical journals for review.

CARL H. VON KLEIN.

APARTMENT-HEATING BY GAS AND KEROSENE STOVES.

SAVANNAH, March 17, 1887.

MR. EDITOR,—Gas stoves, and kerosene stoves, when used to cook light meals, are to some extent a nuisance—more especially to one's neighbors—but may readily be tolerated. When used to furnish a permanent supply of heat, they can rarely be sanctioned. I should like to mention a little experience of my own, in Savannah, where this method of heating offices is becoming popular.

Occupying, for a part of the day, a small room, containing 1,100 cubic feet of air, I introduced a small kerosene stove for warmth. The heat yielded was sufficient to raise

the temperature of the room about eighteen degrees, which served my purpose sufficiently well. I had to stand some odor; but otherwise, I did not experience any personal discomfort from the peculiar atmosphere. One evening, however, I saw that the reading-lamp was dim; the flame had shrunk to one-half of its usual size; thinking that the housekeeper had neglected it, I carried it into the entry, but was surprised to find it burning brightly. Placed in the room, it again burnt low; opening the window relieved the difficulty. The same thing occurred on another evening, when, having with me Wolpert's air-testing apparatus,¹ I found that the amount of carbonic acid in the air had reached sixty-seven parts per ten thousand, the normal amount being three or four parts.

This numerical statement is only a fair approximation to the truth; but may be regarded as near enough to be of practical importance. It is not at all surprising that such an effect is produced by a pair of burners, each four inches long, generating as much CO₂ as eight or ten common lamps. In a well-built house with tight doors the effect might be doubled.

I have in mind the case of an elderly Boston school-teacher, whose health has been gradually declining under the combined influence of school-room air, protracted colds, and a kerosene stove in her sitting-room. The products of combustion besides CO₂, may or may not have an injurious effect, but the enormous waste of oxygen, by itself, must have its effect on health.

It may be that the public need some warning upon this point, which your JOURNAL is in a position to give.

Respectfully yours, D. F. LINCOLN, M.D.

¹ Described by Dr. S. W. Abbott in the Medical and Surgical Journal, August 17, 1886.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 19, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	734	291	19.46	19.46	2.24	8.26	3.92
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	290	112	12.24	18.70	.68	7.14	1.56
Chicago	745,108	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	140	48	12.07	9.94	.71	2.84	1.42
Boston	400,000	193	49	9.18	14.58	1.08	2.70	1.62
New Orleans	242,750	85	29	8.26	—	3.54	2.36	1.18
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	70	23	4.29	—	—	—	—
Pittsburgh	210,000	97	43	13.39	10.31	2.06	6.18	—
Montreal	210,000	—	—	—	—	—	—	—
Milwaukee	170,000	65	25	6.16	13.86	—	30.8	—
Providence	121,000	59	20	20.28	25.38	1.69	1.69	11.83
Richmond	100,000	27	3	11.11	3.71	7.42	3.71	—
New Haven	80,000	32	4	15.65	28.17	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	28	9	7.14	11.71	—	—	3.57
Portland	40,000	18	4	11.11	—	—	—	—
Worcester	68,383	26	10	15.40	11.55	—	11.55	—
Lowell	64,051	34	15	26.46	12.70	2.94	—	11.76
Cambridge	59,660	20	2	5.00	25.00	5.00	—	—
Fall River	56,863	27	8	14.80	—	7.40	—	—
Lynn	45,861	17	4	5.88	5.88	—	—	—
Lawrence	38,825	14	2	7.14	—	—	—	—
Springfield	37,577	17	5	18.04	18.04	—	5.88	—
New Bedford	33,393	18	5	11.11	22.22	—	—	—
Somerville	29,992	7	1	14.28	71.40	—	—	—
Salem	28,084	13	4	—	—	—	—	—
Holyoke	27,894	7	5	28.46	14.28	—	—	14.28
Chelsea	25,709	10	2	—	20.00	—	—	—
Taunton	23,674	6	0	—	—	—	—	—
Haverhill	21,795	5	1	—	20.00	—	—	—
Gloucester	21,713	10	3	10.00	40.00	—	10.00	—
Brockton	20,783	5	1	20.00	20.00	—	—	—
Newton	19,759	9	2	—	22.22	—	—	—
Malden	16,407	10	2	—	20.00	—	—	—
Fitchburg	15,375	10	1	—	10.00	—	—	—
Waltham	14,609	4	2	—	50.00	—	—	—
Newburyport	13,716	10	1	—	—	—	—	—
Northampton	12,896	7	1	—	14.28	—	—	—

Deaths reported 2,027: under five years of age 738; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 292, acute lung diseases 333, consumption 329, diphtheria and croup 106, measles 53, diarrheal diseases 33, typhoid fever 24, scarlet fever 22, cerebro-spinal meningitis 14, malarial fevers 14, whooping-cough 11, erysipelas seven, puerperal fever six, small-pox two. From typhoid fever, Baltimore four, Pittsburgh and New York three each, Boston, Portland and Lowell two each, Brooklyn, New Haven, Charleston, Fall River, Lynn, Lawrence, Springfield, New Bedford and Brockton one each. From cerebro-spinal meningitis, New Haven four, Boston, Baltimore, Pittsburgh, Milwaukee, Worcester, Lowell, Fall River, Springfield, Somerville and Holyoke one each. From scarlet fever, New York 13, Boston, Baltimore and Providence two each, Brooklyn, District of Columbia and Lowell one each. From malarial fever, New York 10, Baltimore two, Brooklyn and New Orleans one each. From whooping-cough, New York five, Brooklyn two, Boston, Baltimore, District of Columbia and Milwaukee one each. From erysipelas, New York four, Brooklyn two, Providence one. From puerperal fever, Brooklyn, Boston, District of Columbia, Pittsburgh, Providence and New Bedford

one each. From small pox, New York and Brooklyn one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,086,673 (population of the State 1,941,465) the total death-rate for the week was 22.68 against 20.27 and 18.55 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending March 5th, the death-rate was 21.3. Deaths reported 3,776: infants under one year of age 865; acute diseases of the respiratory organs (London) 459; measles 152, whooping-cough 95, scarlet fever 41, diarrheal diseases 34, diphtheria 31, fever 31, small-pox (Manchester) three.

The death-rates ranged from 11.6 in Bolton to 31.2 in Manchester; Birmingham 22.6; Bradford 22.3; Halifax 19.8; Hull 21.7; Leeds 21.3; Leicester 19.0; Liverpool 23.5; London 20.2; Newcastle-on-Tyne 24.9; Nottingham 17.5; Sheffield 19.8; Sunderland 15.3.

In Edinburgh 22.2; Glasgow 25.7; Dublin 28.1.

The meteorological record for the week ending March 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Mar. 19, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 13	29.795	38.0	44.0	33.0	71.0	50.0	68.0	63.0	N.	S.	W.	10	5	9	O.	O.	O.	—	—
Monday, ... 14	29.537	38.0	50.0	31.0	64.0	43.0	59.0	56.0	N.W.	W.	N.W.	10	14	26	C.	C.	C.	—	—
Tuesday, ... 15	29.429	26.0	34.0	18.0	72.0	48.0	63.0	61.0	N.W.	N.W.	N.W.	18	22	18	N.	F.	F.	—	—
Wednes., ... 16	29.349	29.0	36.0	21.0	64.0	43.0	72.0	60.0	N.W.	W.	N.W.	18	10	13	O.	O.	O.	—	—
Thursday, 17	29.286	33.0	42.0	25.0	67.0	49.0	72.0	63.0	N.W.	W.	N.	14	11	11	O.	O.	O.	—	—
Friday, ... 18	29.301	38.0	44.0	28.0	88.0	65.0	89.0	81.0	N.W.	N.W.	N.W.	13	11	11	N.	O.	R.	—	—
Saturday, 19	29.551	37.0	44.0	34.0	89.0	88.0	97.0	91.0	N.	E.	N.	10	8	11	O.	O.	R.	34	.15
Mean, the Week.	29.464	34.0	42.0	27.0				68.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 19, 1887, TO MARCH 25, 1887.

GRAY, WM. W., captain and assistant surgeon. Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

EDIE, GUY L., first lieutenant and assistant surgeon. Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

POINDEXTER, JEFFERSON D., first lieutenant and assistant surgeon, (recently appointed). Ordered for temporary duty at United States Military Academy, West Point, N. Y., relieving Captain Richard W. Johnson, assistant surgeon, who will return to his proper station (Fort Adams, R. I.) S. O. 62, A. G. O., March 17, 1887.

REYNOLDS, FRANK, captain and assistant surgeon (retired). Died March 3, 1887, at Oakland, Cal.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 26, 1887.

CORDEIRO, F. J. B., assistant surgeon. Detached from the Navy Yard, Boston, and placed on waiting orders

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING MARCH 26, 1887.

BAILLACHE, B. H., surgeon. To proceed to Mobile, Ala., Pensacola, Fla., Ship Island, Miss., and New Orleans, La., as inspector, March 14, 1887.

LONG, W. H., surgeon. Granted leave of absence for seven days, March 16, 1887.

GOLDSBOROUGH, C. B., surgeon. Granted leave of absence for thirty days, March 14, 1887.

DEVAN, S. C., passed assistant surgeon. To proceed to Tacoma, W. T., as inspector, March 19, 1887.

LONG, W. H., Surgeon. Leave of absence extended five days, March 23, 1887.

URQUHART, F. M., passed assistant surgeon. Relieved from duty at Norfolk, Va., ordered to Washington, D. C., special duty, March 22, 1887.

PETTUS, W. J., assistant surgeon. When relieved by passed assistant surgeon Gutiérrez to remain Charleston, S. C., waiting orders, March 24, 1887.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, on Wednesday evening, April 6th, at 8 o'clock. Dr. J. Leslie Foley will read a paper on the "Morbid Changes and Surgery of the Nails." Dr. H. L. Burrell will give a *résumé* of "Four Months Experience in Minor Surgery at the Boston City Hospital." G. H. MONKS, M.D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—The annual meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, April 4, 1887, at 8 o'clock. Readers: Dr. M. H. Richardson, "A Series of Abdominal Cases." Dr. T. F. Sherman, "Pleurisy with Effusion." At 9 o'clock, election of new members; election of officers for the ensuing year.

CHARLES P. STRONG, M.D., *Secretary*.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, April 13th, at 7.45 o'clock. Papers: Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis." Dr. R. H. Fitz will open the discussion. Dr. F. C. Shattuck, "Four Hospital Cases. (1) Tetany; (2) Hemophilia; (3) Cirrhosis of the Liver; (4) Peritonitis, with Perforation of the Abdominal Wall." Dr. F. Minot will open the discussion. Dr. C. F. Folsom, "Two Cases. Multiple Neuritis (idiopathic), Multiple Neuritis (alcoholic)." Drs. S. G. Webber and J. J. Putnam will open the discussion. ALBERT N. BLODGETT, M.D., *Secretary*.

F. I. KNIGHT, M.D., *Chairman*.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Annual Meeting of this Association will open in New York on the second Wednesday in August (the tenth).

Lecture.

ON THE PHYSIOLOGY OF EXERCISE.¹

BY EDWARD MUSSEY HARTWELL, PH.D., M.D.,

Associate in Physical Training, in the Johns Hopkins University, Baltimore.

ENOUGH has been said, I think, to show that muscular exercise exerts a potent and important influence upon the growth of the body, and upon the elaboration and perfecting of its more familiar systems of organs; but, thus far, its most important effect, that upon the nerves and brain, has been only alluded to. The nervous element involved in muscular exercise is oftener overlooked than recognized by the mass of writers on the subject. Maclaren, whose book on "Training in Theory and Practice" is the best of its class in English, defines exercise as "muscular movement" simply, and declares its object to be "the destruction and renovation of tissue." This is the ordinary view, from which you will find but little deviation in the vast majority of the text-books on physiology, and of the books and articles on exercise, whether they have been written for school-girls or medical students.

I would not have you take this for my individual doctrine, though the statement expresses the result of my inquiry and reading. "We seek in vain in most physiological text-books," says Du Bois-Reymond, "for instruction respecting exercise; if it is given, only the so-called bodily exercises are generally considered, and they are represented as merely exercises of the muscular system. Therefore, it is not strange that laymen in medicine, teachers of gymnastics, and school-teachers believe that. Yet it is easy to show the error of this view, and demonstrate that such bodily exercises as gymnastics, fencing, swimming, riding, dancing, and skating, are much more exercises of the central nervous system, of the brain and spinal marrow. It is true that their movements involve a certain degree of muscular power; but we can conceive of a man with muscles like those of the Farnesian Hercules, who would yet be incompetent to stand or walk, to say nothing of his executing more complicated movements."

The arm of the blacksmith has been so often brought into play by writers and talkers on exercise, that every school-boy credits the statement that muscles grow larger, harder, and stronger when duly exercised, and become weak, flabby, and wasted if they are suffered or forced to remain inactive. It is less obvious, though it can hardly be doubted, that use and disuse work similar effects in the case of nerve cells and fibres, both sensory and motor. There is abundant evidence, though much of it is of the negative sort, to show that exercise of the muscles not only reacts upon the nerves and centres with which they are connected, in such wise as to enhance the power and ease with which they originate and transmit stimuli, but that it also leads to an increase in the size, number, and elaboration of their parts. But this evidence is chiefly to be sought in the writings of those who have made the normal and diseased conditions of the nervous system their special field of study, since text-book makers and the writers of popular articles seldom make use of the material which has been accumulated by professional physiologists, and those who devote themselves to the

study and care of the idiotic, the paralyzed, and the insane.

The fact must never be lost sight of, that a single muscle is not a simple organ, but is made up of two clearly-distinguishable, though conjoined mechanisms: a contractile, executive mechanism, the muscle proper; and a stimulating, regulative mechanism, consisting of nerve-fibres and gray-matter nerve cells. Each mechanism has its bloodvessels for supplying food and drainage; and the amount of blood supplied to each is proportionate to its functional activity. If, in life, the two mechanisms become dissociated, or if either suffer from mal-nutrition, unregulated exercise, or structural depravity, the dual organ is thrown out of gear, and its working becomes disordered or abolished, in much the same way as when it is attempted to split a human being into a mental part and a bodily part, and to train the dissevered fractions to functionate as entities. Muscular movement is, then, a resultant effect, due to the balanced working of the conjoined mechanisms alluded to. The nervous mechanism is concerned in a somewhat higher kind of work than that of its muscular colleague, and may be said to represent the movements of which the latter is the seat and instrument. Between the nervous arrangement which represents the twitch of a single subcutaneous muscle inserted into the base of a hair-follicle, and that which represents and governs the varied and rapid muscular adjustments which characterize the hand and fingers of a cunning craftsman or artist, there exists every grade of complication.

If we compare an adult man and one of the highest of the lower animals, in respect to the movements of which they are capable, we find that they possess many in common, but that man is distinguished from the brute by certain movements, such as those involved in maintaining the erect posture, and in the action of the hands and vocal organs; and that, corresponding to these two classes of movements, there are two classes of nervous mechanisms, by means of which they are represented. These mechanisms have been well termed fundamental and accessory, respectively.

Similarly, it is demonstrable that, while the human infant and adult possess many nervous mechanisms identically alike in structure and function, the adult is characterized by certain other mechanisms, whose structural peculiarities, connections, and powers have been evolved and superadded, as the result of growth and training. The law of evolution, as applied to the nervous system, is now very generally recognized by neurologists. In Ross's "Diseases of the Nervous System," this law, which was originally enunciated by Herbert Spencer, is described as "a progressive integration, both of structure and function, during which there is a passage from the uniform to the multiform, the simple to the complex, from the general to the special. The nervous system of man is, at first, similar to that possessed by all animals which possess a nervous system, or, at any rate, all those which are sufficiently elevated to possess a spinal cord; but, as development proceeds, the nervous system of man becomes gradually differentiated from that of an ever increasing number of the lower animals, while still maintaining a general likeness to the nervous system of the higher animals up to the time of birth. This, then, constitutes the fundamental portion of the nervous system of man; but after birth, the accessory portion, which, up till this time, only appears in a

¹ Concluded from page 302.

rudimentary condition, now undergoes progressive development. It will thus be seen that the fundamental portion is first developed, and that the super-addition of the accessory portion greatly increases the uniformity, the complexity, and the speciality of the human nervous system, and that it is the latest product of its evolution.

As might be expected, the structural elements of the nervous system follow this law. The many-branched nerve cells, having a process prolonged to form the axis-cylinder of a nerve fibre, are the most highly organized and special of nerve cells, but they begin as small, round, uniform, unbranched cells. The medullated nerve fibre made up of axis-cylinder, sheath of white substance, and the outer investing membrane, is the highest form of nerve fibre. At the other end of the series stands the primitive nerve fibril, a bundle of which may be said to constitute an axis-cylinder. Among intermediate forms are axis-cylinders with no sheath whatever, axis-cylinders covered only by a sheath of white substance, and non-medullated fibres, consisting only of an axis-cylinder enclosed in a fine, thin, structureless sheath. At birth the fundamental portion of the nervous system of a human infant is characterized by the presence of branched cells and medullated fibres in contra-distinction from the rudimentary accessory portion which contains small round cells, primitive fibrils, and non-medullated fibres. Later, if all goes well, the round cells become branched, and the non-medullated fibres become medullated.

There are certain areas in the gray matter of the fore-brain of man whence proceed, it is now generally held, stimuli to the most important groups of voluntary muscles. In one of these regions are the centres which control the different groups of muscles of the upper extremity, and for the sake of simplicity we may consider that the centres of the muscles, which move the shoulder, elbow, wrist, and fingers lie near to and are connected with one another. The movements of the shoulder and elbow are fundamental and well-organized in the infant, as compared with those of the wrist and fingers which are accessory and later acquired. In order that the movements of the different segments of the fore-limb should be properly co-ordinated as to force, direction and degree, their motor centres must habitually discharge their stimuli in due sequence and degree. This comes only through practice. Experiments on young puppies show that their motor areas are not sufficiently developed until they are ten days old, for them to make voluntary movements with their limbs. Ferrier declares that "the degree of development and control which a puppy reaches in ten days or a fortnight, is not attained by the human infant under a year or more." The infant, through the growth and development of the appropriate accessory centres, first gains control over its foot and leg, then over its arm and hand, and later over tongue and lips. It is evident that the arms of a blacksmith, and those of a five-year-old boy, and of an infant, differ greatly as regards size, strength, and skill; but the differences which exist between them, reside in the nervous mechanisms which represent the movements of which their respective muscles are capable, rather than in the muscles themselves. Not only are the motor nerves of the blacksmith the largest, but the cells in his motor areas are also more numerous, larger, more branched and more widely connected with other cells. Exercise plays, if not

the predominant, at least a very considerable part in producing this result. The effects of exercise are at once seen, if one compares the right and left arms of the average blacksmith with one another. It is well-known that the centres which control the right hand are situated in the cortex or outer layer of gray matter of certain portions of the left fore-brain: and that those which control the left hand are in the right fore-brain. Flechsig, who has made exhaustive studies as to the course and number of the motor fibres which connect the muscles of the two extremities with their respective main centres, concludes that the number of fibres going to the right hand, is to the number of fibres going to the left hand, as three to two.

The mere disuse of a muscle causes it to diminish in size. This wasting is technically termed atrophy. The most extreme forms of muscular atrophy and paralysis, are due to diseased conditions which originate in nerve centres or nerve fibres, though to the uninstructed eye the muscles would appear to be the only organs affected. Lesions in the central nervous system may cause the bones to atrophy, as well as the muscles. The development of a group of muscles of an entire limb, or of one side of the body, may be arrested by reason of certain forms of central nervous disease which occur in infancy and childhood. Observations made upon the brains of persons born with an arm or hand lacking, taken in connection with observations made on the brains of those who have had a hand or arm amputated, go to prove that the suppression or considerable diminution of certain movements brings about a condition of atrophy or arrested development, as the case may be, in those centres which would normally represent such movements. One may attain to the stature and semblance of manhood, and yet, through the arrested development of certain of his motor centres, be nothing better than an infant or a mere animal, as regards his powers of action: while paralysis and atrophy may reduce a man, stage by stage, to the condition of an untrained child, or of a helpless idiot, or even to that of a living corpse.

The functional improvement of the nervous mechanism, which represents any movement, whether it be simple or complicated, automatic or voluntary, is the most important effect of muscular exercise. It is not altogether clear just how it comes about that through trial and repetition, an action which is at first a difficult feat, becomes a pleasurable accomplishment, then a routine performance, and at last an almost instinctive act. But there is a settled conviction, among those who know most about healthy and diseased nerves, that the frequent or habitual passage of stimuli from a given group of cells through definite fibres to the muscles, concerned in a given movement, leads to some kind of rearrangement of the molecules composing the irritable protoplasm of fibres and cells, so that less and less resistance is offered to the passage of subsequent impulses from the same source. Somehow or other the memory of past actions and the stimuli which evoked them becomes imbedded or organized in the motor centres. The principles of physical training, whatever its aim and end may be, are based upon the power of the nervous system to receive impressions and register them or their effects; or in other words, upon its ability to memorize the part it plays in acquired movements, and on occasion to recall and revive such movements. His once too vividly impressed sensory centres cause the burnt child to dread flame:

and the difficulty of interesting an old dog in new tricks, except so far as he delights to criticise and decry them, arises from the preoccupation of his centres by old impressions rather than from their increasing insusceptibility to fresh ones.

From careful studies made as to the character of the dreams of the blind, it appears that the memory of visual objects is not organized until between the fifth and seventh year of life. Persons born blind do not dream of objects in the outer world, and those who become blind, before attaining their fifth year, do not dream of objects seen by them before their loss of sight. They are blind-minded as well as blind-eyed as regards such objects. There are authentic cases recorded of persons whose memory of objects, seen before the access of their blindness, persisted for twenty, thirty, and even fifty years. Then the record of their visual impressions became effaced and they ceased to dream of objects in the outer world. The case of a man born without either hands or feet, is in point here. Although he had eyesight, he did not dream of executing hand or foot movements; yet he had sufficient use of his stumps to write what is termed a good hand. There was no record of hand or foot movements in the centres which ordinarily control such movements; so that he was unable to dream of movements which he had never executed. On the other hand, the instances are very numerous in which men, who, having lost a limb by amputation, could feel their fingers or toes while awake, and dream in sleep or when awake, of making complicated movements with their lost members. "Persons who have had an arm amputated," says Dr. Weir Mitchell, "are frequently able to will a movement of the hand, and apparently to execute it to a greater or less extent. A small number have entire and painless freedom as regards all parts of the hand." They must be blind-minded, indeed, who can deny in the face of such facts, that muscular exercise plays an important part in the development of brain power.

It is so difficult to find a true and succinct statement of the effects and value of exercise in its relation to the nervous system, that I cannot forbear quoting freely from a most admirable article by an eminent English authority, on insanity and kindred diseases, Dr. J. Crichton-Brown.

"The view hitherto taken of exercise in relation to education," he says, "has been far too narrow. The idea has been, and as far as it went, it was a correct idea, that exercise is useful in education, because it sustains and improves bodily health by expanding the lungs, quickening the circulation, shaking the viscera, and promoting growth in the muscles and bones. But we now know that besides doing all these things, exercise may be made to contribute to brain growth, and to the symmetrical development of the mental faculties. In all muscular movements there is action and reaction. When a movement is willed, a current is sent forth from the brain and the muscle contracts. But that is not all; the instant that the muscle contracts the sensory nerves take up the tale, and accurate reports are conveyed to the brain of all that is going on at the scene of action. Nerves distributed to the muscle itself, to the skin covering it, to the joint which it moves, carry back to the supreme centre precise information as to the effects of its mandate, and the information thus received is carefully registered for future guidance. For just as there is a memory of

sensory impressions, of the sights we have seen and the sounds we have heard, so is there a memory of motor acts, of the movements we have performed, and of the mode in which we accomplished them. Thus the muscles not only, by the locomotion which they render possible, enormously widen the field from which our sense-impressions are gathered, but also by the experiences which their own activities involve, expand our mental resources a thousand-fold. An analysis of our ideas at once reveals to us that we have few that are of purely sensory origin; our ideas of form are not mere revived optical impressions, which are properly limited to color, but ocular impressions combined with ideal ocular movements. Our idea of a circle is a combination of an ideal circular outline with an ideal circular sweep of the eyeballs, or it may be of the tactile impressions coinciding with an ideal circumduction of the arm or hand, or perhaps both these factors, combined. And so it is with our ideas of weight, distance, and resistance, which all involve sensory and motor factors, and to revive in memory any such ideas is to revive both the sensory and motor elements of their composition, and to repeat definitely in certain nerve centres the processes which correspond with certain motor acts.

"Now the centres of motor ideation require to be exercised in order that they may be properly developed, and may contribute usefully to mental processes; and hence muscular training is likely to assume a more important and precise place in our educational systems of the future than it has hitherto done.

"These facts, that cerebral centres never properly exercised do not develop, and that, when once developed, they are not so liable to waste on the withdrawal of their appropriate stimuli, or when they are cut off from their natural activities, strongly inculcate the importance of educating every centre at its nascent period, and the danger of postponing education till the nascent period is over. A large district of the brain is made up of motor centres, and is concerned in motor ideas. The growth of that district is evidently to some extent dependent on muscular exercise, and if that is withheld, at the growth-period, the development of that district is arrested. It is not only so, but that district is made up of a series of centres in relation with different groups of muscles, and each centre is dependent for its development upon the activity of its own group of muscles; and the defective exercise of any group of muscles during the growth-period of its own particular centre (the growth-periods in most of the motor centres having different starting points) will result in the dwarfing of that centre, and a corresponding hiatus or a general weakness must exist in the whole mental fabric.

"From this, we might deduce that swaddling bands so applied at birth as to restrain all muscular movements, and kept on during infancy and childhood, would result in idiocy—a speculation to which the wretched muscular development of most idiots and imbeciles, and the fact that their mental training is most successfully begun and carried on through muscular lessons, give some countenance. We should also have to infer that, in order to build up a sound and vigorous brain, we must insure free exercise to the different groups of muscles in the order of the development of their centres, and must in no degree interfere with the natural sequence of their evolution. That being so, we must necessarily ascertain what that

natural sequence is which is so important a guide to education, for, in our present ignorance of it, we may unwittingly be doing much mischief.

"Suppose that we are encroaching on the time at which hand-centres ought to receive their most valuable education—their nascent period—and are devoting that time to the cultivation of the tongue and lip-centres, then we should be impairing the full development of the brain; for the hand-controlling centre, if not fully exercised at its nascent period, can never afterwards attain to the highest cunning. But it seems that not only tongue, but hand, and foot, and eye, and arm, and every muscle of the body, must be trained in due season, if education is to do what we expect of it, and result, not in headaches, and imbecilities, and nervousness, and insanity, but in well-balanced growth of body and mind.

"The differences which we notice between man and man in deportment, gait, and expression are but the outward and visible signs of individual variations in the development of the motor centres of the brain; and the stammerings, grimaces, twitchings, and antics, which are so common and annoying alike to those who suffer and those who witness them, are probably, in many instances, the effects of neglected education of some of those centres, and might have been abolished by timely drill and discipline."

It must be evident, I think, that muscular exercise deserves more attention than is usually given it, and that, when properly chosen, regulated, and guided, it not only does a man good, but makes him better; at least, it may make him a better man, in many respects, than his father was, and enable him to transmit to his progeny a veritable aptitude for better thoughts and actions. Herein lies the power of the race for self-improvement, and the evolution of a higher type of man upon the earth.

"The body of the accomplished man becomes," says Bagehot in his "Physics and Politics," "by training, different from what it once was, and different from that of the rude man; it is charged with stored virtue and acquired faculty, which come away from it unceasingly. . . . The special laws of inheritance are, indeed, yet unknown. All which is clear is that there is a tendency, a probability, greater or less, according to circumstances, but always considerable, that the descendants of cultivated parents will have, by born nervous organization, a greater aptitude for cultivation than the descendants of such as are not cultivated, and that this tendency augments, in some enhanced ratio, for many generations.

"I do not think any who do not acquire this notion of a transmitted nerve-element will ever understand 'the connective tissue' of civilization. We have here the continuous force which binds age to age, which enables each to begin with some improvement on the last, if the last did itself improve, which makes each civilization, not a set of detached dots, but a line of color, surely enhancing shade by shade. There is, by this doctrine, a physical cause of improvement from generation to generation, and no imagination which has apprehended it can forget it; but unless you appreciate that cause in its subtle materialism; unless you see it, as it were, playing upon the nerves of men, and, age after age, making nicer music from finer chords, you cannot comprehend the principle of inheritance, either in its mystery or its power.

"These principles are quite independent of any

theory as to the nature of matter or the nature of mind. They are as true upon the theory that mind acts on matter, although separate and altogether different from it, as upon the theory of Bishop Berkeley, that there is no matter, but only mind; or upon the contrary theory, that there is no mind, but only matter; or upon the yet subtler theory, now often held, that both mind and matter are different modifications of some one *tertium quid*, some hidden thing or force. All these theories admit, indeed they are but various theories to account for the fact, that what we call matter has consequences in what we call mind, and that what we call mind produces results in what we call matter; and the doctrines I quote assume only that. Our mind, in some strange way, acts on our nerves, and our nerves store up the consequences. Somehow the result, as a rule, and commonly enough, goes down to our descendants. These primitive facts all theories admit, and all of them labor to explain."

Original Articles.

A FEW FRAGMENTARY REMARKS ON THE RADICAL RELIEF OF INFLESHED TOE-NAIL.¹

BY B. E. COTTING, M.D.,

Consulting Surgeon to the Boston City Hospital.

IN January last I operated for radical relief of infleshed toe-nail, in the presence of several members of this Society.

The patient was a young woman, on whom I had performed the same operation on the other great toe, four years before. At that time, a brother, older than herself, received the same treatment for a like ailment. Indeed, some sixteen years ago, I performed four operations simultaneously (on the two sides of the two great toes) for the mother of these patients, making, in all, seven similar operations in the same family.

In each of these seven cases the result was successful in the fullest sense of the term. The ailment was completely eradicated, never to return. The nails were not injured in the process. They afterwards grew naturally, without pain or hindrance of any kind, soon acquiring normal usefulness. The toes, as usual after the peculiar method employed, were greatly improved in shape and general appearance. Walking also became easy and agreeable, in any kind of boot or shoe.

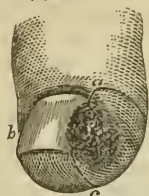
The method resorted to in all these cases was one devised by myself, more than forty years ago; and, although frequently followed by myself and others here and elsewhere, has never, to my knowledge, failed to effect a radical cure.²

¹ Read before the Roxbury Society for Medical Improvement, March 24, 1887.

² Singularly enough, as I was going to this meeting, with my report fully prepared, a friend showed me the New York Medical Journal for March 19, 1887, wherein Dr. H. F. Wier, of New York Hospital, in a report of four months' hospital work, three hundred and ninety-nine operations, including one for "ingrowing toe-nail," at page 319, says: "This operation of Cotting's (sic) often fails, and I have learned from my clinical assistant, Dr. Hartley, how to do it better than I did." From which it appears, not that Cotting's operation fails, but that Dr. Wier failed to do the operation. Of course, it should be properly performed, and by one who comprehends the scheme of it. How his "one case" resulted he does not say; presumably, however, from the context, in success. He calls it a "very small operation." Compared with his capital operations it may be, but it may be one of great importance, also, to a disabled patient wishing for the power of locomotion, and freedom from tormenting pains. Moreover, there are scores of these patients to one requiring amputation at the hip-joint. On the other hand, Dr. Gay, of the

It is a very simple procedure: Etherize the patient, unless he object. Remove with the knife the diseased fleshy parts, *together with a large and thick slice* of the

FIG. 1.



healthy and adjoining side of the toe, Figure 1, *a c*. Let the cut begin or go well back, as at *d e*, Figure 2,³ and let it be guided by the edge of the nail, which should be exposed, but need not, nor its matrix,

FIG. 2.



be involved or injured thereby. Dress the wound with lint or absorbent cotton, firmly compressed upon it by a narrow roller-bandage, and cover the whole with a good-sized piece of oiled muslin or silk, neatly secured, in order to prevent any extra oozing of blood.⁴

This is the whole of it. The patient lies abed for a few days, or immediately sits up, or hobbles about, as he pleases, even going to his work at once, if necessary. From the moment of the operation there remains only a clean-cut wound, to heal as other wounds of like dimensions, with less pain or annoyance in it than previously in the disease; while such as there is, rapidly decreasing, soon departs altogether.

This operation, one of the simplest ever devised for this affection, differs from all the others in its fundamental principle and purpose, namely, the producing of a radical cure by *cicatrical contraction*, and that by means of a wound of sufficiently large extent, in healthy as well as diseased parts. For, as such a wound heals, the remnants of the lateral fleshy nail-furrow, if any remain, together with the soft parts adjoining, are drawn in by the contraction, and, in this manner, are kept away from the edge of the nail. Thus the nail thence after, in its ordinary growth, has nothing to imbed itself in, or even to impinge upon. A return of the affection is thus put entirely out of the question.

Such was the method pursued in the case now reported. Those present and assisting can bear witness to its simplicity and ease in performance, as well as to the complete success and radical cure, then shown to them, of the previous operation on the same patient.

Though a minor operation in surgery, one may deem himself fortunate if able to suggest an easy and radical remedy for an often-met affection so exquisitely painful and disabling as this frequently becomes, or so intractable as it has heretofore proved to be. To this end unnumbered attempts have been made, without satisfactory results. Beaudes states⁵ that Velpeau counted up nearly a hundred such. "This large number," he says, "attests the importance of this little malady, and the difficulty of its cure." Velpeau himself always adhered to the evulsion of the nail, which procedure he greatly ameliorated.

Some, perhaps, may be still reluctant to give up the Boston City Hospital, who probably has performed this operation many more times than any other practitioner, in the "New Reference Handbook of Medical Sciences," Wood & Co., New York, 1887, Vol. IV, page 36, says: "Having performed this operation many times during the past eighteen years, I have never yet seen a case in which the result was not permanent and satisfactory."

³The wood-cuts have been kindly lent by their owner. See Boston Medical and Surgical Journal, May 8, 1879, page 361, where they illustrate a very good article on the subject of this paper.

⁴Usually the bleeding is readily controlled, during the operation and dressing, by an assistant holding the toe, and compressing the lateral arteries between his thumb and index finger. But in the case now reported, Dr. Garceau (in a procedure original with himself) adroitly wound the toe with small rubber tubing, Esmarch fashion, and thus rendered the operation absolutely bloodless till the dressings could be applied.

⁵Dictionnaire de Médecine, Vol. II, p. 552.

old ways, "barbarous methods" Dr. Gross called them, but evidences that our procedure meets with ever-increasing approval are continuously coming in; and, if it be the *good thing* we contend that it is, this may be a sufficient apology for often urging its general adoption, and for again bringing the subject before this Society.

THREE CASES OF LABOR, TWO BEING BREECH AND THE OTHER ARM-PRESENTATION, WHERE THE LEGS WERE EXTENDED, AND THE FEET WERE NEAR THE FACE.¹

BY DR. J. S. GREENE, OF DORCHESTER.

THE cases which I am to report illustrate an infrequent form of dystocia, and one "little considered in our text-books."

CASE I. Mrs. A. B., a young, strongly-built French-Canadian, primipara, began labor in the afternoon of December 13, 1884, under the care of Dr. C. L. Edwards, of Hyde Park. Notwithstanding vigorous pains and a dilatable os uteri, labor did not advance into the second stage during the night; and Dr. Edwards, wishing a consultation, sent for me early in the forenoon of the next day. The os was then well dilated, and the liquor amnii had escaped.

The breech was presenting, and engaged at the pelvic brim, and the child was male. The position was left posterior, that is, the child's sacrum was towards the left sacro-iliac joint. It was decided to interfere in aid of delivery, and as no foot was within reach of fingers, the bladder was evacuated and full anaesthesia induced with ether. A pair of Simpson's forceps were then applied over the thighs, and attempts at combined traction and rotation were made, the forceps being disengaged and replaced two or three times. This proceeding was so far successful that the breech was brought well down into the pelvis, with the sacrum towards the left acetabulum. Further aid from the forceps seemed impracticable. The finger could now be hooked into the left groin, then into the right; but neither alternate nor combined traction by the fingers effected anything.

A blunt hook was next applied over the flexure of the left thigh, its tip guarded by a finger, and delivery of the lower part of the body thus, without great difficulty, accomplished. The legs were found to be extended upwards, towards the face, and were now easily liberated by successively flexing the knees. The cord pulsated feebly, and, for the safety of the child, no time was to be lost. The left arm had not rotated as had the body; and in carrying the shoulder forward, the better to flex the elbow, the left clavicle was fractured. The arms were successively delivered; but the head, now fully rotated, with the occiput under the pubis, it was impossible to disengage by any justifiable traction. Next, the body was flexed, and the forceps applied to the head from behind the child's back. The head was, by these means, speedily and safely delivered, with but slight laceration of the perineum. Suscitation at first seemed doubtful, but after active employment of the customary means for a few minutes, respiration was established. Delivery was completed about half-past ten in the forenoon, eighteen hours after the beginning of labor. The child, a large one, did well, and the mother made a good recovery.

¹Read before the Section of Obstetrics and Gynaecology of the Suffolk District Medical Society, January 19, 1887.

A month or two after this, I read in the *New York Medical Journal* for 1885, XLI, pages 177-181, the paper by Prof. William T. Lusk on the subject here considered. The substance of Dr. Lusk's paper has since been included in the latest edition of his book, "The Science and Art of Midwifery." Dr. Lusk's views, as here set down, sustain the course adopted in the foregoing case. He enforces caution in attempting to bring down a foot when the breech is fully engaged in the pelvis. He approves the use of forceps applied to the lateral surfaces of the thighs when the breech is transverse. Failing in this, he favors the fillet or the blunt hook. He recognizes the possible need of forceps to the after-coming head in case of unyielding perineum. In all these respects, his teaching leans towards opposite ground to that of Dr. Robert Barnes.²

On review of the case, I am not sure that any different mode of effecting delivery would have been more suitable, or have proved more satisfactory. Cephalic version was impracticable, for the breech was well engaged in the pelvis. Graduated pressure upon the fundus would have accomplished nothing upon a primipara with the soft parts so unyielding.

Probably the hand might have been introduced towards the fundus, the knees, or a knee, flexed, and one or both of the feet brought down; but sufficient traction could not have been made upon one leg within the limits of safety; and if exerted successfully upon both legs together, the soft parts of the maternal pelvis would have been so inadequately dilated that either fatal delay of the head or extensive laceration of the perineum might have ensued. I do not think the fillet could have been used as easily nor as efficiently as was the blunt hook, nor with any advantage in point of safety.

Dr. Barnes says: "Hooks and forceps (to the trunk) will, in all likelihood, either destroy the child or involve its death through the delay arising out of their inefficiency, or they may seriously injure the child."³

This statement seems too uncompromising. I see no objection to the trial of either forceps or hook, or to the use of each in succession, provided the adjustment and grasp are guided by proper care and judgment. Dr. Edwards and I felt that we had earned the gratitude of the parents for the substantial results of our efforts, but we failed to receive any evidence of their appreciation. On the contrary, anathemas, he says, were freely launched against me for the accident to the clavicle, without which, the child's life might have been lost.

CASE II. Mrs. C. D., a young American lady, primipara, nervous temperament, rather delicate, but healthy, had gone a month beyond her expected time, when labor began about midnight of November 29, 1885. Presentation was breech; position left anterior.

The first stage proceeded slowly during the night and the day following. Early in the evening of the 30th, the os being fairly dilated, I ruptured the membranes; but the breech did not advance beyond the brim, and I could not feel a foot. Dr. C. E. Stedman kindly responded to my telephonic appeal for aid, and arrived at 9. p. m. At this time, ether, with which I had been familiarizing the patient during pains in a preliminary way, was easily carried to full anesthesia. It was decided to hasten delivery by securing a foot.

and, with this purpose, the left hand was introduced into the uterus. As had been suspected, the feet were at the fundus, near the child's face. Although the pressure from uterine contraction was strong, the left knee was flexed without very great difficulty, the thumb being in the popliteal space, and the fingers over the tibia, near the instep. The knee was then brought down, and the whole extremity set free.

The same hand was again introduced, and the same process repeated upon the right lower extremity. The upper extremities had to be released successively by flexing the elbows, with the fingers in the vagina. The head gave little trouble, and a full-grown, male infant soon breathed. The cervix and perineum were both torn. Ergot was inserted with a hypodermic syringe, and the placenta expelled by the help of external manipulation. The mother made a good recovery, with partial union of the perineal rent, which Dr. Stedman had united with three deep sutures of silk. The child likewise did well.

This case and the preceding one present obvious points of comparison and of contrast. I think the second case might probably have been delivered by the same method which was successful with the first. I am doubtful whether the first would have resulted safely for the child if the mode adopted with the second had been practised. If, in the second case, as in the first, the forceps had advanced the breech to the floor of the pelvis, and delivery of the trunk had then been carefully completed by fingers, fillet, or blunt hook, it seems to me probable that dilatation of the soft parts at the pelvic outlet would have been so gradually accomplished as to have kept the integrity of the perineum, without increase of peril to the life of the child.

There is the eminent authority of Dr. Barnes⁴ in favor of bringing down one foot only, and that the anterior one; and he states that he "has brought a live child into the world by this proceeding on several occasions, where forceps, hooks, and various other means had been tried in vain for many hours." Dr. Barnes says that, by bringing down one foot out of the uterus, you thus break up the wedge; "and this," he repeats, "is the proper thing to do in the first instance." It is my belief that in neither of the three cases here reported could delivery have been effected by any safe and justifiable traction upon *one leg only*, if the other were left reflected upwards. With all deference to his great experience and skill, I must think that cases occur, where, after one extremity only has been brought out, enough of the wedge remains still unbroken to oppose serious obstacles to success by the simple use of the unarmed hand, with which he claims to have been always successful.

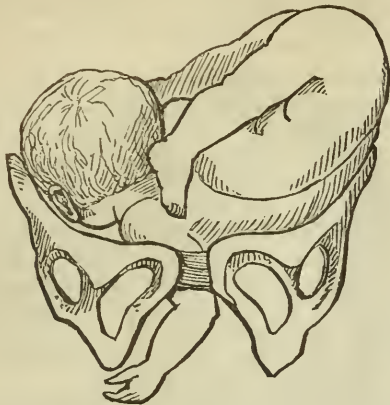
CASE III. Mrs. E. F., a strong, stout Irish woman, about twenty-eight years of age, was attended in her second confinement by Dr. H. C. Towle, of Dorchester. Her first child was born footling. Her second labor, October 25, 1886, began about mid-day, and Dr. Towle was called in the evening. At his request, I went to his aid at 1 o'clock, A. M., the 26th. He informed me that the os was well dilated; that the left arm was presenting, and in the vagina; that the back of the child was anterior, and its head in the right iliac fossa. After the patient was fully etherized, Dr. Towle introduced his right hand into the uterus, the

² "Obstetric Operations," Chapter XV.

³ "Obstetric Operations," page 173.

⁴ "Obstetric Operations," page 174, et seq.

woman lying on her back. I suggested that he try to reach the right knee or foot, so that rotation should go with version, but he could not find the right extremity, and brought down the left foot, with the toes anterior.



The uterine contraction had been very cramping to his hand; and evidently the child, lying transversely, by the joint influence of the traction and uterine action, had been rolled over before the full effect of the traction had secured version. The child now lay with its back posterior, and the sequel showed that probably both lower extremities were reflected towards the face at the beginning of labor. If this were so, the right foot probably lay behind the child's right shoulder, where it could not have been reached unless the knee could have been first flexed.

The diagram illustrates the supposed position before it was changed by interference.

The left foot having been secured by tape, Dr. Towle again introduced his hand, but it was so cramped that he withdrew it, and asked me to take my turn. After placing the woman on the left side, with the hips near the edge of the bed, I passed my hand nearly up to the fundus uteri, and found that the right leg was extended, so that the foot must be near the face. The knee was first flexed, and then, at the same time that the leg was brought down, the body, by the convenient leverage of the thigh, was rotated to the left, bringing the child's back anterior. The delivery was then readily completed in the usual manner. The child, a full-grown male, required some attention before respiration was established. The placenta was adherent in the uterus anteriorly, and was carefully delivered by the hand of Dr. Towle. The mother and child did well.

As trunk-presentations, and those of the breech having the legs reflected upwards towards the face, are both rare, perhaps this case, combining the two abnormalities, may, as a matter of record, be unique. By a reasonable application of the law of averages, I suppose there should be about *four* such cases in each million births.

My reasons for supposing the child's position at the beginning of labor to be that represented in the diagram are these:

First. The ease with which Dr. Towle reached the left foot, and his failure to find the right one at either trial.

Second. The improbability that the right leg, if flexed at first, would, in the process of, first, rotation, next, version of the trunk, have become extended.

Third. Reversely, the probability that the right leg, if extended at first, would remain so during and at the completion of rotation and version.

Fourth. The strong probability that, if either leg is extended, both legs are so.

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

THE POISONOUS ACTION OF POTASSIUM CHLORATE.

THE view first advanced by Fourcroy and Alyon, that potassium chlorate, when taken into the system, gives up part of its oxygen, has, since the investigations of Binz¹ and Marchand,² been generally accepted in explanation of the poisonous action of the salt. B. J. Stokvis³ contradicts this view, basing his opinion upon investigations of W. C. Kimmyser,⁴ of H. C. M. v. Gorcom, and of his own.

Kimmyser has investigated the elimination of the chlorate in his own urine, and in that of rabbits and dogs. He found that, of four grammes of sodium chlorate, there was eliminated unchanged, in his own urine, 2.277 grammes, and in the urine of a dog, 3.618 grammes. In the urine of rabbits, to which one and sixteen grammes had been administered, he found 0.896 gramme and 13.53 grammes, respectively. On the days when the chlorate was administered, there was an increased excretion of chlorides (and usually of urea); but this increase, according to the author, is not to be attributed to a reduction of the chlorate, but to a drain on the system, since, on the following days, there was a diminution in the amount of chlorides excreted. The chlorate behaves, in this respect, like sodium nitrate, as Kimmyser determined by experiments on rabbits, whose urine had been rendered free from chlorides by inanition. He, therefore, concludes that a reduction of the chlorate in the system is not proven. Such reduction is also denied by Stokvis, Isambart, Rabuteau, and Von Mering. The small amount of chlorate unaccounted for in the urine is explained, according to Stokvis, by slow elimination, by passage into the secretions, which takes place even after the ingestion of small doses, by reduction in the urine, and by experimental errors. Kimmyser finds that, when urine containing one per cent. of sodium chlorate is allowed to stand twenty-four hours at 20° C., twenty-four per cent. of the salt is reduced. This reduction does not take place at 0° C., or in acid urine, and is less when the urine has been boiled. It depends, according to the author, on beginning putrefaction. Reduction in the blood depends on complicated putrefactive processes, which take place only when the blood loses its vitality. There is formed, in this case, methæmoglobin and hæmatin. An increased temperature favors the process, but a reduction of the whole quantity of chlorate present takes place only rarely, and when the amount of salt is small.

The appearance of the blood observed in fatal cases of potassium-chlorate-poisoning is attributed, by the author, to post-mortem changes. The change does not take place in living blood; for the intravenous in-

¹ Archiv. für experim. Pathol., 1879, p. 153.

² Archiv. für pathol. Anat., 1879.

³ Berichte der deutschen chemischen gesellschaft, 1886, p. 778, from Archiv. für experimen. Pathol., 21, p. 169.

⁴ Academ. Proefschrift, Amsterdam, 1884.

jection of sodium chlorate in rabbits was followed by the appearance of albumen and sugar in the urine, but, in very acute cases, no methæmoglobin, which, in these animals, passes very easily from the blood to the urine. In protracted cases, however, an active hyperæmia of the kidney is set up, and the blood corpuscles which pass into the urine are the source of the methæmoglobin which has been found in the urine in many cases of chlorate-poisoning.

The poisonous action of potassium chlorate is due, according to Jacobi, to paralysis of the heart, and this is attributed, by Leichtenstern, to the action of the metal. It does not differ, according to Stokvis, from the action of potassium chloride or sulphate in corresponding doses. According to these authorities, symptoms of poisoning take place only when the dose is large, or the solution concentrated, or when a considerable quantity has been taken into an empty stomach in the form of small doses, frequently repeated. Sodium chlorate acts, according to Van Gorcum, precisely like sodium chloride, whether administered by the mouth, or by the intravenous injection of concentrated solutions.

CARBONIC OXIDE: OXALIC ACID.

Guglio⁶ finds that neither of these bodies suffer oxidation in the system. Both are eliminated unchanged, the former with the expired air, the latter with the urine.

DIGITALINE.

Ph. Laïon⁶ reaches the following conclusions, as a result of his study of this substance:

(1) Digitaline is absorbed slowly. (2) It is not eliminated by the kidneys. It could not be detected in the urine. (3) It does not appear to localize itself, at least, in the form of digitaline, in any particular organ, either in acute or slow poisoning. It is not cumulative. (4) It is not sensibly modified in the digestive apparatus. It appears to undergo a complete transformation in the circulation. This change is probably effected by some oxidizing agent. (5) Digitaline offers a relatively great resistance to both physical and chemical agencies, to various ferments, and to putrefaction.

THE POST-MORTEM DETECTION OF CHLOROFORM.

Dr. Charles Leudeking,⁷ of St. Louis, the chemist employed in the Maxwell case, obtained, by chemical analysis of the lungs of Maxwell's victim, very decided reactions for chloroform. The analysis was made ten or twelve days after death, and the body was in a high state of decomposition. As the great volatility of chloroform would seem, *à priori*, to preclude the possibility of its detection so long after death, and as, at the same time, there was considerable doubt expressed as to the reliability and accuracy of the experiments, the chemist determined to decide the matter by direct experiment, and so set at rest all doubt.

Dogs of from fifteen to twenty pounds' weight were destroyed gradually, by the administration of chloroform through the lungs, in from five to ten minutes. Then the carcasses were allowed to stand in summer's heat, or at the temperature of the room, for different periods of time, and finally, the lungs removed and tested for chloroform by the Ragsky method. A very

decided reaction for chloroform was obtained in each experiment.

Three experiments were also made to determine whether or no any substances are generated by the process of decomposition, which might give reactions similar to those of chloroform, and thus lead to erroneous conclusions. The results in each case were negative.

The conclusions reached were the following:

(1) By the process of decomposition, no substances are generated which can vitiate the tests for chloroform by the Ragsky method. (2) Chloroform, when it has caused death by inhalation, can, with certainty, be detected in the body four weeks after death; and, notwithstanding its volatility, it is certainly retained in the viscera in large amount during this time.

On the strength of the Ragsky and Hoffman tests, the author gave it as his sworn opinion that the deceased Preller had chloroform in his viscera; and Maxwell, after the lapse of a year, confessed that chloroform had been the cause of death.

In explanation of the retention of chloroform in the tissues for so long a time after death, the author calls attention to the investigations of R. Dubois,⁸ who finds that chloroform penetrates into the interior of the tissues, and becomes substituted for normal water. This is not a phenomenon of desiccation or osmose; a true affinity comes into play, protoplasm absorbing the vapor of the anæsthetic, and expelling a certain quantity of water.

Chancel and Parmentier⁹ have proved that chloroform has a very decided affinity for water. The author allowed to stand open a flask, containing water holding a small quantity of chloroform in solution. After two weeks' time, the chloroform reactions could still be obtained without difficulty.

The author calculates that the quantity of chloroform in the lungs of a man of one hundred and fifty pounds' weight, rendered insensible from its inhalation, would be about one-half gramme—an abundant amount for its detection. This calculation is based upon the experiments of Grelant and Quinquaud,¹⁰ who found the amount of chloroform necessary to produce anæsthesia to be, at least, one gramme to every two liters of blood.

RESISTANCE OF COLCHICINE TO PUTREFACTION.

Ogier¹¹ has made experiments which confirm the result previously obtained by Dannenberg. Three dogs were poisoned by colchicine: one by 0.5 gramme injected subcutaneously; a second by 0.1 gramme administered in the same way; the third by 0.5 gramme introduced into the stomach. The bodies were buried, and exhumed five and one-half months later. In the extracts from the various organs Ogier obtained satisfactory reactions for colchicine with nitric acid (specific gravity 1.4), and with ammonium vanadate recently dissolved in sulphuric acid. The organs of two of the animals were in an advanced state of decomposition.

POISONING BY SILVER SALTS.

Krissinsky¹² reaches the following conclusions, based upon an examination of the organs in three

⁶ Archiv der Pharmacie, 1886, p. 1032. Abstract.

⁷ Journal de Pharmacie et de Chimie, January, 1887, p. 26, from Ann. d'hyg., December, 1886, p. 506.

⁸ St. Louis Medical Review, November 20, 1886, page 572.

⁹ Chemical News, 1886, p. 311.

¹⁰ Comptes Rendus, 100, p. 27.

¹¹ Comptes Rendus, 97, p. 753.

¹² Ann. d'hyg., 1886, p. 445.

¹³ Journal de Pharmacie et de Chimie, 1886, p. 537.

cases of poisoning in the human subject, and upon experiments with animals:—

(1) The black granulations met with in the tissues are composed of an organic compound of silver, the exact nature of which is not fully known. (2) The silver is first deposited in the coats of the bloodvessels and only later is found in the connective tissue. (3) The accumulation of the metal in the walls of the vessels leads to deeply-seated changes and degeneration. (4) The black granulations are found in the epithelium as well as in the endothelium, in the afferent as well as the efferent vessels of the Malpighian corpuscles, and in the lymphatic corpuscles of the blood. (5) In the liver the silver is deposited principally in the radicles of the portal vein and of the intralobular veins; but it is also found in the capillary plexuses uniting the two systems, as already determined by Huyet. (6) The deposit of silver in the tissues has been observed in cases of poisoning of forty-eight hours duration; but it did not then possess the characteristic dark color, and only acquired this under the influence of sulphuretted hydrogen. (7) The most abundant deposit of silver is found in the cells of the medulla of the bones.

DETECTION OF MERCURIC CHLORIDE IN ORGANIC MIXTURES.

Mercuric chloride, when mixed with organic matter, is slowly reduced to the metallic state. This reduction, according to Lecco¹³ is usually complete within six weeks. If the mixture is boiled the reduction takes place immediately. In order therefore to detect corrosive sublimate as such, in foods and similar mixtures, the latter must be examined early, and must be treated with cold alcohol and ether before heating.

On distilling foods, etc., containing finely-divided mercury thus formed by reduction, a portion of the mercury passes over with the steam.

MITSCHERLICH'S TEST FOR PHOSPHORUS.

Porlstorff and Mensching have shown that, in the employment of this test in toxicological investigations the luminosity of the phosphorus vapor is destroyed, if the substance under examination contains corrosive sublimate. They now find that this is the case with other mercury salts.¹⁴ The salts of copper have no effect on the luminosity. The authors conclude that the corrosive sublimate volatilizes in part, and that a reaction takes place between this and the phosphorus vapor; some reduced mercury passes over into the distillate, together with a small amount of phosphoric acid, the greater part of the latter, however, falling back into the distilling flask. The action of other soluble mercuric salts in preventing the luminosity, is explained by their conversion to corrosive sublimate by the chlorides present. Calomel appears to be decomposed by albuminous matters into corrosive sublimate and metallic mercury. Bernbeck¹⁵ states that copper sulphate interferes to some extent with the detection of phosphorus by this test. This statement derives its importance from the fact that copper sulphate is the most useful emetic in cases of phosphorus poisoning. When this emetic has been administered, the particles of phosphorus may become coated with a crust of reduced copper sufficiently thick to prevent the solution and oxidation of the phosphorus when

the vomitus or contents of the stomach containing it, are subjected to analysis. The indications are to make the materials more strongly acid before commencing the analysis.

Mankiewicz¹⁶ states that small amounts of phosphorus may easily be overlooked in the presence of carbolic acid. No luminosity could be detected when two hundred grammes of a three per cent. solution of carbolic acid, containing two milligrammes of phosphorus were distilled. The luminosity was plain, however, when the same solution containing five milligrammes of phosphorus was examined.

SNAKE POISON.

R. N. Wolfenden¹⁷ finds that the toxicity of the venom of the Indian cobra (*Naja tripudians*) is not due to any bacterium or living organism, nor to any alkaloid — alkaloids and ptomaines are entirely absent from the venom — nor is it due to any cobric acid such as was described by Blyth. The author finds that the crystals to which the name cobric acid was given, are in reality, composed of calcium sulphate. The venom, however, is sometimes faintly acid, sometimes neutral. The poisonous properties of the venom are due to its proteid constituents, which are as follows:—

(1) Globulin, which is always present and kills by causing asphyxia. (2) Syntonin, which is precipitated by magnesium sulphate with the globulin. It dialyses through parchment paper to some extent. The poisonous property of the acid dialysates is due to this proteid, not to cobric acid. Its action is similar to that of the globulin, but less intense. (3) Serum albumin; this is also toxic, producing paralysis. (4) Traces in some specimens of hemialbumose, and questionable traces of peptone are regarded as accidental.

With regard to the venom of the Indian viper (*Daboia Russellii*), it is found to be of the same reaction as that of the cobra; but here again there is no toxic acid, alkaloid, or living organism, but the proteids are the poisonous constituents; these are three in number:— (1) Globulin, which greatly preponderates as in cobra venom; (2) Serum albumin in small amount; (3) A proteid which possesses many of the properties of an albumose. True peptones do not occur, and it is probable that the substances described by Weir Mitchell and Reichart in crotalus, copperhead, and moccasin venoms as peptones are in reality albumoses.

(To be continued.)

Hospital Practice and Clinical Memorandum.

A CASE OF DIFFICULT LABOR.¹

BY EDWARD REYNOLDS, M.D.

On September 24, 1886, in the absence of Dr. Boardman and Dr. Green, I was called to the Boston Lying-in Hospital to see a patient with the following history:

F. L., twenty-nine years of age, married, and a native of Ireland, had miscarried once, but was at term

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, January 19, 1887.

¹⁶ Archiv der Pharmacie, January, 1887, p. 32.

¹⁷ Journal of the Chemical Society, London, December, 1886, page 1057, from Journ. Physiol., 7, page 327.

¹³ Berichte der deutschen chemischen gesellschaft, 19, p. 1175.

¹⁴ Berichte der deutschen chemischen gesellschaft, 11, p. 1763.

¹⁵ Archiv der Pharmacie, November, 1886, p. 935. Abstract.

for the first time. Labor began at 6 p. m., of the 22d, and she entered the hospital the same evening, when her condition was as follows: The os admitted the finger-tip; the membranes were ruptured; the position was O.L.A. The fetal heart was strong and regular at 132. The head was within easy reach of the finger; the pains were slight and infrequent.

During the night the cervix was taken up, and the os reached the size of a ten-cent piece; but, as the pains were short and "nagging," and the os wire-edged, chloral, gr. xv, was given at 3 a. m., and repeated twice, at short intervals. No very marked effect followed; and at 10 a. m., the pains being almost continuous, short, and ineffectual, she was etherized to snoring anaesthesia for about five minutes. Under ether, the os relaxed and dilated to the size of a fifty-cent piece; the patient slept about an hour, and had strong pains, with good intervals, during the next twelve hours, but without effect upon the os; the pains then died away, becoming short and infrequent. The os again became rigid, and recontracted slightly, and in spite of two fifteen-grain doses of chloral at 11 and 11.30 p. m., this condition lasted throughout the night; but as she slept well in the intervals, and did not appear exhausted, I was not sent for till 6 a. m. (September 24th).

The patient had now been in labor about thirty-six hours. The os was small, rigid, and tightly applied to the head, which was low and not easily movable. The patient had become languid and indifferent, and was decidedly irritable when roused; but as the maternal pulse and temperature were normal, and the fetal heart remained strong and regular, there seemed to be no urgent reason for interference. There was, however, a prominent caput succedaneum; and the fact that pains of sufficient strength and regularity to cause its presence had persisted for twelve hours, and had then died away, and been succeeded by feeble and irregular contractions, led me to infer that some efficient obstacle existed, and to believe that, at the least, a thorough examination under ether was indicated.

Under ether, the os was soft and dilatable, and the head, though still within the reach of little more than the first joint of the forefinger, was freely movable; the relaxed condition of the os now made it possible to pass two fingers high up around the head, and the promontory of the sacrum was easily reached, the greatest diameter of the head being still above it. I then measured the pelvis, with the following results:

Distance between Iliac spines	3½ in.
Distance between Iliac crests	10½ "
Extern. Conjugate	7½ "
Diag. Conjugate	13½ "
Length of Symphysis	2 "
Inclination of Symphysis	much diminished.

It was evidently a flattened pelvis, with probable diminution in all diameters; and, after taking into consideration the diminished inclination of the symphysis and its increased length, I was inclined to estimate the true conjugate as 3½ inches.

There was as yet, however, no sufficient indication for so serious an operation as delivery through a rigid os. On passing the fingers up along the anterior uterine wall, the lower segment was found tense and thin; and, at least two inches above the symphysis, I found a well-defined contraction-ring. On bimanual examination, the difference in thickness between the upper and lower uterine segments was extremely marked, being, at least, three-eighths of an inch. Finally, it

was possible to determine the position of the contraction-ring by external palpation alone, the abdominal walls being thin.

The whole case was now clear: The head was too large to pass the flattened brim; but the decreased inclination of the symphysis brought the anterior end of the obstetrical conjugate so low, that, after the head had been subjected to the molding processes, that portion of it which lay anteriorly was almost at the vulva, while its greatest diameter was, in reality, above the superior strait.

The long-continued efforts of the uterus, exerted against an insuperable obstacle, had produced a state of tonic spasm of the uterine muscle, in which the cervix clasped the presenting part, while the head, as a whole, was pressed firmly against the pelvis by the uterus above. The lower uterine segment had become markedly thinned, and the woman was in a critical condition, in spite of the absence of the usual signs of exhaustion.

The question of treatment now presented itself. It was evident that to leave the case to nature meant ultimate rupture of the uterus; and, the child being in good condition, that the choice lay between the application of high forceps and version. Abdominal palpation proved that a sufficiency of liquor amnii remained; and as I felt sure that it would be extremely difficult to bring so large a head through a flattened pelvis by means of forceps, in addition to the difficulties in applying them with the head above the brim and through the undilated os, I decided to dilate and turn.

The os was quite resistant. Its dilatation occupied nearly 50 min.; and, though the child turned easily, the cervix closed so tightly upon the breech that I was obliged to make the extraction very slow, in deference to the risks to the mother.

There was no other real difficulty in the extraction; and the child, which weighed 8½ pounds, though born asphyxiated, was resuscitated without much difficulty. Convalescence was uninterrupted, and mother and child were discharged, well, on the fourteenth day.

This case was interesting to me, as illustrating the importance of watching the character and behavior of the pains, in addition to the condition of the mother. Here was a woman who might easily have appeared, on superficial examination, to be merely undergoing a long first stage. The pains were slight and infrequent; the head was apparently well into the pelvis, and more or less firmly fixed in position; the os was rigid and resistant; the fetal heart was strong and slow; the mother's pulse and temperature were normal; and she was resting well between the pains. It is in just such cases that an expectant policy is often pursued, for fear of doing meddling midwifery by interference with the os during the first stage; but the fact that pains of sufficient strength and regularity to produce a large caput had failed to dilate the os, and had died away, to be succeeded by faint and infrequent contractions, made it at least probable, that delivery was delayed by some obstacle other than the condition of the os; and examination under ether showed that, in spite of her normal pulse and temperature, the woman was in a condition in which extreme exhaustion, and probably rupture of the uterus, must have supervened within a few hours; while the relief of this condition, by the operation of version, was as yet by no means difficult or extremely dangerous.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

JANUARY 19, 1887. DR. A. D. SINCLAIR in the chair.

DR. J. S. GREENE, of Dorchester, reported

THREE CASES OF LABOR, TWO BEING BREECH, AND THE OTHER ARM PRESENTATIONS, WHERE THE ARMS WERE EXTENDED AND THE FEET WERE NEAR THE FACE.¹

DR. E. W. CUSHING mentioned the case of the son of the Crown Prince of Germany, at whose birth Ed. Martin was the accoucher. The clavicle or humerus was broken, and partial paralysis of the arm ensued, preventing, it is said, the power of handling a sword.

DR. EDWARD REYNOLDS reported

A CASE OF DIFFICULT LABOR.²

DR. SWIFT said he had been very much interested by the paper, as he had had two quite similar cases. One where the pelvis was flattened, and the other a universally contracted pelvis. In both labor was allowed to go on for a long time without the condition being suspected, the patient in each case, to all appearances, being well formed.

He thought that when we were engaged for a case of confinement in a primipara the pelvis should always be measured as soon as possible.

It seemed to be the opinion that contracted pelvis was very rare in this country, but he thought the condition must be getting more common, for he had met with several cases lately.

DR. FARLOW said he was much interested in Dr. Reynolds's allusion to the thinning of the lower uterine segment. Particular attention had been called to this point by Bandl, of Vienna, whose pamphlets on the subject had excited considerable discussion. When, in a case of tedious labor, it is found that the lower portion of the uterus is thinning, especially anteriorly, we should at once try and make out whether this thinning is not due to the continued ineffectual attempts of the uterus to expel a child through a narrowed pelvis. Steps should at once be taken to ascertain the pelvic diameters, if possible. It is this lower and thinned portion of the uterus that rupture usually takes place, and not at the fundus, and forceps or version should be considered without delay. Very little has been said or written here about this condition, but in Vienna it has received considerable attention. In regard to version, Dr. Farlow mentioned a case of narrow pelvis which he had recently had, in which ordinary forceps and axis-traction forceps had failed, and where version and forceps to the after-coming head had been successful.

In answer to a question of Dr. Fitch, as to how far Bandl's ideas on the subject of a ring above the os internum are accepted, Dr. Farlow thought that less reliance was placed in its existence and significance than Bandl had hoped, but that such a ring often existed Bandl's plates seemed to prove beyond doubt.

DR. EDWARD REYNOLDS, in answer to a question of Dr. Irish, said that in a flattened pelvis with the

greatest diameter of the head still above the brim it was better to turn, because the forceps would compress the head laterally and increase the length of the antero-posterior diameter. His experience with version in the flattened pelvis had given him confidence in that operation.

DR. REYNOLDS thought that the pelvis should be measured in all cases where circumstances permitted it. He has had experience with some ten or twelve cases of flattened pelvis. His method is to measure internally with two fingers, getting the distance between the pubic arch and the sacral prominence during the first examination in labor, and to make more extended measurements if there seemed to be reasons for it.

DR. BLODGETT stated that he had had one case, in which the pelvis was apparently similar in shape to the one reported in the interesting paper by Dr. Reynolds. The child in this instance was large and very high up and, after some delay, the services of the senior Dr. Reynolds were obtained in consultation. He fully concurred in the opinion of the condition of the pelvis, and after some further delay the high forceps were applied. In spite of the most strenuous efforts, no apparent advantage resulted from this procedure, and it was considered advisable to perform version. This was with some difficulty accomplished and proved the means of comparatively rapid, though by no means of easy delivery. The maternal passages were considerably lacerated, and there was dangerous flooding, with imminent peril to the life of the mother. The perineum was wholly restored without operation, and the mother has since been again confined with no serious complication so far as heard from. Dr. Blodgett feels that in a similar case he would resort to version at an earlier stage in the case, both in the hope of averting a certain degree of augmented danger to the mother, as well as of affording the possible means of saving the life of the child, which is often sacrificed by too long delaying necessary operative interference.

DR. CUSHING spoke of the custom in Vienna of waiting ten to fifteen minutes during the operation of version when the child had been turned, so that the foot came outside before completing the delivery. It is much better for the child, and less children are born asphyxiated. During the process of turning the child's heart becomes rapid, fluttering and irregular, and it requires ten minutes to quiet it. And ten minutes or often more are necessary for the uterus to relax its contractions which hold the child. He had a case of this kind and could not deliver the head, but in about twenty minutes it came out easily. Dr. Morland had a similar case. The head was gripped and could not be delivered, and both woman and child were lost.

DR. A. E. McDONALD mentioned a case, which he had had about eight years ago, where it was the woman's last chance, owing to her age, of having a living child. Being over-anxious on this account, the body was immediately brought down, but the head was arrested, by being firmly grasped by the uterus, defying all reasonable efforts at delivery; but, after a few minutes, the spasm subsided, and the head was easily delivered, but the child was beyond resuscitation. Since then it has been his custom to wait, after turning, some ten or fifteen minutes, before pressure is made on the cord, to give opportunity for the tonic uterine spasm, caused by the manipulation, to subside, as delivery of the head is then more easily accom-

¹ See page 325 of the Journal.

² See page 329 of the Journal.

plished. He said that he had had five or six cases in which he had applied forceps to the after-coming head in flat pelvis, in none of which he had met with any difficulty.

DR. FIFIELD mentioned a case of a woman, pregnant to term but not in confinement, to whom he was called about midnight, on account of retention of urine. No pain. She had not passed urine since noon the day before. Examination of the abdomen showed a distended bladder. Per vaginam the os was found partially dilated and membranes were to be felt. An effort was made to pass a silver catheter but an obstacle, apparently the head, presented. He tried a gum-elastic catheter in vain. He then went home and obtained several small olive-pointed catheter bougies, and, after trying several, he succeeded in passing one, about a No. VI. The urine came out in fast falling drops, to the amount of two and one-half cupfuls; some more was lost. Pains then started up at long intervals, and in six hours he ruptured the membranes. The pains then increased and at nine o'clock the next morning high forceps were applied and the child delivered. A full-sized catheter was then passed. If he had not had the small catheter it would have been necessary to have aspirated. He said he should not hesitate to aspirate once or twice, but should not care to repeat the operation.

He considered the relief of the bladder of two-fold importance. He recalled a case which he saw in consultation, where the woman had not passed urine for a long time. The physician in attendance had tried forceps in vain. Dr. Fifield passed a catheter and the delivery followed at once.

He spoke of an English physician who said he had prevented flooding by passing the catheter after delivery of the placenta; it permits the uterus to contract.

DR. R. J. P. GOODWIN mentioned a case of a prostitute to whom he was called to remove the fragments of a broken glass syringe, which she had been using for masturbation. About one-half of the syringe was broken in fragments within the vagina, and he was in a quandary what to do. If he inserted his finger to remove the glass he would cut it, and the soft parts might be injured. With a Davidson syringe he pumped the vagina full of olive oil, holding the lips of the vulva firmly closed, and then telling the woman to stand, and spread her legs open, after stamping upon the floor to allow the glass to gravitate downwards, he let go the vulva and out came the glass fragments and oil together, without the slightest injury resulting therefrom.

DR. FIFIELD spoke of a woman to whom Dr. Appleton was called in Florence, to remove a broken syringe. He pumped the vagina full of gruel with beneficial results.

ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

C. F. WITHINGTON, M.D., SECRETARY.

MEETING March 24, 1887.

DR. CALL in the chair.

DR. COTTING reported a case of

RADICAL RELIEF OF INFLESHED TOE-NAIL.¹

DR. GOSS said that he had often seen this operation

performed, and in some very desperate cases. He remembered the instance of a young gentleman, who had been quite crippled for a long time by the disease, and had submitted to many and various kinds of treatment, some quite severe, without avail. At the time when seen he was completely laid up. Both great toes were hugely swollen, and intolerably painful—with foul, open, fungoid ulcerations on the sides of each.

Four very large and thick slices were removed at the same time. Relief was immediate, and the result entirely successful. The toes became symmetrical and shapely, so much so that when, a year or two after, he underwent a thorough, from head to foot, examination for a Naval Commission, the examiners apparently failed to detect that he had ever been subject to the malady. He subsequently reported that he had found that he had as good-shaped and as useful toes as any other officer in the service.

DR. GOSS recalled another case also cured by this method where the ailment had recurred after the evulsion of the nail. He never knew of a case of failure by Dr. Cotting's method.

DR. WITHINGTON spoke of the cicatrix he had examined in one of Dr. Cotting's old operations, as having drawn all the soft parts so thoroughly away from the edge of the nail as to preclude any possibility of the lesion ever being reproduced. The shape of the toe was good, and, apparently, had been essentially improved by the operation.

DR. SEAVERN asked Dr. Cotting if he had not formerly advised the including of a slip of the nail in the slicing off of the side of the toe.

DR. COTTING replied that he had not;² but that he had said that, while not necessary, if, in attempting to secure quite enough, the edge of the nail should by chance happen to be included in the cut, no harm would arise therefrom.³ It is better to remove too much than too little. By force of habit he generally operated by one continuous rapid stroke of the knife,—an important point in his first cases before the discovery of anaesthesia.⁴ Now, some operators, in order to secure the exact amount predetermined on, pass a double-edged knife midway by the side of the nail and downward through the toe, very deliberately (the patient being under ether) cutting out both ways, forward and back. By so doing the nail is not put to any risk whatever. Nevertheless, the edge of the nail should be completely exposed throughout its whole length.

DR. SEAVERN asked also if the wounds were not sometimes very slow in healing. He had had one patient who was greatly annoyed because of long delay in this respect.

DR. COTTING replied that he had never known of any tedious delay; that, in his experience, the healing was as rapid usually as in other wounds of similar gravity. Besides, the tendency of the wound is always towards healing; that of the disease seldom, if ever.

DR. GARCEAU, who had performed this operation many times, now employs as a tourniquet a small rubber tube (such as usually comes with nursing bottles). After compression is effected, he removes the tube in part, from below, leaving the other portion on until the operation is over, and the dressings applied. He touches the surface of the wound with the perchloride

² Boston Medical and Surgical Journal, May 17, 1866, p. 340.

³ Ibid, Jan. 2, 1873, p. 5.

⁴ Ibid, June 25, 1879.

¹ See page 324 of this number of the Journal.

of iron. Patients thus treated, have been able to walk about at once in soft slippers; and some have gone to their business the day after the operation. With him Dr. Cotting's method has always succeeded. He had operated on persons, half a dozen at least, of over seventy years of age, without a failure or an accident.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 17, 1887.

DR. T. MITCHELL PRUDDEN read a paper on

BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE SUPPLY OF NEW YORK CITY. AN EXPERIMENTAL STUDY.

He first gave a description of the recent method of the biological analysis of water, and then showed that by it we could detect with great certainty the presence of bacteria, some species of which are capable of giving rise to the most serious disease. When we had determined the number of bacteria present in water or ice, however, a careful consideration of other conditions was still imperative in order to determine whether the water or ice was fit for use. The popular impression that water purifies itself in freezing was only partly true, so far as the bacteria are concerned. The partial purification from bacteria was accomplished, not by their expulsion from the water, but by the death of a certain proportion of them; so that if the bacterial contamination of the water were extreme, or were largely made up of the more hardy species, the ice formed from it, even though quite transparent, might still contain large numbers of the living germs. His experiments showed that bacteria of different species possessed differing degrees of vulnerability to the action of low temperatures. Certain species which were capable of producing serious and even fatal diseases in man—the bacillus of typhoid fever and the common bacterium of suppuration, for example—were capable of resisting a prolonged low temperature, with the destruction of only a part of the individuals thus exposed. In the case of the typhoid fever germ the exposure has lasted seventy-seven days. The resisting capacity of the different species was found to vary with the vitality of the individuals, the degree of temperature, and the time of exposure; while alternate freezings and thawings sufficed to entirely exterminate in a short time all species experimented on—even those which could endure a sustained low temperature for long periods. In this investigation, data were gathered which seemed to justify the conclusion that in the freezing of natural waters there may be a purification from bacteria amounting to as much as ninety per cent. The effect of freezing on water was shown to be comparable to that of filtration, but with this vital difference, that whereas by filtration, all forms of bacteria are removed in approximated equal ratio in the process of freezing, which acts as a sort of relative filtration, some of the most dangerous forms may be retained, while others are destroyed.

The supply of ice for New York city was principally derived from a series of naturally excellent lakes or ponds, and from the Hudson River; the latter constituting by far the most important source. This was a great tidal stream rich in sewage pollution. The

ice was harvested mainly between Troy and Poughkeepsie, and in the upper part of this region the river received the entire sewage of the large cities of Albany and Troy; to say nothing of such smaller places as Cohoes and Lausburgh, and the contaminations which the Mohawk River brought from the West. While, however, the conditions on the upper Hudson did not seem, during the ice-forming season, to be such as would favor purification from organic matter by oxydation, they did yet seem to be theoretically and were shown to be practically favorable to a considerable degree of spontaneous purification from bacteria by sedimentation. Still the limits and extent of this purification were yet to be determined.

Coming to the actual analysis of the ice brought from the Hudson and from the lakes and ponds referred to, it was found that there was a much greater number of bacteria in the snow-ice than in that which is clear or moderately full of bubbles. The species of bacteria were much more varied and abundant in the river-ice than in that from the other sources, while in both there was a considerable proportion of the relatively harmless water bacteria. While the number of living bacteria varied greatly, not only in different parts of the same block of ice, but also in ice from different parts of the river, and from different lakes and ponds, the average number was considerably greater in ice from the river than from the lakes and ponds, even when Albany ice, which is the worst of all, was excluded from the estimate. It was found, also, that the average number of bacteria in ice from all sources taken together, was far beyond the general standard which even a moderate degree of purity would allow.

We now stood face to face, Dr. Prudden went on to say, with the most difficult and at the same time the most important part of this study, namely, the interpretation of its results and the suggestion of its practical lessons. The natural situation of the lakes and ponds was good, and evident sources of contamination with sewage and excrementitious material could be largely excluded. Whether in the case of Rockland Lake, which was the most important source of this character, certain dwellings on the hillside near by might furnish a source of absolute danger in the event of an outbreak of typhoid fever there or not, he was not prepared to say. As regards the lake and pond ice, in general, we might conclude that, although the product from some of them contained a larger number of living bacteria than was consistent with the highest hygienic standards, the conditions could be readily changed so as to render them quite unimpeachable; while in some cases, notably in the smaller ponds, the ice, so far as his analysis showed, was well within the ordinary standards of excellence.

The Hudson River, on the other hand, stood on an entirely different basis. Now, given the Hudson River ice as we found it, and knowing what we did of the character of the stream, what actual danger had we to fear from the use of the ice for drinking purposes? A considerable number of the bacteria which it contained were undoubtedly the relatively or absolutely harmless species which may exist in any natural river or spring water; but a large number might, with equal certainty, be assumed to originate from animal excreta. Here, again, it was scarcely to be doubted that a considerable proportion of the bacteria existing in sewage, and coming from human and other animal

excreta, and the varied putrefying fluids which form a prominent ingredient in the water of populous towns, might not be positively dangerous if taken into the body, in moderate quantities, in drinking-water. So far as such bacteria went, it would seem to be largely a matter of taste, on the part of the consumer, whether or not he used such material for drinking purposes. On the other hand, in every large town, like Albany or Troy, and in smaller towns in lesser degree, a considerable quantity of bacteria, which are the cause of serious disease, were more or less constantly passing into the sewers in the excreta and other waste; and here, the use to which this diluted sewage should be put ceased to be a matter of individual preference, because the interests of the public health were involved.

There were some varieties of diarrhœal disturbance, sometimes severe and sometimes mild, which often seemed to depend upon impure water or ice; but whether they were occasioned by sewage or other bacteria, or by organic matter, or by both, was not yet certain, so that this class of cases could be left out of view. Fortunately, cholera and anthrax, both bacterial diseases transmissible by drinking-water, were not ordinarily present in the sewage of the region under consideration; so that these diseases, although they could not be ignored by those having the public health in charge, did not fall within the scope of the present study. But there were two very common and very important bacterial diseases which were almost constantly present in large towns, like Albany, and frequent enough in villages, like those along the shores of the Hudson: These were typhoid fever and the affections associated with acute suppuration, and the so-called blood-poisoning from wounds or pyæmia. Now it was, unfortunately, true, as Dr. Prudden's studies had shown, that the bacteria causing these two forms of disease were markedly resistant to the temperature at which ice forms. The most important of these was the typhoid bacillus. The health statistics of Albany did not show the number of cases; but, for the past three years, the number of deaths from typhoid fever in that city during the ice-forming and harvesting months, that is, from December to March, had averaged about sixteen for each year. Reckoning the death-rate at thirty per cent. (which was unusually high), there would be, each year, about fifty cases of typhoid, whose excreta would pass directly into the Hudson River from Albany alone during the ice-forming season. He had been informed that, in Albany, as in most American towns, there was no systematic disinfection of the typhoid discharges, either in hospital or private practice. The bacteria of typhoid fever had been repeatedly shown to be capable of living for a considerable time in water; and, according to Frankland and other authorities, they might even proliferate in water. Dr. Prudden had also found, as has been stated, that when frozen up in ice, a certain proportion of these bacilli might live on for long periods, ready, when thawed out and placed under favorable conditions, to go on growing or proliferating, just as before their hibernation.

Here, then, as it seemed to him, was the positive source of danger in the use of the Hudson River ice directly for drinking purposes, without some form of filtration; at least, until it could be ascertained at what distance, if at all, below Albany and other towns, whose sewage drains into the river near the ice-fields, a safe degree of bacterial purification of the water by

natural means might have occurred. The typhoid bacillus had not been detected in the Hudson River ice; and to detect it, even though present in considerable numbers, in its mixture with other species, and in the large dilution which exists, presented very great practical difficulties. It had been found in water suspected to be the cause of certain local outbreaks of typhoid fever, but the conditions for its discovery were much more favorable than in the present case.

If, on the other hand, we looked at the cases of typhoid fever as they were constantly occurring in New York and the adjacent towns, in which the Hudson River ice is used, we did not find, and we should not expect to find, any marked excess of typhoid fever from among those who habitually use ice for drinking purposes over those who do not. This was because the sanitary surroundings of the classes which use little ice were so much less favorable, as a rule, than those of the habitual ice consumers, that other sources of infection, equally, and even more efficient, would abundantly cover any difference in the number of cases in the two classes that might otherwise be noticeable. Whether infection through impure ice is of frequent or infrequent occurrence, was not now known. That it was not, however, so important a factor in the transmission of the disease as to render the typhoid fever statistics of New York worse than those of other towns, whose residents use cleaner ice, was certain. But there was a considerable number of cases of typhoid in which the most painstaking examination of the sanitary surroundings of the victims and their personal contacts failed entirely to account for the origin of the disease; and some of these might well be cases of ice-poisoning from the typhoid bacillus.

It was to be remembered in considering this, as all other bacterial diseases, that the bacteria themselves were only one factor in determining the disease. There was to be taken into the account also the number of the bacteria — that is, the size of the dose — and the conditions of predisposition or susceptibility of the individual. Unfortunately, however, we know nothing about the number of typhoid bacilli necessary to induce the disease in man, and we were nearly equally ignorant concerning the nature of the predisposing conditions. So, then, if we summed up what we really know about the relation of Hudson River ice to typhoid fever, we could only say that it is certain that the ice from some parts of the river must contain the bacteria of typhoid fever, and that these may be taken into the system in a living condition with ice-water. Whether the necessary relationship between the number of bacteria thus taken and the condition of predisposition of the individual occurred frequently, or ever occurred at all, we could not positively say; but the grave character of the disease should warn us against indifference and impress upon us the importance of adopting such measures as will secure the consumer against even the possibility of such infection.

With the bacteria of suppuration and pyæmia, the case seemed much less serious, because of the very general antiseptic treatment of wounds now in vogue; but the fact that the *staphylococcus pyogenes* might be in the Hudson River ice in a living condition should not be lost sight of.

Dr. Prudden next considered the practical measures which, as these studies seemed to show, should be adopted in order to guard against a not only possi-

ble, but very probable, source of danger in the Hudson River ice. He would not leave out of sight the great and important private and corporate interests which are involved in the supply and consumption of ice; nor would he wish in any measure to suggest by these studies a curtailment in the consumption of ice, even for drinking purposes. The measures which might be adopted in view of the present condition of affairs were of two kinds; first, such as would come under the supervision of health officers, and, second, those which belonged in the province of the individual consumer.

In the first place, then, it would seem necessary that the State Board of Health, or some other authorized body, should be placed in charge of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water-supply, determine which, if any of the sources of ice-supply are so situated as to imperil the health of consumers of ice. In view of Dr. Prudden's investigations, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage pollution at which it might be safely assumed that the water had freed itself from the bacterial and other impurities sufficiently to form safe ice. It might in this way be possible to remove any chance of danger by permitting the questionable or bad ice to be sold only for cooling purposes, if such a classification were practicable, and thus not materially interfere with the interests of the ice companies. A compulsory system of disinfection of excreta in infectious diseases might be instituted, as it had been in other countries in which the purity of the water-supply was under constant supervision.

As regards the precautions which the individual consumer might adopt, it was evident, from the facts that had been brought forward, that if he could be certain that his supply came only from the lakes or ponds he would secure for himself a fair degree of immunity from danger. Remembering that the larger and more responsible ice companies did not, so far as he was aware, cut ice in the immediate vicinity of Albany, but at a considerable, and in most cases a great, distance below, the householder might eliminate to a large extent his hazard by finding out as accurately as possible just what part of the river his ice came from. Whatever the source of supply, however, the large excess of bacteria which in almost all cases the snow layer harbored, over transparent and sparsely bubbly ice, would render imperative the avoidance of snow-ice for any but cooling purposes. Still, it was not to be forgotten that perfectly clear ice might contain very large number of living bacteria.

A variety of devices could be adopted in the use of ice for cooling drinking-water so as to avoid placing it in the water itself; or recourse might be had to artificial ice made from pure water, which, as abundant experience had shown, could be furnished at a cost not greatly exceeding that at which the natural ice was furnished. This artificial freezing of pure water was already done in some of the European cities in which the natural ice contains large bacterial impurities.

In this series of pioneer studies on the bacterial impurities of ice, Dr. Prudden said he would rest content with having by experimental means endeavored

to give definiteness and precision, not only to the problem in general, but to the detailed questions which arise in connection with the ice-supply of one particular town. It would appear, he thought, that we now know with tolerable certainty just what series of questions are to be answered, and what investigations made, in order to decide upon the safety of any given source of ice-supply. But these detailed investigations could only be made under the sanction and direction of the public authorities. It was unfortunate that a certain amount of perhaps entirely unjust opprobrium was now attached to all the Hudson River ice, when it should perhaps belong only to that harvested in particular regions. It would seem, therefore, that it is greatly to the interest of the ice companies, as well as the public, that the State Health Authorities should take the matter of systematic examination of the Hudson River ice-fields at once in charge.

In conclusion, he said he wished to express his sincere hope that this study might not be looked upon in a sensational light, nor regarded as a polemic against ice companies or dealers, or against the free and wonted use of ice. A most thorough personal examination of the ice harvesting and the purpose and practice of the more responsible dealers led to no other conclusion than that they were as desirous as could be reasonably expected of them to furnish a clean product to the market; and so far as the current knowledge hitherto had gone, had apparently done so. But, in the clear light which the new methods of science throw upon the whole subject of important ice impurities, it seemed necessary that a sweeping reform in some respects should speedily be brought about. This long series of studies had been carried out in the hope that in the light of its results the rapidly-developing discipline of Preventive Medicine might find a plan of curtailing in some degree the number of annual victims to preventable disease.

Recent Literature.

A Manual of Diseases of the Nervous System. By W. R. GOWERS, M.D., F.R.C.P. Volume I. Diseases of the Spinal Cord and Nerves. 8vo. pp. xv. 463. With 171 illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

The many readers of Dr. Gowers' two books on the brain and spinal cord have been looking forward with eagerness to his long promised work on diseases of the nervous system, and the volume before us will more than repay their expectations. The author's aim has been "to give an account of diseases of the nervous system sufficiently concise . . . yet adequate in its outline," and the result is decidedly a success.

The introductory chapter on classification, however, is not calculated to add to the author's reputation as a pathologist. Considering the ordinary classification into organic and functional diseases inadequate, the author adds two other classes—"structural," where the changes can be seen only or chiefly by the microscope, and "nutritional," where the changes are molecular and invisible. Sclerosis is given as the type of the former, and general paralysis, paralysis agitans, and chorea as types of the latter. Fortunately the

author does not obtrude this classification upon us in the rest of the book, so that it does but little harm.

General symptomatology is next discussed clearly and briefly, sections being given to disturbances of motion, sensation and nutrition, reflex action, and electrical phenomena. Under tendon-reflex, or "myotatic contraction," the author repeats his former statements that these contractions are not reflex, but that probably passive tension of a muscle "excites, by a reflex influence, a state of extreme irritability to local stimulation." A brief but clear account of electrical reactions is given here as an introduction to a full discussion of the subject in the section on diseases of the nerves. This introductory section is concluded by an admirable chapter on the action of the different muscles and the effects of paralysis of them, based largely on Duchenne's "*Physiologie des Mouvements*," and illustrated by a number of outline drawings. Such a chapter is a novelty, and taken in conjunction with the detailed accounts of the functions of the peripheral nerves and the different segments of the cord, which are given later, renders the diagnosis of any form of spinal or peripheral paralysis a comparatively simple matter.

The section on diseases of the nerves shows the enormous advance made in our knowledge of the subject in the last five years. It is certainly a surprise, for neuralgia and spasm are not touched upon, while sixty pages are devoted to the structural diseases of the nerves,—injury, neuritis, and neuroma. The pathology of nerve injury and neuritis is based almost exclusively upon the work of Ranvier and Pitres and Vaillard, the work of Neumann, Mayor, and others, being neglected. The subject, however, is presented clearly and in sufficient detail for the student. Sciatica is, with much reason, given a place among the neuritides, rather than among the neuralgias. An excellent chapter on multiple neuritis in its various forms, including beri-beri and leprous neuritis, concludes this section.

The third part is devoted to the diseases of the spinal cord, and occupies the remaining 350 pages of the book. The author's own investigations in regard to secondary degeneration enable him to speak from experience as to the anatomy of the cord, and the course of the different systems of fibres, but the work of others is by no means disregarded, and we have one of the fullest and clearest chapters on the anatomy of the cord to be found in any recent work. As an example of the admirable simplicity of some of his explanations for the student we would call attention to the diagram of an element of the motor tract on page 116, where we see the motor fibre, apart from the complexity and confusion of anatomical detail, set forth so plainly that the stupidest student can grasp the idea of it, and comprehend the localization of its diseases. The chapter on anatomy is followed by equally good chapters on the functions of the cord, and the general symptomatology of its diseases, and then the different diseases are considered in turn.

We must thank Dr. Gowers for having been the first, since Leyden, to devote a section to the diseases of the vertebral column, for, as he himself says, the work would be incomplete without "some mention of the morbid states that begin" in the spine itself. These morbid states, he thinks, give rise to symptoms due not simply to pressure upon the cord, but to a true myelitis set up by the neighboring morbid process. In the section on diseases of the meninges he still holds

to a belief in a primary chronic leptomeningitis. The diseases of the cord itself are divided broadly into two great classes—inflammatory processes and degenerative processes—the inflammatory character of tabes and progressive muscular atrophy being denied. With this latter disease are also considered, for convenience, pseudo-hypertrophic muscular paralysis and the various forms of myopathic atrophy. We have not space to dwell upon this portion of the work, but we must call attention to two important statements. Most of us, although admitting with Strümpell the pathological identity of progressive muscular atrophy and amyotrophic lateral sclerosis, have still held to a clinical and anatomical distinction between the two, but Dr. Gowers not only denies the definite clinical distinction, but holds to the anatomical identity of the two diseases. "I have not yet met," he says, "with a single case of progressive muscular atrophy in which the pyramidal tracts were unaffected, and I am not aware that any case of the kind has been published since attention was directed to the affections of these tracts by the researches of Charcot." His prognosis in tabes, too, is much more hopeful than that given by most writers. "It is not uniformly bad. Arrest is frequent, considerable improvement is not rare, but perfect recovery scarcely ever takes place." In his description of the various diseases he is always clear and well up with the latest researches, his articles on pathology are admirably complete, his symptomatology and diagnosis are excellent, and in treatment he is wisely sceptical. As an example of this we would refer to his remarks upon the value of electricity in infantile paralysis, on page 270.

A word must be said for the illustrations. The author has spared us the old friends that have done duty for twenty years or more, and given us a large selection drawn chiefly from his own cases. They all of them show admirably what the author wishes to call attention to, and the various sections of the nerves and cord look like the reality, although in some the process does not fully represent the character of the tissue.

We shall look for the second volume of this work with great interest, for, if it maintains the standard of this one, we shall have a work that may be considered the best treatise on diseases of the nervous system in the English language.

Elements of Static Electricity. By PHILIP ATKINSON, A.M., Ph.D. pp. 227. W. J. Johnston, publisher. 1887.

This elementary treatise on static or frictional electricity is very concise, and is clearly written. It has no practical application to medical treatment, but would prove of value to any medical practitioner who may desire to use this form of electricity in diseases in which it may be indicated. In our opinion these indications are but little understood and would probably be restricted to certain forms of hysteria, in which sudden electrical shocks might produce favorable moral effects.

The explanation of the physical causes and effects of lightning and thunder is very graphic, and well conceived.

—Dr. John S. Billings has been appointed Lecturer on the History of Medicine in Harvard University for the current year.

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Medical and Surgical Journal.

THURSDAY, APRIL 7, 1887.

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THE MOVEMENT TOWARDS PHYSICAL
CULTURE.

WE cannot allow the opportunity to pass, which is presented by the lecture of Professor Hartwell, to be found in this and the preceding number of the JOURNAL, without again calling the attention of our readers to the importance of the subject of physical training, especially as a constituent part of every properly-designed educational system. Professor Hartwell's lecture brings out with especial emphasis one most important point, namely, the relation between muscular exercise and central nervous activity. It has been much the custom to speak of physical exercise as a useful addendum or supplement to mental training, but it is time educators were shown, what they can best learn through the medical profession, namely, that muscle-training is brain-culture. The phenomena accompanying a given muscular act are not confined to the renewal of tissue in the muscle contracted, but include, as well, the original motor impulse of the central nervous organ, the action of the coördinating centre, and the transmission of the impulse through the nervous trunks to the motorial end-plates, as well as the afferent impulse to the centre of the muscular sense, conveying information of the work that has been done.

A training merely by books, a training simply through eye and ear, must leave such parts of the brain undeveloped as are connected with the motor and sensory centres of the great muscular systems of the body. The manual training schools which have come into vogue of late years are thus seen to be something more than mere utilitarian schemes. They give an actual mental education. The old-fashioned apprenticeships, with their seven years of precise manual training, were, perhaps, after all, not so immeasurably inferior as educational methods, in the broad sense of the term, to the common school system of the present day.

The present methods of teaching chemistry and physics recognize the hand as a most important channel through which to reach the brain, for the best teachers

are aware that it is not through seeing certain experiments performed, least of all, through reading of them in a text-book, that the pupil gets the most good. The personal use of instruments of precision involving, primarily, the tactile sense, is worth more as an educational agency than a fluent repetition of all the laws of physics.

Handcraft is a good path to rede-craft. Indeed, the very history of the words *craft* and *cunning*, before they acquired their modern sinister meaning, shows that muscular skill and strength led to mental power. As some one, we believe Carlyle, has said, the cunning man is the *canning* man — the man that *can*, the true *könig*, or king of men.

Though we have not the pleasure of noting, as yet, any serious and general attempt to incorporate physical training into our public school system, there are not wanting tokens that the public mind is awaking to the importance of the subject, and that a sentiment is forming, which will, sooner or later, make itself felt on boards of public education. A movement begun in Boston, this spring, towards the formation of an athletic club, has met with a most enthusiastic reception. Before a situation has been even decided upon for a building, the limit of membership is already full, a thousand names having been enrolled.

The alumni of Amherst College recently held a meeting in New York, at which it was decided to establish a professorship of physical culture in that college, in memory of Henry Ward Beecher. The endowment of \$50,000 is now, we understand, in process of being raised for that purpose.

During the past winter, a gymnasium for women has been opened in Boston, which is probably superior to anything of the kind in the United States. The gymnasium has existed here for nine years, but has been hitherto cramped by insufficient facilities, until its friends erected the present commodious structure, where about 350 women and children are now regularly instructed in the best methods of physical culture.

A hall 96 × 63 feet, and 34 feet high, well lighted and ventilated, is furnished with all the requirements for light, and many for heavier gymnastics; while fifty-two dressing-rooms, each with a bowl set above an asphalt floor, give the opportunity so important for sponging and rubbing after the exercise. To see a class of fifty women, in easy-fitting gymnastic habit, going through the dumb-bell and chest-weight drill, to musical accompaniment, and ending, perchance, with a few laps on the patent running track, is a sight that once would have been a surprise. But this work is going on steadily and quietly, and with results which are already apparent to the friends and physicians of some of the pupils, and whose good effects are to be confidently looked for in the coming generation of children.

A particularly interesting feature of this work is the establishment of a normal class for the training of teachers of gymnastics for women and children. That there is to be a call for such teachers seems very evi-

dent, and the work opens a new field for female labor, which, in the present overcrowded state of many other callings for self-supporting women, will probably attract those whose tastes lie in this direction. The importance of skilled supervision of all persons, male, and perhaps we may add, especially female, who undertake to work in regularly-equipped gymnasia, is sufficiently obvious. But it is also desirable that such instruction may be given to women, especially those who are already teachers of other branches in the schools, so that they may be able to teach *con amore*. "hall gymnastics" so soon as the time is ripe for the introduction of such exercises into the public schools. In Germany, a normal course in physical culture is required of school-teachers, as a prerequisite to receiving their commissions, and it is only as taught by the regular teachers that a system of physical exercise can ever be successful in the schools.

A collateral fact which almost escaped our attention but which illustrates one phase of the athletic *renaissance*, is the growing favor of "slugging" both as a profession, and a means of elegant spectacular recreation among the favored sons of fortune. A recent bloody and highly successful "mill" in the neighborhood of Boston was, if the uninvited but ubiquitous newspaper reporter is to be believed, largely officered by men not unknown to the most esoteric circles of the social, professional, and (shall we add?) the literary world. While the recent death of a city father who won his early triumphs in the prize-ring and who did not disdain to put on the gloves for money and fame, even after he had attained the acme of his municipal aggrandizement, seems to remind us of our likeness to ancient Greece, when to win in the Olympic games was the shortest road to the highest civic honors. It is indeed to the wearer of the castus that such preferment is now chiefly reserved, and the hero after receiving the homage of his countrymen during life, has a mighty funeral while the "championship belt" in choicest exotics is laid upon his bier.

IS ALL MATTER ENDOWED WITH A SENSE OF FEELING?

PROF. PREYER, of Jena, has published in the *Deutsche Rundschau*, an article, reproduced in the *Popular Science Monthly*, which restates the view, advocated by Heckel, and by Lewes, that there is no hard and fast line between the sentience of the higher animals, and the *sensitiveness* which inorganic substances (for example, the photographer's plate) and plants manifest. "It is," he says, "in accordance with facts to assume that there is no well-developed dividing line between beings capable and things incapable of feeling, but that all matter is endowed with a certain *sense of feeling*, which, however, only with a definite and an extremely complex arrangement and vibration of the molecules, will develop into *feeling*."

"The simple bodies, the dead elements, therefore, although for the most part very easily changed through slight influences, are, in spite of their dim sense of feeling, not able to feel perceptibly (*sic*), but as soon as they become part of the ganglionic cell of the brain, or only of the living protoplasm (through assimilation of food), they, combined with others, will by indescribably complex vibrations, cause feeling to arise whenever an impression is made on them."

"Every physiological expression must, above all, be in perfect accord with morphological, mechanical and chemical facts: on that all physiologists lay the greatest stress, but I do not understand why, regardless of physiological facts, morphologists, physicists, and chemists should be allowed to declare their explanations and principles to be the only true ones, or even the only possible ones. It has been demonstrated that matter must have other fundamental properties besides those ascribed to it by physicists and chemists. The axiom of mechanics, 'Matter is dead!' will soon become obsolete, since a sense of feeling is inherent in all matter. . . . No one can hear a single leaflet tremble in the wind, but during a storm the roaring of the forest caused by many leaves rustling together may reach awe-inspiring power. Similarly, each molecule of matter may feel imperceptibly little, when vibrating by itself, while, together with many particles feeling likewise imperceptibly, it may coöperate in manifesting feeling, which, like lightning, arises and vanishes."

"Through this conception, through acknowledging evolution and the sense of feeling, the whole of Nature may be brought into harmonious connection."

The above citations seem to us only another desperate and not very successful attempt to construct the psychological out of the physiological and material. With all due respect to Prof. Preyer, we are unable to understand what it is to have a "sense of feeling" without being able to "feel" or what it is to "feel imperceptibly." We cannot, however, forbear sympathizing with every effort to bring "the whole of Nature into harmonious connection."

FLUID EXTRACTS vs. TINCTURES.

DR. H. S. LOTT in the *Atlanta Medical Journal* has called attention to the relative superiority of fluid extracts over tinctures. As defined in the "United States Pharmacopæia," "fluid extracts are permanent concentrated solutions of vegetable drugs, made of such strength that one fluid ounce contains the medicinal principles and represents the virtues of one troy ounce of the drug." One minim of the fluid extract is believed to be equal in strength and virtue to one grain of the drug, while being at the same time freed in great measure from the inert principles of the crude drug. It cannot be said that tinctures are so convenient of administration, or so well represent the active properties of the drug.

"Tinctures," the writer says, "are alcoholic solutions of medicinal substances as such, and by virtue of the necessarily various processes by which they are obtained, they cannot be made of uniform strength—uniform in the sense which we, as prescribing physicians, would have them. For instance, one tincture will represent twenty per cent. by weight of the strength of the drug, and another will only represent five per cent. And why must this be the case? Because the nature of the plants has willed it so. One plant holds its active medicinal principles in a readily soluble state. As soon as the alcoholic or ethereal menstruum is poured upon the powdered drug, it yields up its active virtues and only a residuum of inert substance is left, while another plant contains a much smaller per cent. of the active principle, or becomes exhausted by the menstruum less readily. Thus you see how utterly impossible it is for us to have, in accordance with the justly fixed laws of the pharmacopœia, our tinctures of a uniform strength, representing relatively minim for grain; whereas, the same facts which militate against the use of tinctures recommend fluid extracts as possessing advantages which are beyond question, and the nature of these facts is such that their truth will be at once recognized by all intelligent and practical observers.

"In the manufacture of fluid extracts—and in this I have the high authority of Parke, Davis & Co., and E. R. Squibb—the relative connection between the drug and the menstruum is considered well, and demonstrated by experiment, before the process of exhaustion is begun. Such menstruum is selected as will most thoroughly exhaust the drug of its active medicinal principles, and having obtained these, free from inert and deleterious substances, will preserve them in a pure and healthy state for an indefinite space of time."

Dr. Lott claims that fluid extracts, while just as easily administered as tinctures (a smaller dose only being required), may be rendered quite as palatable by giving them in glycerine and water as a menstruum; moreover, they are more reliable. He refers to the case of ergot of rye, and asks: "What physician of the present day who has kept pace with his profession, would think of administering the tincture of ergot as oxytoxic, or to relative congestion of the spinal cord, or pulmonary hæmorrhage, when long experience and observation have proven so conclusively the superior value of the fluid extract, that the tincture has become almost entirely obsolete?"

MEDICAL NOTES.

—The *Medical and Surgical Reporter* quotes Professor Bartholow as saying "that the popular poison, 'Rough on Rats,' owes its efficacy to phosphorus. Being an oily or fatty preparation, when taken into the stomach, its action as a poison is very rapid." The truth of the statement contained in the last clause, will be generally admitted, but either our contemporary or its alleged authority is at fault in ascribing the deadly effects of the poison to phosphorus. The lethal ingredient is white arsenic.

—Dr. York, of "Druidic" fame, having found the atmosphere of Maine too chilling for him by reason of the harsh attitude of the law, is said to be about to join the great army of the oppressed, who come to the welcoming arms of Massachusetts. The *Lewiston Gazette* sends after him this feeling farewell and *viaticum*:

So Dr. York will hie him to the greenhorns and patients new of Boston town. Dr. York evidently acts on the principle recorded in the diary of the once famous Tichborne claimant: "Some has money and some has brains; them that has money

was made for them that has brains." This reads just like a Druidic gem of thought and we present it to the chief bard of all the Gorsedhs with our parting blessing. Go forth, thou prince of quacks, thou inimitable nineteenth-century Cagliostro and bardic wonder, go forth doctoring and to doctor, electrifying and to electrify. Physic the fools to the top of their bent. Light up the darkness of Boston and the Massachusetts wilderness with the gospel according to St. Moran, and may thy trusty sword of Bunker Hill flash like a flaming meteor before the dazzled eyes of newspaper reporters and all the imps of darkness who would harm thee, sending them panic stricken to their lairs. Go, noble Gorsedh; go. Stay not upon the order of thy going, but go at once, and may the Druidic University of noble Gorsedhs of Maine go with thee.

—Small-pox is reported as quite active in Mexico, and cholera exists in Catania, Sicily, and Pesth, Austria.

—The annual commencement of the Medico-Chirurgical College of Philadelphia takes place at Association Hall, in that city, Thursday evening, April 7, 1887, at eight o'clock.

—Mrs. Mary Manning died in Wakefield, Mass., March 27th, aged 105 years. She was born in Dublin, Ire., in 1782, and came to this country about thirty years ago, and has lived in that town for the past twenty years. She retained her eyesight and hearing to a remarkable degree, but had been childish for a few years past.

—Two prominent physicians of Cincinnati, one of whom, Dr. R. B. Davy, is the president of the Cincinnati Medical Society, have purchased a piece of property known as Marilou Park, containing one hundred and twenty-nine acres of land, in the suburbs of San Diego, California. It is to be fitted up as a sanitarium for the benefit of invalids not able to profit under ordinary hotel life. In addition to a mansion house, there are to be a number of separate villas to contain from two to six rooms each, scattered about the park.

—The Governor of Maine has vetoed a bill recently passed by the Legislature of that State, entitled, "An Act to Regulate the Practice of Medicine," one of the provisions of which required the registration of practitioners of medicine. The grounds of the veto we have not yet seen stated; it was, in fact, supposed for a time that the bill had become law.

—The work of the General Medical Council, of England, seems to be measurable by linear measure rather than weight. It was stated by Dr. Quain, chairman of the Finance Committee, that, taken altogether, the expense of the Council averages £1 per minute. Even this statement did not have the desired effect of checking the irrelevant loquacity of sundry members, whose aim in life would seem to be to raise and prolong a futile discussion on points of order or disorder. The more the talk the larger the fees.

—The *Philadelphia Medical Times* says that a prominent surgeon of that city lost a good patient, a spinster, the very pattern of propriety, by writing a prescription for "Fluid Ext. Rham. Cat." After reading the prescription, she said nothing could induce her to swallow such a remedy, and that the doctor ought to be ashamed of himself for ordering it. He

is now a sadder and a wiser man, and keeps on the safe side by prescribing castor oil for his hysterical patients.

— It will be remembered that, some months ago, a party of excursionists went on a steamer from Glasgow to witness the effect of certain large blasting operations, which were to take place on Loch Fyne. In the blast, six and one-half tons of gunpowder were exploded; and after it was over, the excursionists went on shore to look at the effect of the shock. In a short time many of them were seized with faintness; six of them died almost immediately, one died shortly after, and five were made very sick, but eventually recovered. The results of the scientific interest which followed this sad affair have been published, and have brought out the fact that the mischief was probably due to carbonic oxide, of which it was calculated 468 pounds could be generated by an explosion of the quantity of gunpowder named above, an amount which, at the ordinary temperature and pressure, would occupy a space of 6.333 cubic feet. This would be sufficient to vitiate one hundred times as many cubic feet of air. But, in the presence of carbonic anhydride, of which the explosion would generate 3,575 pounds, it would render 1,266,000 cubic feet of air fatal to human life. The symptoms of those who suffered or died agreed with those attributed to poisoning by carbonic anhydride, and it is said that the blood of one of the deceased was so liquified after death that it flowed through the coffin.

BOSTON.

— At the banquet given to Mr. Theodore Metcalf by the Boston Druggists Association, mention of which was made in our last issue, Dr. Oliver Wendell Holmes made the following remarks, in responding for the medical profession, which were received with much enthusiasm, and will meet with appreciation from our readers notwithstanding the *quasi* endorsement of prescribing across the counter:

I consider it a very great privilege, gentlemen, to be allowed to take part in this tribute to my old friend and my old neighbor; for none of you, perhaps, but he and I and one or two others, may possibly recollect the time when he and I were neighbors. I hung out my modest sign under the room almost directly over his shop; and there I was ready to receive the smallest favors as he was the smallest favors. [Great laughter and applause.] There never was a more convenient and happy arrangement than that which brought us together. I wrote my prescriptions up-stairs; the patient went down, and it was filled out down-stairs. We could not always be fortunate. We deserved success, but we could not always command it. The excellent Martin Smith, the revered sexton of the churchyard opposite, was always at hand to finish the work upon which we had entered.

In thinking what I could say which would interest this assembly, I thought a few recollections of some of the older apothecaries might be agreeable to you, as they come up before me in fragrant succession by the drugs which filled their old-fashioned and not over-aerated establishments. I will mention their names one after the other. Ephraim Elliot, if I recollect, was one of the oldest—a little gentleman, active, attending himself to everything, conscientious and scrupulous. I have seriously doubted whether he ever killed a patient, except with a prescription behind him to back him, in the course of his long and estimable life.

Charles White rises before me—tall, swarthy, soft-spoken, with a long, somewhat elongated son, who may be here now, perhaps. I cannot say whether he is among the living or not. I remember that my good friend, Dr. Hooper, spoke of him as “carrying his father’s ‘liniments’ in his countenance.” [Loud laughter and applause.]

Thomas Farrington is in my mind, an easy recollection, as creeping about under the Tremont House. Of him I remember comparatively little except that he had the air of a man that was getting every year more and more venerable and thinking harder and harder, in the duties he had to perform.

Daniel Henchman, the Methuselah of Cambridge Street, who I thought must have been embalmed while living, so did he outlast all of his contemporaries.

Joseph T. Brown [applause], who was once my landlord. [Laughter]. In a professional capacity, I had rooms over him. And I will say of him before this assembly that he was the best and kindest landlord that ever breathed [applause], and I was the worst and most intolerable tenant that ever occupied a chamber. How he endured me in the pursuit of my honest vocation, which was one not flattering to my enterprise, I never could imagine. His name is Brown, but it should have been Green, for his spring is eternal. [Laughter and applause.]

This, I believe, closes the list of those old, ancient apothecaries. And now I wish to say one thing more, which, if any member of my own profession is here—and there are several—I hope he will pardon me for saying. I have always had a great opinion of the medical advice of apothecaries. [Laughter and applause.] The truth is, they put up the prescriptions of all the best physicians in the place in which they live, and they have the very cream of all their wisdom at their fingers’ ends. So, when I have myself been suffering from any slight bodily inconvenience, I am ashamed to say—or ought to be, perhaps—instead of going to a professional brother, I have quietly crept into the back-room and asked Mr. Metcalf what such and such a doctor was in the habit of prescribing. [Great laughter and applause.] And therefore, having made this confession, in order to place myself, in a certain sense, right with my brother, I shall only say that it will give me great pleasure to join you in drinking the health of my Doctor Metcalf. [Loud and long continued applause.]

— On a death-certificate lately received by the Board of Health, the cause of death given by the physician signing it was: “Over-study induced by the Boston public schools’ system of cramming.”

— Another death from “Rough on Rats” occurred at the City Hospital last week, a man having taken four-fifths of a box of that commodity, and dying twenty-four hours afterwards from acute arsenical poisoning.

NEW YORK.

— Dr. Wm. T. Lusk successfully performed the Cæsarean section at Bellevue Hospital on the 23d of March; saving both the mother and child.

— Dr. D. B. St. John Roosa presided at the annual dinner of the New York Post-Graduate Medical School and Hospital, which was held at the Hotel Brunswick on the evening of April 4th, and among the speakers were Gen. Wm. T. Sherman and Dr. Wm. A. Hammond.

— The graduating exercises of the New York Hospital Training School for Nurses took place at the hospital March 31st, when diplomas were given to nine graduates. Miss Bird delivered the valedictory address, in the course of which she spoke of the various ideas of a nurse presented by Evangeline, Lucille, and Sarah Gamp.

— It is said that a large number of young calves, from one hour to three days old, are being slaughtered

in Herkimer and Oneida counties and sent to New York, where they are put up as "canned chicken." Many tons of this "bob-veal" have already been seized and condemned this season by the sanitary authorities; but doubtless a considerable amount is brought into the city which escapes their notice.

—The limited express train which arrived from Boston on the night of March 30th, is said to have been the first train ever run in this country without a possible source of fire in every car. The Martin steam-heating apparatus, which is now being tested on the New York Central and Hudson River Railroad, stood the trial successfully for the two hundred and forty mile run, and by means of the Julian storage system the cars were well lighted by electricity, both inside and on the platform.

—The Kings County Medical Association which has recently been organized in affiliation with the New York State and American Medical Associations held its first stated meeting at Remson Hall, Brooklyn, on Tuesday evening, April 5th. The subject considered was Oil of Wintergreen as a Therapeutic Agent, and the discussion was opened by a paper from Dr. E. R. Squibb. In accordance with a provision of the by-laws the monthly meetings are to be adjourned by limitation at 10 o'clock for refreshments and social intercourse.

Miscellany.

ANTIFEBRIN.

THE *Therapeutic Gazette* quotes from the *Deutsche Medizinal Zeitung* of December 23, 1887, the conclusions of Eisenhart regarding antifebrin, which he has used in Ziemssen's clinic in Munich: The number of cases observed was thirty. The doses given were from four to eight grains, given in powder and solution, by rectal and anal use. In a case of erysipelas a dose of eight grains was vomited when given by the mouth; when given by injection it was retained.

In general, the drug was well borne; half of the patients had a profuse perspiration following, and an exanthem occurred in one case.

Cases of typhoid, treated with antifebrin, had an easy course. The influence of the drug was generally manifested two hours after it had been taken. After a dose of four grains the temperature sank six times from one-tenth to one degree, thirteen times from one to two degrees, fifteen times from two to three degrees, six times from three to four degrees, and three times more than four degrees. After a dose of eight grains a depression of temperature of one-tenth to one degree occurred three times; from two to three degrees, seven times; from three to four degrees, twice; from three to more than four degrees, twice. In a few cases only was this effect wanting.

In comparison with antipyrin it was found that one-fourth as much antifebrin as antipyrin was required for a given effect. The conclusions of the observer were, that in doses of four to eight grains antifebrin was a very valuable febrifuge, reasonably certain of success.

NINE HOURS OF ARTIFICIAL RESPIRATION.

THE *Medical Press and Circular* publishes reports from Ceylon containing an interesting description of recovery of consciousness of the taxidermist of the Victoria Museum who was bitten by a cobra, which he thought harmless, from previous extraction of the poison bag. For a few moments after the bite he took no heed of it, but pain and nausea were soon set up. Carbolic acid was then applied, ligatures were bound round the arm, an incision was made at the bite, and the blood of the arm was wholly removed. Various antidotes were used, but the unfortunate man lost the power of speech, and soon every muscle became paralyzed, and respiration ceased. Artificial respiration was then resorted to, and this operation was unceasingly continued for nine hours, when at last the patient made an attempt to breathe, and soon regained consciousness enough to make his wants known. He steadily improved until Friday, the accident having taken place on Wednesday, and then astonished those around him by stating he was conscious of all that had been taking place, but was unable to make his feelings known, not having the power over a single muscle. It would seem that the poison paralyzed the nerves of motion, but not those of feeling, for he could see and hear and feel, although the attending physician, even by touching the eyeball, could get no response either of feeling or consciousness. His partial recovery was, however, followed by a high fever and inflammation of the lungs, and he died, perfectly conscious, on the following Sunday.

ON THE MEDICATION OF NERVES.

DR. LEONARD CORNING (*New York Medical Monthly*), has brought to the notice of the profession a new method of treating neuralgias and other derangements of the peripheral nervous system. It consists in copious deep injections over the affected nerve of a four per cent. solution of hydrochlorate of cocaine, incarcerating the medicament by the application of a tourniquet above the point of injection. "In sciatica the tourniquet should be placed as high up as possible, so as to interrupt the circulation in the crural artery above the point of injection." In the first case reported by Dr. Corning, after the removal of the tourniquet there was no return of pain for four days; the treatment was again resorted to; the periods of exemption became longer and longer until the pain finally left the patient for good. Two other cases of obstinate sciatica have yielded to the same medication. Dr. Corning's conclusions are as follows:

"(1) That this method of subjecting the nerve to the prolonged chemical action of an adjacent medicament possesses advantages of a theoretical and practical nature which are not easily overestimated.

"(2) That this prolonged medication of the nerve, by incarceration of the medicament, is incomparably more advantageous than the ancient expedient of simple injection, without incarceration by suspension of the circulation. In the former case the medicament is held in contact with the nerve for a period of time, which may be prolonged at the discretion of the physician. In the latter case it is a matter of extreme doubt whether the nerve is influenced to any appreciable extent, since the medicinal solution is at once removed by the general circulation, and has, therefore, no time to induce the requisite chemical changes in the nerve filaments.

"(3) Solutions of low percentage (one-half per cent. or one-fourth per cent.) should be employed for prolonged medication of nerves, as it is thus possible to inject large quantities of the medicament without danger of constitutional symptoms. It is, moreover, clear that the prolonged presence of this large amount of fluid in the neighborhood of the nerve-stem must inevitably,

through the operation of imbibition, profoundly affect the nervous filaments.

"(4) The medicated fluid should be injected as near the affected nerve as possible; but care should be exercised not to wound the latter. These profound injections may be accomplished without pain by injecting a small quantity of the anæsthetic before the point of the needle, as the latter is propelled into the tissues.

"(5) The treatment by prolonged medication is without danger, and therefore superior to nerve-stretching by the surgical method, which in point of reliability leaves much to be desired.

"(6) Cocaine is only one of many fluids which may prove useful when applied according to this method.

"These, then, are some of the conclusions which have forced themselves upon me, and I confidently trust that the method of treatment above detailed may continue to yield rich results in the hands of my colleagues in the profession."

Since the publication of this article, Dr. Corning has experimented farther with this method, improving his appliances for the production of prolonged local anæsthesia; the results are recorded in the *Medical Record*, March 19, 1887.

Correspondence.

GAS AND KEROSENE STOVES.

BOSTON, April 1, 1887.

MR. EDITOR. — The only answer to Dr. Lincoln¹ is: have a tunnel to your gas or kerosene stove leading to a chimney or out to the open air, to carry off the vapor or gaseous products of combustion, as in the case of any other stove or fireplace.

Yours truly,

EXPERTUS.

EXTRACTS FROM LETTERS FROM DR. WILLARD PARKER, OF NEW YORK, TO DR. EDWARD JARVIS, OF DORCHESTER, 1828-1881.

THE following extracts are taken from three letters written by the late Dr. Willard Parker, of New York, to the late Dr. Edward Jarvis, of Dorchester. The first two letters were written in 1828, when Dr. Parker was assistant at the Chelsea Marine Hospital, and the last letter fifty-one years later, from New York. The correspondence between these friends and classmates was kept up through all these years, and these letters were selected by Dr. James R. Chadwick from a large number given by Dr. Jarvis to the Boston Medical Library Association:

CHELSEA HOSPITAL, May 18, 1828.

I go to the General Hospital about once a week to witness operations. I visit the Eye and Ear Infirmary two or three times a week. A boat passes from near the door of the hospital for Boston every hour in the day, hence I have things as I would. You wished me to give you the course of my reading. I will mention the books in order: "Wistar on the Bones," "Cheselden on Bones and Muscles," "Richerand's Physiology," "Haller's Physiology," "Bigelow's Sequel," "Thacher's Dispensatory," "Thomas' Practice," "United States Pharmacopœia," "Dorsey's Surgery," 2 vols., "Benj. Bell's Treatise on Strictures," "Bell on Gonorrhœa and Lues Venerea," "Bell on the Muscles," while dissecting; "Hamilton's Midwifery," "Underwood on Diseases of Children," and am now reading, "Hunter on the Blood, Inflammation, etc.," and "Boyer's Works" in French. I take the Philadelphia journals and that affords me much matter for reading and thought. I read Good, as cases occur. I am certain I derive but little advantage from reading unless I see the practical utility of it. So, too, in reading of the muscles, without dissection, it does no good. I intend purchasing "Bichat" in French, if I can find it. I have read Abernethy's books and value them much in regard to regimen. I intend reading upon the eyes and ears now while I go to the infirmary. You

mention my situation for Russell; I shall retain it until I can find one that will afford me greater advantages in regard to my profession. (How I shall manage during the lectures I have not yet determined). I will have all the advantages for improvement in my profession this country affords. I can furnish myself with means. Dr. Dalton and others advise me by all means to stop here yet, as I cannot better myself, since I have the advantages of *Boston institutions*. My situation was bargained away last fall to your doctor's cousin; he is to graduate in August, at Brunswick. He will then enter his name with Dr. Townsend, and study to fit himself to succeed me. If Russell is determined to acquire a thorough knowledge of the profession, and not mind trifles he might, I think, obtain a good situation here; he would have six or eight hours in a day to study, board, and some pay. But I should not like a classmate in the situation while I remain; but the situation is one, that I should certainly be willing to take for a while, as all its duties belong to the profession.

Your chance is good for reading, but reading without practice you will find to be the shadow and not the reality. I hope to see you in Boston in June, when the good man, Dr. Shattuck, reads his dissertation. Why does not Russell study divinity? The call for ministry is great, and the expenses at commencement are very small, I hear. I should advise him to that unless he actually will love medicine as a profession. I would most cheerfully do all in my power to promote his interest, if he determines on medicine; if I can help him here I will. But I shall not relinquish my situation until about the last six months of my pupillage, unless I can find a better; I would exchange it now for none I know of. I think I shall stop a while with Dr. Shattuck when I leave here; if I do not I shall go into one of the dispensaries, or with Dr. Warren if I can.

WILLARD PARKER.

CHELSEA, July 10, 1828.

There has been nothing lately at the General Hospital. At this hospital there are about thirty patients, none very sick; have had no death; since you were here, there have been several very interesting cases; last week the doctor performed here Physic's operation for producing union between the fractured parts of one of the bones of the arm; it was the radius. The accident happened about three months since at sea, and the man, when he came into the house, had a *false joint*. Jackson,¹ Gould² and myself dispatched *id corpus quod vidisti*. Jackson is a very excellent anatomist; he gave us much information. I expect he is decidedly first in the Boston School, or Harvard University. You wished for my advice in regard to your accompanying Dr. Lincoln this winter, or rather fall, to Burlington. I should think the opportunity of being with him in the dissecting room and preparing his subjects for demonstration, would be one well worth embracing. I mentioned the matter to Dr. Townsend, he thought you would do well to accompany Dr. Lincoln, and then made some remarks on the importance of anatomical dissections, as if to give me a gentle hint not to spare the knife. His remarks seemed to say it was downright *quackery* in a man to pretend to understand *pathology* and to *prescribe*, if he was not acquainted with the mechanism of the parts constituting the human frame. I saw Dyer since I received your letter, asked his opinion in regard to your going to Burlington, he thought with me.

Bartlett, of Plymouth, is coming to Shattuck's in the fall. I would enter my name, if I were you, before him, and then you will be entitled to all the privileges of priority, which sometimes are not small. If I were situated as you are I should certainly go to Burlington, if I could be certain that I should have an opportunity to ply the knife; for myself, I find it folly to read alone and neglect all other things. If we have the principles of our profession well grounded in the mind, and are *practically* acquainted with anatomy, we shall find but little difficulty in the practice of medicine, I believe. Suppose a man to read two

¹ Dr. J. B. S. Jackson.

² Dr. A. A. Gould.

¹ See last number of Journal, page 319.

or three years on a complicated piece of machinery, and at the end of this time, the piece should be brought to him for repairing, would he, never having seen anything of the kind before, be competent to the task? I know I should not, for I have made the experiment. About three weeks ago a case of midwifery fell into my hands to my great joy, the woman was young, seventeen, her labor was tedious, it being her first child. I thought I should feel myself quite at home in the affray (having recently read a work upon that branch of our profession) but upon making examination to ascertain the presentation, instead of finding things distinct, as I had fancied in reading, I could think of nothing to which to liken the sensation produced to the hand, but that perceived on thrusting it into a mass of *soft soap*; this may seem ridiculous, but it is true. I believe we shall never regret the time spent in the dissecting room, if it be one-half of our pupillage.

The divinity students will now have a fine time, while we poor fellows must continue to dig, but if it be true, "that every dog has his day and every bitch her afternoon," we need not shut out from ourselves all hope of leisure to devote to ourselves and *ours*. Hosmer¹ will preach here at the commencement of next term, if nothing happens; will you attend, if in Boston? Write every opportunity or when you have a leisure moment to spare me. I remain your friend, WILLARD PARKER.

NEW YORK, March 13, 1881.

I was very glad to hear from you through your letter, and to know you are comfortable. I had not heard of the accident you met with; you say you were thrown from the top of a carriage; pray, what were you doing in that posi-

¹ Rev. Dr. Hosmer, of Watertown, a classmate.

tion? the good book, you know, says, persons like us are afraid of that which is high and fears should be in the way. I am sorry Hosmer² is among the suffering ones. He paralyzed the bladder by retaining the urine too long a time. When old, we must obey the call of nature. His trouble is cystitis chronic, kidneys are sound, the reaction is acid, although feebly. He should neglect no means of recovery. The triple phosphates show the urine meets with pus in the bladder; the urine is decomposed by it, and the irritation is kept up. The specific gravity is right, or nearly so.

Now in order that our dear old classmate recover, he must eat *little strong meat*, and make less urea; the nearer his urine approaches *pure spring water* the better. Bread-stuffs, milk, mild fruits, you tell him what to do. The bladder should be washed out at bedtime, with warm soft water and have the organ completely emptied; washing out in this way he will go without much disturbance during the night and gain strength. If he do not recover, some slight medication of the wash may aid: an infusion of *buchu*, and in the twenty-four hours or every twelve hours a couple of the capsules of *capaiba* may be employed. I have found the greatest relief from washing out the pus and triple phosphates.

When you write to Hosmer please assure him of my profound sympathy; we are all admonished that the *Conscious Ego*, the individual which says my hand, eye, or body, is making preparations to leave this tenement as the landlord is slow to make repairs.³

WILLARD PARKER.

² Referred to, in the second letter.

³ A similar quaint expression is associated with the late Dr. Shattuck, from whom Dr. Parker had probably heard it fifty years before.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	697	266	16.66	20.86	1.40	7.70	2.38
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	150	58	6.66	9.24	—	1.98	1.33
Boston	400,000	189	58	6.46	14.84	—	3.71	1.16
New Orleans	242,750	92	30	13.08	13.08	5.45	3.27	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	92	30	8.72	3.27	2.18	2.13	—
Pittsburgh	210,000	85	37	20.06	20.06	—	7.08	9.44
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	62	30	14.49	12.83	—	8.05	—
Providence	121,000	40	14	22.50	17.50	2.50	—	10.00
Richmond	100,000	36	15	5.56	16.68	—	—	2.78
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	27	6	7.40	22.20	—	—	—
Portland	40,000	26	13	3.85	11.55	—	—	—
Worcester	68,383	57	16	26.25	10.50	12.25	1.75	10.50
Lowell	64,051	18	5	—	38.88	—	—	—
Cambridge	59,660	37	15	13.50	13.50	2.70	2.70	—
Fall River	56,863	17	5	5.88	11.76	—	—	—
Lynn	45,861	13	3	—	7.69	—	—	—
Lawrence	38,825	15	6	13.33	33.33	—	—	—
Springfield	37,577	22	6	—	22.75	—	—	—
New Bedford	33,393	15	7	20.00	20.00	—	—	6.66
Somerville	29,992	14	2	—	—	—	—	—
Salem	28,084	6	3	33.33	16.66	—	—	—
Holyoke	27,894	11	1	9.09	—	—	—	9.09
Chelsea	25,709	4	0	—	—	—	—	—
Taunton	25,674	8	3	—	37.50	—	—	—
Haverhill	21,795	3	0	33.33	—	—	33.33	—
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	8	3	—	12.50	—	—	—
Newton	19,759	4	0	25.00	50.00	—	25.00	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	5	4	—	—	—	—	—
Waltham	14,609	3	1	—	—	—	—	—
Newburyport	13,716	5	2	40.00	40.00	—	20.00	—
Northampton	12,896	—	0	—	—	—	—	—

Deaths reported 1,812; under five years of age 638; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 231, acute lung diseases 303, consumption 262, diphtheria and croup 85, measles 43, diarrhoeal diseases 21, typhoid fever 17, scarlet fever 16, cerebro-spinal meningitis 15, whooping-cough 10, malarial fevers nine, puerperal fever five, erysipelas six, small-pox (New York) four. From typhoid fever, New York five, Boston and Milwaukee, two each, Baltimore, District of Columbia, Pittsburgh Providence, Lowell and Somerville one each. From scarlet fever, New York 10, Baltimore three, Providence, Fall River and Somerville one each. From whooping-cough, New York, District of Columbia and Holyoke two each, Boston, Baltimore, Pittsburgh and Lynn one each. From malarial fever, New Orleans four, New York three, District of Columbia and Charleston one each. From erysipelas, New York five, Providence one. From cerebro-spinal meningitis, New York seven, Fall River two, Pittsburgh, Providence, Worcester, Haverhill, and Northampton one each. From puerperal fever, Milwaukee two, New York, Richmond and Charleston one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,083,162 (population of the State 1,941,465) the total death-rate for the week was 23.72 against 22.68 and 20.27 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending March 12th, the death-rate was 21.6. Deaths reported 3,836: infants under one year of age 894; acute diseases of the respiratory organs (London) 423; measles 195, whooping-cough 83, scarlet fever 44, diarrhoea 32, diphtheria 31, fever 27.

The death-rates ranged from 16.1 in Derby to 33.7 in Manchester; Birmingham 18.5; Bradford 19.8; Brighton 21.2; Halifax 23.1; Hull 21.5; Leeds 17.2; Liverpool 25.9; London 20.4; Newcastle-on-Tyne 24.9; Nottingham 18.4; Sheffield 18.8; Sunderland 26.6.

In Edinburgh 19.0; Glasgow 29.5; Dublin 31.3.

The meteorological record for the week ending March 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, Mar. 26, 1887.																				
Sunday, ... 20	29.918	36.0	40.0	33.0	89.0	81.0	64.0	78.0	N.E.	E.	S.E.	12	8	4	O.	O.	C.	—	—	
Monday, ... 21	29.959	41.0	53.0	31.0	74.0	44.0	78.0	65.0	W.	S.W.	S.	6	10	11	C.	F.	C.	—	—	
Tuesday, ... 22	29.213	36.0	40.0	34.0	93.0	100.0	98.0	97.0	E.	N.E.	N.W.	28	14	18	Sl.	O.	R.	—	—	
Wednes., ... 23	29.501	28.0	36.0	24.0	67.0	65.0	54.0	62.0	N.W.	N.W.	W.	28	28	24	O.	O.	C.	—	—	
Thursday, ... 24	29.766	34.0	42.0	20.0	60.0	36.0	75.0	57.0	N.W.	W.	S.W.	16	18	14	C.	C.	C.	—	—	
Friday, ... 25	29.642	37.0	46.0	27.0	68.0	34.0	54.0	52.0	W.	W.	W.	24	32	17	F.	C.	C.	—	—	
Saturday, ... 26	30.154	27.0	32.0	23.0	53.0	51.0	53.0	52.0	W.	W.	W.	22	24	16	C.	C.	C.	26	.55	
Mean, the Week.	29.736	34.0	41.0	27.0				66.0												

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 26, 1887, TO APRIL 1, 1887.

PERLEY, HARRY O., captain and assistant surgeon. Ordered for temporary duty at Fort Maginnis, M. T. S. O. 23, Department of Dakota, March 18, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 2, 1887.

WAGGENER, J. R., passed assistant surgeon. Commissioned a surgeon on the 18th of March.

FITTS, H. B., passed assistant surgeon. Ordered to the Receiving Ship "Vermont."

TRACY, E. C., assistant surgeon. Detached from the "Vermont" and ordered to the "Atlanta."

HEPPINGER, A. C., passed assistant surgeon. Detached from the "Atlanta" and ordered on special duty in connection with construction of hospital at Widows Island, Me.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, April 13th, at 7.45 o'clock. Papers: Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis." Dr. R. H. Fitz will open the discussion. Dr. F. C. Shattuck, "Four Hospital Cases. (1) Tetany; (2) Hæmophilia; (3) Cirrhosis of the Liver; (4) Peritonitis, with Perforation of the Abdominal Wall." Dr. F. Minot will open the discussion. Dr. C. F. Folsom, "A Case of Multiple Neuritis (idiopathic)." Drs. S. G. Webber and J. J. Putnam will open the discussion.

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, April 14th, at 4 o'clock, P.M. Dr. I. W. Starbird will read a paper entitled "Puerperal Eclampsia." Dr. H. J. Harriman will also offer a paper.

H. J. HARRIMAN, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

Cooper Medical College, San Francisco. Annual Announcement. Session of 1887.

Annual Report of Morse Dispensary of Cooper Medical College for 1886. San Francisco, 1887.

The "Expert" in Court and Legislature. By Nelson S. Gibson, M.D., of San Francisco, Cal. 1886. (Reprint.)

Litholapaxy in Male Children and Male Adults. By Surgeon-Major D. F. Keegan, M.D., Dub., Bengal Medical Service, Residency Surgeon, Indore, Central India. London, 1887. (Reprint.)

A Compend of Surgery for Students and Physicians. By Orville Horwitz, B.S., M.D. Third edition, thoroughly revised, enlarged and improved. With Ninety-one illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

The Doctorate Address delivered at the Semi-Centennial Anniversary of the University of Louisville: Medical Department. March 2, 1887. By David W. Yandell, M.D., Professor of Surgery and Clinical Surgery in the University. Louisville, 1887.

The Diseases of the Ear and their Treatment. By Arthur Hartmann, M.D., Berlin. Translated from the Third German Edition by James Erskine, M.D., M.A., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow. With Forty-two illustrations. New York: G. P. Putnam's Sons. 1887.

Live Birth in its Medico-Legal Relations. Annual Address delivered before the Medical Jurisprudence Society of Philadelphia, January, 1887. By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania, President of the Medical Jurisprudence Society of Philadelphia. 1887.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an analysis of 11,000 consecutive cases. By T. McCall Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow, etc. With colored plates and numerous other illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

The Question of Hæmorrhage following Uvulotomy. Report of Twenty-Three Cases of Obstinate Uvular Hæmorrhage; Description of a Uvular Clamp; Bibliography. By Ethelbert Carroll Morgan, A.B., M.D., Washington, D. C. first Vice-President of the American Laryngological Association. New York: D. Appleton & Co. 1886. (Reprint.)

Original Articles.

CLINICAL REPORT OF SIX MONTHS' EXPERIENCE WITH THE PNEUMATIC CABINET, WITH TWENTY-SEVEN CASES.¹

BY G. W. MCCASKEY, A.M., M.D.,

Professor of Diseases of Chest and Throat, Fort Wayne College of Medicine; Fellow of the American Academy of Medicine, etc.

In presenting to you my first clinical report of pneumatic-cabinet treatment, I will not detain you by a description of the apparatus used, or a discussion of the principles involved. I have received numerous letters from physicians, inquiring about the danger of accidents. I think these dangers have been somewhat over-estimated. With a single exception, I have never seen a syncope or hæmoptysis occur as even a possible result of the treatment. In this case (No. VIII), the patient spat up a teaspoonful or two of blood several hours after treatment. It was not the first hæmoptysis, and was not repeated, although the treatments were continued, and, I think, was simply a coincidence. Indeed, if the hæmorrhage is not from fragile, cavernous walls, but is due to over-distension of the capillaries, there can be no doubt that the relatively increased pulmonary pressure is curative. The lowering of arterial tension imperatively demands caution; but with the adoption of two inflexible rules (1) always to examine the heart; and (2) always to commence with *low pressures, and increase them gradually*—I believe that the danger is as slight as it could possibly be with any instrument of equal power. Here, as everywhere, whatever is potent for good may become, in ignorant or careless hands, powerful for harm.

In the treatment of phthisis, its dual relations to the lungs, on the one hand, and the system on the other, have been fully recognized. No "hobby" has been ridden, to the exclusion of those measures, the value of which has been attested by experience and observation. While the clinical histories of these cases constitute a record of experience with the pneumatic cabinet, yet it has been used as an auxiliary to recognized methods of general treatment; and there may often be an honest doubt as to how much is due to cabinet treatment, and how much to dietetic, hygienic, and therapeutic measures. After all, however, the most important question is: Are the results obtained by general treatment and cabinet treatment, jointly, better than those obtained by the former alone? If so, then the pneumatic cabinet has demonstrated its *raison d'être*, and should be regarded as an indispensable factor in the treatment of certain forms of pulmonary disease.

Cod-liver oil has been administered, whenever it was tolerated, in doses sufficiently large to be of service. When patients could only tolerate a half or one tablespoonful of a fifty per cent. emulsion (the usual strength of the various emulsions of the market), I have generally ordered it stopped, and used a substitute. Jaccoud says² that less than three ounces of oil (not emulsion) daily will be of but little service. Whether this rather extreme view can be fully indorsed or not, I am thoroughly convinced that the doses of oil ordinarily administered are practically useless. Glycerine has been used as the next best substitute; and when this was not accepted, sweet

cream, in doses of half a pint to one pint daily, has been advised. Pyrexia has been treated with quinine, salicylic acid, and antiseptic inhalations. Quinine has also been administered in some cases in tonic doses, alone, or combined with creosote, and sometimes iron, with or without the bitter tinctures.

For inhalation, the conventional spray of Hg. Cl₂, 1-1000, was used at first, to the exclusion of everything else. When this produced irritation, it was reduced to 1-1500 or 1-2000. A two per cent. solution of carbolic acid was used later on, but a one per cent. solution was found to be strong enough for the average patient. Among other sprays used were Dobbell's solution, five per cent. mixtures of pinus canadensis, and hydrastis canadensis. For the first three months, these sprays were simply projected into the external trumpet-shaped extremity of the breathing faucet, at the temperature of the room. Since then, medicinal agents have been carried into the lungs by means of an apparatus described elsewhere, which conveyed them in the form of saturated vapor, at an elevated temperature.

The records of cases will be made as brief as is consistent with a reasonably full appreciation of the condition of each patient.

CASE I. Male, unmarried, aged twenty-four. American, compositor; phthisis. Had winter cough for several years, which subsided every spring, until 1884. Had two attacks of hæmoptysis in April, 1885. From this time, cough and emaciation were continuous. Weight had fallen from 150 to 130 pounds. Under general treatment had gained seven pounds, when, on June 18, 1886, he was placed upon cabinet treatment. At this time, dulness on right side extended from apex down to second intercostal space, with almost pure bronchial respiration.

He was given one inch differentiation until July 8th, during which time he took ten treatments, with spray of 1-1000 Hg. Cl₂. The improvement in symptoms was quite remarkable and continued after treatment was stopped. The patient removed to an adjoining State, but called December 5, 1886, in apparently perfect health. Weight 150 pounds, and no cough whatever. Dulness on percussion still remains. If absence of symptoms for five months can be regarded as satisfactory evidence of cure, then this patient has recovered, with probably fibrous transformation of tubercular area.

CASE II. Female, married, aged fifty-two, French; phthisis. Had ten children. Last one died "scrofulous," at seven months of age. Right lung: Dulness on percussion over upper and middle lobes, with cavernous respiration near apex. Patient came to the office with difficulty three times, after which she became bed-ridden, and died about one month later.

CASE III. Male, married, aged forty, German, saloon-keeper; phthisis. Healthy weight 190, present weight 170 pounds. Came under observation March 16, 1886. Health good until about two months ago, when he contracted a severe cold, and has coughed and expectorated ever since. Broncho-vesicular respiration at both apices, with very slight dulness on left side. Took fifteen treatments with Hg. Cl₂ spray 1-1000 and one-half inch pressure. The cough and expectoration, which were probably due to a concomitant bronchitis, rapidly subsided, leaving the broncho-vesicular respiration, but slightly, if any, modified. Patient summered at Northern health resort, and came

¹ Read before the Fort Wayne Academy of Medicine, December 15, 1886.

² "Curability and Treatment of Pulmonary Phthisis," p. 138.

home with nearly normal weight. Physical signs slightly improved.

CASE IV. Male, married, aged thirty-five, German, cigar-maker; phthisis. Right apex solid down to second interspace, with large cavity. Profound cachexia, with jaundiced hue. Healthy weight 135 pounds, present weight 115. Bronchial respiration at apex of left lung. Also tubercular laryngitis, with complete aphonia and dysphagia. Afternoon temperature, 102° F. Abundance of elastic fibres and tubercle bacilli in sputum.

Was only able to breathe against $\frac{1}{4}$ inch of mercury, with 1-1000 Hg. Cl₂ spray, which was kept up daily for two weeks, and supporting treatment. He gradually sank, however, and died in one month from the commencement of treatment. While nothing was accomplished or expected in this case in the way of cure, yet the patient was made much more comfortable by the treatment. After the second treatment, he had the first night's rest for three weeks, owing to diminished cough, with bronchial irritation. Complete temporary relief was afforded the most distressing laryngeal symptoms by the application of a blister over the thyroid cartilage.

CASE V. Male, married, aged forty, American; fibroid phthisis. Left side: Dulness from apex down to fourth rib in mammary line. Bronchial respiration at apex, shading off into broncho-vesicular down to fourth rib. Marked retraction over infra-clavicular region. Right side: Percussion note fair throughout. Auscultation good, except expiratory murmur at level of third rib in front. No retraction. Chest expansion one inch; 29 $\frac{1}{4}$ to 30 $\frac{1}{4}$ inches.

Took fifteen cabinet treatments extending over one month, with one-half inch pressure and 1-1000 Hg. Cl₂ spray. Quite marked benefit as to symptoms, but without appreciable change of physical signs.

CASE VI. Female, married, aged forty, English; phthisis. Referred by Dr. A. P. Mitten of Columbia City. The case came under observation May 21, 1886. Family history good, except that one sister died of consumption at twenty years of age. Personal history: Never sick until October, 1885, when she took cold, and sore throat; has had cough ever since. Weight reduced from 130 pounds to 113 $\frac{1}{2}$ pounds. Appetite and digestion good.

Physical examination, in consultation with my colleague, Dr. J. S. Gregg, who has anxiously watched the progress of the case throughout. Left side: Inspection shows some depression in both infra- and supra-clavicular region. Complete dulness extending from apex down to fourth rib at outer margin of mammary region, and to second rib in front; posteriorly dulness extends somewhat lower than in front. Bronchial respiration heard over greater part of lung, with cavernous respirations just above second rib near outer margin. Crepitant râles in abundance from apex down to third rib with scattering sibilant râles. Right side: Very slight impairment of resonance over infra-clavicular region, with "jerky" and slightly harsh inspiratory sounds. Measurement: Forced inspiration 30 $\frac{1}{2}$; forced expiration 28 $\frac{1}{4}$. Afternoon temperature had been about 102° F., but the free administration of quinia by Dr. Mitten, before the patient visited me, had lowered and kept down the temperature to about 100° F. Pulse 120 to 130.

Patient was placed at once on cabinet treatment Hg. Cl₂ 1-1000 spray, with quinia continued in tonic

doses, and fifty per cent. emulsion of cod-liver oil in tablespoonful doses three times daily to be gradually increased. May 29th. Physical examination in consultation with Dr. Gregg, showed dulness unchanged. Auscultation shows clearly that more air enters upper lobe than at first examination. June 5th. Percussion shows line of dulness gradually receding from lower and inner margin of solidified area. June 10th. Emaciation has been continuous, reaching 111 $\frac{1}{2}$ pounds, a loss of two pounds since commencing treatment. From this time on, gradual increase of weight. June 13th. Cough much better. Night cough entirely relieved, and but little cough during the day. July 1st. Dr. Mitten writes me: "Found condition greatly improved. Dulness greatly lessened. Vesicular murmur partly restored. In fact, respiratory action of affected lung greatly improved. More improvement than I dared to hope for when she went to you."

At this time the margin of dulness had receded fully two inches below and in front. October 1st, "Feels about well." Auscultation discloses no râles, and I am unable to distinguish the cavernous murmur. Weighs 117 $\frac{1}{2}$ pounds. The pulse, however, has never been found below 96, and generally 108. Afternoon temperature 99 to 99 $\frac{1}{2}$ ° F.

In the early part of November, a circumscribed pneumonitis developed in lower lobe of left lung which has only partially resolved. With this exception, the condition of the patient has remained about the same until date of writing, December 15, 1886, being still on treatment.

CASE VII. Female, unmarried, aged twenty-nine, American, dressmaker; phthisis. Right lung dull on percussion over upper half, with broncho-vesicular respiration. Daily treatment from July 1st to August 6th, was followed by marked improvement of both symptoms and signs. At this time she left the city for a month's vacation, during which the improvement continued. Treatment was resumed September 8th, and continued one month, with progressive improvement. Signs of primary infiltration have disappeared except over small area in second interspace where they were and still are (December 15th), appreciable. The patient has had two attacks of bronchitis as the result of exposure, for the last of which she is now taking cabinet treatment. An unpleasant, and I fear ominous feature of this case has been an intractable anemia, not influenced by chalybeates.

CASE VIII. Male, married, aged thirty-two, American, lawyer; phthisis. Strong family history of tuberculosis. One sister died of pulmonary phthisis aged thirty-one, and another of tuberculosis of the bowels aged seventeen. Of extremely nervous temperament; highly excitable. Came under my observation February 11, 1885, at which time he was suffering from severe and intractable lumbar pains, and cramping pains in the bowels. In consultation with Dr. B. S. Woodworth it was decided that the pains were neuralgic in character, and probably dependent upon chronic malarial poisoning from which patient had suffered for years, as evidenced by an enlarged spleen. On May 26, 1885, I took him to Dr. N. S. Davis, of Chicago, who, after a careful examination, expressed the opinion that the case would terminate in pulmonary phthisis. This opinion was based upon slight increase of vocal fremitus, with malnutrition, and family history.

Shortly after this the patient passed from observa-

tion, reappearing again April 25, 1886. At this time physical examination revealed bronchial respiration with slight dulness on percussion at right apex, extending some two inches below the clavicle. No râles. Resonance of left lung fair. Spleen very much enlarged and quite movable.

Took about one dozen treatments with different sprays, as all seemed to aggravate the laryngeal complication. Treatment was very irregular, and the patient again passed from observation with little improvement.

CASE IX. Male, unmarried, aged twenty-four, German, painter; phthisis. Dulness at left apex with broncho-vesicular respiration, and some crepitant râles. Marked general debility. Cough dry and persistent. Cabinet treatment with 1-1000 Hg. Cl₂ spray, with general treatment for about five weeks, resulted in disappearance of symptoms, and decided improvement of physical signs. Patient considered further treatment unnecessary, and has not reported for examination since, although members of his family tell me that he is apparently well.

CASE X. Male, unmarried, aged twenty-three, American, train despatcher; phthisis. Family history good. Personal history good until three years ago, when he contracted a severe cold. Since then has had occasional but not constant cough. Consulted me for acute bronchitis which resisted the usual methods of treatment. After six weeks of expectorants, sprays, and hopeful patience, the cough was absolutely unchanged.

Finding slight dulness on percussion over inner margin of right lung in second interspace, and over circumscribed area just below middle third of clavicle. I advised cabinet treatment. Five treatments, extending from May 22d to June 3d, with one-inch pressure, and 1-1000 Hg. Cl₂ solution as spray, absolutely cured the cough. The treatment was continued about one month longer with slight modification of physical signs.

CASE XI. Female, unmarried, aged twenty-three, American. Health good until she had a sunstroke in 1880, and hæmoptysis in 1883. Has badly-developed chest with dulness and broncho-vesicular respiration at right apex. Marked general debility with cachectic appearance. Commenced treatment on June 8, 1886, and continued for six weeks, taking two treatments weekly. Slight improvement which continues to present date.

CASE XII. Male, married, aged twenty-nine, American, mechanic; chronic phthisis; history of phthisis in family. Never sick until spring of 1880, when he contracted a severe cold and had cough, expectoration, and some emaciation during succeeding summer. In the fall was taken with "typhoid pneumonia" limited to left lung. Upon recovery cough ceased entirely, but came back in about three months, with expectoration. Condition has remained much the same since that time, except that in August of each year has been confined to his bed by cough and general debility. In winter gains ten or twelve pounds, losing it again in the summer.

At present (June 9, 1886) there is extreme general debility. Unable to walk more than a couple of blocks. Expectoration profuse. Chest muscles greatly wasted, with considerable retraction over upper half of left lung. Percussion note flat down to lower edge of second rib with impaired resonance two inches

lower. Respiratory sounds purely bronchial down to second rib, with crepitant râles over entire lung except at apex: cavernous murmur just below centre of clavicle. Resonance good on right side, except doubtful dulness in supra-clavicular region. Respiratory murmur rather harsh, but no râles. Heart sounds regular but rather tumultuous, and second sound greatly accentuated. Mensuration 29½ and 31½ inches. Respiratory capacity 100 cubic inches. Pulse 90, temperature 100° F.

Could not take cod-liver oil. Said he had tried it at least a dozen times, but "belched" it up for six or eight hours after, entirely destroying the appetite, and disordering digestion. Placed him on tonics and cabinet treatment, with 1-1000 Hg. Cl₂ spray, one-inch pressure. The first treatment caused a paroxysm of coughing lasting half an hour. The spray was reduced one-half, with little further trouble. June 18th. Râles rapidly disappearing from lower lobe of lung. July 3d. Left lung continues to clear up in lower lobe, fewer râles, and more air enters upper lobe. July 29th. Just returned from two weeks absence. Rather more râles, but otherwise no change. Patient gained five pounds in weight, and walked to and from office, distance of a mile and a half. Improvement not continuing, treatment was discontinued November 6th.

CASE XIII. Male, married, age fifty-eight, American, farmer; phthisis, following typhoid fever. Dulness and bronchial respiration at apex of right lung, with great general debility.

Commenced treatment May 25th, and continued with several intermissions until November 1st. Great improvement both in physical signs and general symptoms. At this time he had an attack of dysentery which completely prostrated him, since which time he has not been able to come to the city for treatment; have not seen him since, though prescribing for him at intervals.

CASE XIV. Female, unmarried, aged twenty-three, American; primary infiltration of right apex, with chronic bronchitis. Marked anæmia, general debility and loss of ten per cent. of body weight, weighing 95½ pounds. Very slight dulness with broncho-vesicular respiration, in right infra-clavicular region. Placed on cabinet treatment with one-inch pressure, and supporting treatment. Improvement in this case was slow but continuous; and after four months daily treatment, covering May to August inclusive, was discharged apparently cured. Chest capacity has increased some ten per cent., and physical signs of disease have practically disappeared.

The only complaint which the patient makes is that she "catches cold" easily and has laryngeal irritation at such times. The diagnosis of phthisis was not verified in this case by finding bacilli in the sputum, but the points pertaining to symptoms and history were strongly corroborative. I believe now that this is a case of incipient phthisis cured; but the patient will probably remain under my observation for several years, and the future history will be duly reported.

CASE XV. Male, married, age thirty-eight, American, merchant; advanced phthisis. Family history bad. Had pleuritis (left side) twelve years ago. Some cough most of the time since. Marked dulness with bronchial respiration and crepitant râles from apex to second rib on right side, with cavernous murmur. Slightly harsh respiratory murmur at left apex,

and impairment of resonance of the lower lobe, probably the result of the old pleuritis. Weight reduced about fourteen per cent. — 140 to 120½ pounds. Respiratory capacity 150 cubic inches. Microscopical examination shows abundance of elastic fibres and tubercle bacilli. Was placed on cabinet treatment June 12, 1886, with one-inch pressure, and Hg. Cl., 1-1000 spray. July 21st. Respiratory murmur much clearer; signs of cavity more distinct. August 2d. Percussion of right lung seems a shade clearer. August 7th. Air enters right lung decidedly better. Respiratory capacity 162 cubic inches. Some laryngeal irritation. Laryngoscopic examination shows no signs of laryngeal tuberculosis. September 15th. Weight 125½ pounds; cough and expectoration diminished about one-half. At the present writing condition remains about the same.

CASE XVI. Female, unmarried, age twenty-seven, American, bookkeeper; dulness at right apex with broncho-vesicular respiration. Hacking cough, with no expectoration. Took cabinet treatment for one month with one-inch pressure. Cough and physical signs had about disappeared; the patient was discharged, and remains well.

CASE XVII. Female, age fifteen, American; phthisis. Bronchial respiration with broncophony at apex of right lung, with crepitant râles. Considerable cough, mostly dry. Strong family history of phthisis. Healthy weight 121, present weight 101½ pounds. Took cabinet treatment daily for nearly three weeks; cough much improved; crepitant râles practically gone. Body weight 106½ pounds. At this time she felt able to resume her work which prevented her from continuing treatment. Have not heard from her since.

CASE XVIII. Male, married, age twenty-six, American. This patient had been leading an indoor life for several years, during which time he suffered from intractable chest pains which were thought to be intercostal neuralgia. At the left apex I found a peculiar harsh rough murmur, present at nearly every inspiration over a circumscribed area. There was no dulness on percussion. Several examinations at intervals of a week or ten days confirming the presence of an adventitious murmur of an obstructive character. I advised cabinet treatment, purely for its mechanical effect. About one dozen treatments were taken without apparent change of physical signs.

CASE XIX. Male, unmarried, age nineteen, student; advanced phthisis. Referred by Dr. W. P. Wherry. Five years ago had "typhoid fever and lung fever." Does not know whether one or both lungs were affected. Made fair recovery, but has had frequent colds and coughs ever since.

Present illness commenced a year and a half ago. Since then has had chilly sensations in the morning with fever in the afternoon nearly every day. Chest poorly developed; some depression on right side in infra-clavicular region. Well defined cavity in upper part of right lung, about three inches below clavicle. Cavernous signs most marked behind. Placed on cabinet treatment August 18, 1886, with one-inch pressure. October 1st. Does not cough as much as he did. Has been under treatment almost daily ever since, with considerable improvement of physical signs and general symptoms. General condition has improved materially with six pounds increase of body weight.

CASE XX. Female, married, age thirty-two, American; chronic bronchitis of several years standing. Cabinet treatment was carried out for three weeks with various sprays, without apparent improvement. Patient was hysterical, and probably exaggerated the symptoms, although there were physical signs of bronchial irritation. Has not reported for three months.

CASE XXI. Female, unmarried, age twenty-four, American; phthisis. Had been under observation at times for three years, during which time the physical signs — those of catarrh of the apex — gradually grew more pronounced. Came under observation last, on September 1, 1886, taking cabinet treatment for six weeks. Dulness on percussion was quite well marked at right apex, and over circumscribed area in third interspace. There was considerable improvement in both symptoms and signs; but the progress not being sufficiently rapid to suit her, she discontinued treatment and has not been seen since.

CASE XXII. Male, married, age thirty-five, American; doubtful lesion of left apex. Harshness of respiratory sounds, with slightly impaired resonance. Chest poorly developed. Took three treatments with some improvement of chest expansion. At this time he left for summer vacation, and was lost sight of.

CASE XXIII. Male, unmarried, aged thirty, American; advanced phthisis. Referred by Dr. Brown, of Wabash, Ind., September 29, 1886. Health always good until ten years ago, when he had what was probably remittent fever. The attending physician called it pneumonia; but, as there was neither cough, expectoration, nor chest pain, the diagnosis would seem doubtful. Health then remained about the same as usual until June 10, 1886, when he was taken with chills and fever, and was sick about one week. This time, the physician called it catarrhal fever; but, as there was cough and expectoration, it was probably lobar or lobular pneumonia. After this had continual cough, with slight expectoration. Got overheated in harvest-field, and from this on grew gradually worse. No hæmoptysis. Always subject to epistaxis. Poorly-developed chest, with great emaciation. Heart-impulse visible over extended area. Fair resonance over right lung. Left lung perfectly flat from apex down to nipple. Crepitant and fine mucous râles throughout greater part of left lung, front and back, with coarse, bubbling râles at base. Cavernous murmur and tympanitic resonance just below nipple. Appetite and digestion very much impaired. Bowels moving six times per day. Pulse 110, temperature 99° F., at 5 p. m. Gave unfavorable prognosis, but patient had come to stay, and was, accordingly, placed on supporting treatment, with efforts to control diarrhœa, which was probably due to tubercular ulceration, and thus, perhaps, slow the inevitably fatal march of the disease. Very mild cabinet treatment was instituted, to satisfy the patient, but, of course, without benefit. At the end of two weeks I persuaded his father, who had hitherto refused to accept my prognosis, to take him home to die, which he did ten days later.

CASE XXIV. Female, married, aged thirty-three, American; advanced phthisis. Healthy weight 165, present weight 102 pounds. Family history good. Personal history: Health always good until spring of 1885, when she commenced having slight cough in the morning, with loss of flesh. In the following September she became too weak to do housework for herself

and husband. Menstruation ceased with commencement of the cough, since when there has been no "show" whatever. Has had chills every day, about 9 A. M., followed by fever, which usually reached its acme at noon. Digestion considerably impaired. Night sweats had been constant until two months ago, when they were stopped by six-grain doses of gallic acid, since which time they have not returned. Tympanitic resonance and cavernous murmur at outer and upper part of right lung, with bronchial breathing down to sixth rib. No râles. Left lung: Bronchial breathing and dullness on percussion at apex, with a few crepitant râles. Organic changes less extensive, but apparently more active than in right lung. At 11 A. M., pulse 120, temperature 99.5° F.; 4 P. M., temperature 100.5° F. Gave unfavorable prognosis, but, at her husband's urgent solicitation, agreed to keep her under observation for a fortnight. Next day (October 8th), had chill at 8 A. M., and at 10 A. M. temperature was 104° F. Both the patient and her husband thought that the fever had frequently been as high as this during the last three or four months. Next morning, gave thirty grains of hydrobromate of quinia in three doses, with the result of a normal temperature all day. She took half-a-dozen treatments in the pneumatic cabinet, when I advised her to wait a few days, in the hope that, with the control of the fever, her strength would improve somewhat. The temperature was maintained at about the normal, and the patient taken home to await the result of the treatment of the pyrexia, upon which the rapidity of its fatal march was thought to depend. The improvement was quite marked after the cessation of fever, but her condition was not such as to justify her in returning to the city for treatment. In about one month the fever returned, and the case terminated fatally a few weeks later.

CASE XXV. Male, unmarried, aged twenty-seven, farmer; advanced phthisis. (Referred by Dr. G. N. Worley.) Father's sister died of consumption. No other case known in the family. Present illness dates from last January, and is referred to a long drive taken on a very cold, stormy day, although he was not conscious of "catching cold" until some ten days later. The first symptom was a dry cough, which grew progressively worse for about one month, by which time it became very bad. Broke down, while at work, in July, and had some form of pneumonia, which lasted three weeks. Had another attack August 28th, after exposure, also lasting three weeks, from which there is now only partial recovery. Has had some hæmoptysis and night-sweats. Always subject to epistaxis. Pulse 130, temperature 101° F. Lower lobe of left lung hepatized, with dullness at right apex, extending down to second rib; crepitant râles at right apex. Patient was under observation about two weeks, all the symptoms becoming progressively worse. Was placed in the cabinet two or three times, with very slight pressure. Was taken home, and died November 16, 1886.

CASE XXVI. Male, single, aged twenty-three; chronic bronchitis, dating from acute bronchitis in 1883. Last winter, commenced having a hacking cough, and has gradually failed in general health. Ten per cent. loss of weight. Took cabinet treatment three weeks irregularly, with some improvement.

CASE XXVII. Male, married, aged thirty-two; advanced phthisis. One sister died of consumption, and

father had some form of lung disease, but died of gastric cancer. One brother has chronic cough. Health good until five years ago, when he was awakened by a sudden cough, and thinks he spat up a pint of blood. Never had the slightest cough before this. Made fair recovery from this attack, but every winter since then has had about one month's sickness from prostration and cough. Never had a second hæmorrhage, except once last winter, while in Los Angeles, spat up a spoonful or so of blood. Right lung nearly solid, except a large cavity from third interspace to apex. Resonance fair in left lung, except slight elevation of pitch at apex. Afternoon temperature, 102° to 103° F.; pulse, 108. Endeavored to control pyrexia by hydro-bromate quinia, and this failing, by salicylic acid, administered according to Jacoud's plan; also carbolic-acid inhalation, but all without avail.

The patient took five cabinet treatments, while other methods were being used to counteract the pyrexia. There being no improvement, he returned home, a distance of fifty miles, and has not been heard from since.

No attempt will be made to classify the cases recorded, because any statistical facts, to have value, must be based upon more cases than are here reported, and upon cases observed for a longer period than six months.

The proportion of "improvements" could have been largely increased by refusing to treat the hopeless cases. But the chief duty of a physician, as I see it, is not to manufacture favorable statistics, but to combat disease, if he cannot realize the still higher goal of prevention; and I have no hesitation in doing what I have repeatedly done — make the last weeks of a consumptive more comfortable, even at the risk of utterly ruining my statistics.

TWO CASES OF INSOMNIA.

BY S. G. WEBBER, M.D.

THE two following cases of sleeplessness are among the most severe and obstinate I have met in sane patients. They are of interest from the conditions which accompanied the wakefulness, the removal of which seemed to favor the recovery of power to sleep. Originally, both seemed to have been caused by mental strain, or by over-taxed brain; the abnormal condition, in one case of the skin, in the other, of the uterus, probably served as additional etiological factors, or to keep up the sleeplessness after it had once commenced.

Miss A., aged fifty-four, had never been well after having the measles at eighteen years of age. During winters she has been subject to colds, feeling "stuffed across the lungs." She never thought she had any nervous trouble until four years ago, when she received a shock from the sudden death of her mother, who was sick only one day. Her father is alive and well, eighty years of age.

After her mother's death she had the care of house-keeping; also looked after a small business of her own. She then began to have restless nights and "spells of nervousness," in which she would shake or tremble all over. She slept very little, and often could not lie down. She had considerable dyspepsia, distress soon after eating, acidity, and heartburn.

After poor nights, she had distress in her head and headache.

She thought that, formerly, she may have had some uterine trouble. At one time she wore a support, but she passed the climacteric without serious inconvenience. She had taken paraldehyde for many weeks, with the result of giving sleep, and with seemingly no bad effect. The quiet and freedom from home cares at first had a very beneficial effect, and sleep was more natural. Later, for a while, she slept well, after taking two grains of quinine at noon and at bed-time. There was much disturbance and loss of sleep, caused by two or three attacks of looseness of bowels, with some colic, possibly ordinary summer disturbance, or of nervous origin. Occasionally, it was necessary to give a dose of paraldehyde at night, but not frequently. On the whole, however, the sleep was very poor and these remedies were of only temporary benefit.

It was noticed that the skin was harsh and dry, and she scarcely ever perspired. A warm pack was given at bed-time for several nights. At first, this did not produce perspiration, and when the temperature of the pack was reduced, it had no effect until a dose of pilocarpine was given with it. When perspiration was free, the sleep was natural and refreshing. After eight days the pack was omitted. The pilocarpine, half-a-grain by mouth, was continued at bed-time. On the tenth day after trying the above treatment it is recorded: "Skin has a more natural feeling. She is better; is improved in appearance; has gained in flesh. Stomach don't give so much trouble. Can stay in room, and lie down with more comfort than for a long time."

The pilocarpine was reduced to one-sixth of a grain, and after two weeks it is recorded: "Patient is decidedly better. Sleeps five to six hours on an average, almost always without extra help. Can lie down with very much less discomfort." The urine was natural, acid, sp. gr. 1018, without albumen or sugar.

In this case, there seems to have been an intimate relation between the loss of function in the skin and the sleeplessness. Whether both conditions depended upon the same cause, or the loss of power to sleep was the result of diminished cutaneous action, may be questioned. She was not seen until the two conditions had been of so long standing, that I will not venture to decide the question. The power of sleeping was recovered in proportion to restoration of the function of the skin.

CASE II. Miss C., aged twenty-two, was never very well, though, from eleven to fourteen years of age, she enjoyed very fair health. The patient's father and father's family were healthy; her father died some years ago. Her mother is alive, a very nervous woman, and has severe headaches and neuralgia, and is a poor sleeper. The mother's mother is not well. One of her mother's sisters is insane.

At about fifteen years of age she was obliged to leave school. For two years previously she had not slept much. She was confined to her bed, and could see no one, except her mother, without screaming, laughing, and crying. Her head felt badly, and her back troubled her all the time. At times her legs ached, and she had pain in the joints. For two weeks before I saw her she had slept well.

The pupils acted naturally; the eyes, face, tongue, and limbs moved naturally. There was no trembling of hands; they were rather moist, as were also the

soles of the feet. There was lack of strength. Sensation was natural. Plantar reflex was slight; patellar-tendon reflex was natural. Heart and lungs were in a normal condition. There was no tenderness over the spine, but pressure on the muscles either side of the spinal column caused some discomfort.

After about two weeks she had an hysterical attack. Said she could not breathe; had much distress, agonizing for breath. Screamed two or three times, loud enough to be heard all over the house. Had pain in back, but head did not ache.

The chief unpleasant symptom was sleeplessness. When she could sleep, her head felt comfortable; if she lost sleep, she had more discomfort in her head. She was dressed and about the house most of the time: went out-doors, but was not able or not inclined to take much exercise.

Various means of inducing sleep were tried—rest in bed, hot baths, warm packs, cold douches to back, diet—but with only temporary success. Various hypnotics were used, with varying results. Paraldehyde would produce sleep one night, not the next. Urethane did no better. A pill containing camphor and lupulin caused sleep several nights. One containing camphor, extract of hyoscanus, and extract of valerian also gave several nights' sleep, but both these, finally, had little effect.

On account of the distress in her head and headache aconitia was used, in a dose of two-hundredth of a grain. Not only was the head relieved but that night sleep was much more natural and refreshing. The aconitia was afterwards given frequently at bed-time with favorable results. It did not produce sleep every night.

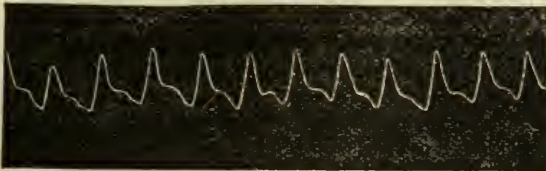
She said a uterine examination had been made with negative result, so at first no such examination was made, but as the various means proved of no avail, one was proposed. The introduction of the fingers caused much nervous disturbance, almost an hysterical attack. No displacement was found, and no attempt was made to use a speculum on account of this nervous disturbance. There seemed to be considerable tenderness of the uterus and in the vicinity of the ovaries, therefore hot douches were ordered, and while taking these for awhile, she slept better.

About a month later, there being more distinctly marked pelvic disturbance with increase of headache, another examination was made, with a speculum. The hysterical excitement was less, or rather there was more self-control, possibly because sleep had been better. The cervix was quite large, the canal bled very easily, the cavity of the uterus was a little longer than normal, there was considerable excoriation around the os, thick mucus extruded from the os. Tincture iodine and glycerine were applied. About a week later another application was made, and one or two more in the next month. The congestion and excoriation were much relieved. The headache and backache were better and the patient slept much better. For a month she had only one or two sleepless nights, hypnotics were not given during a part of this time.

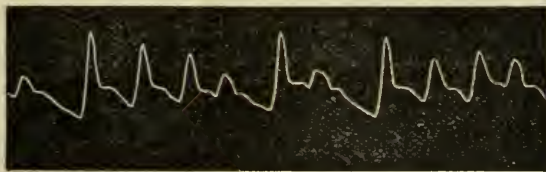
This case presents many points of interest. The hereditary tendency is moderately marked. The sleeplessness began at about the full establishment of the catamenia. The hysterical character of the symptoms was very well marked. Onanism was suspected but denied by patient.

Hypnotics were only of temporary benefit and the

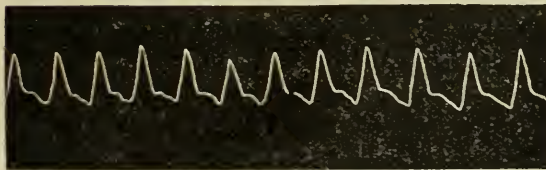
milder kinds were of more continuous service than the stronger. The influence of the uterine disease upon both the headache and sleeplessness, was clearly defined. No remedy proved of much value until that was treated, the best results were obtained by combining with such treatment, aconitia, which restored the tension of the bloodvessels. During a large part of patient's stay in the asylum the arterial tension, as shown by sphygmograph, was much diminished. A few times, when she slept comparatively well, the tension was rather better, though this change was not constant.



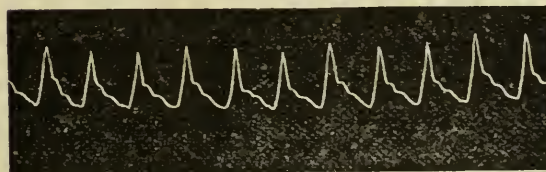
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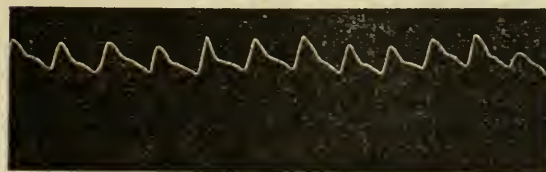
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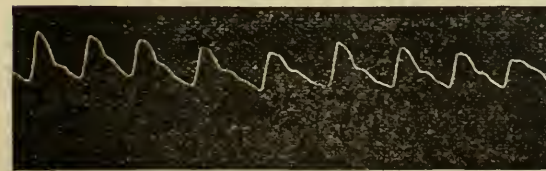
December 31.



February 4.



February 26.



April 29.

The tracings of December 23d, 24th, were taken after sleeping poorly, the latter the day after a dose of urethan, that of December 31st, was also taken after a dose of urethan, and does not show the same irregularity.

The tracings taken February 4th, 26th, and April 29th, were taken after uterine treatment was commenced, sleep was better and more natural; the last tracing was made while she was taking aconitia.

RECENT PROGRESS IN CARE OF THE INSANE.

BY WALTER CHANNING, M.D.

DEVELOPMENT OF THE COTTAGE SYSTEM OF PROVISION FOR THE INSANE.

THAT there is a world of transition and progress has shown itself in the care of the insane, as strikingly, perhaps, as in any movement during the last fifty years, instituted for the benefit of the helpless, or dependent classes.

Fifty years ago the population of the country was comparatively small; there were few lunatic asylums, and but little knowledge of the proper treatment of the insane. The proportion of this class to the community was practically unknown, as every lunatic was regarded as a family disgrace, and was hidden away and abused in the bosom of his family.

The ignorance and superstition then prevailing, which as usual went hand in hand, naturally prevented the proper provision being made adequately, as far as actual number went, for the existing cases of insanity.

Only fifty-eight years ago the first lunatic hospital, north of the Ohio River, was built, and that was the Columbus, Ohio, Hospital.¹ This was owing, however, largely to the newness of the country, though it is fair to presume not entirely.

If we take a period as nearly as possible of fifty years ago, we find that there was at that time a mere handful of asylums. This handful consisted of the asylum at Williamsburg, Virginia, opened in 1773, the first in America; a second at Staunton in the same State; the insane department of the Pennsylvania Hospital; Bloomingdale Asylum in New York; Friends' Asylum, Frankford, Pa.; Mt. Hope Asylum, Maryland; McLean Asylum, opened in 1818; Hartford Retreat; Vermont Asylum; South Carolina Asylum; Kentucky Asylum; and the Worcester State Lunatic Hospital opened in 1833.

There were in addition to these some private asylums, but excluding almshouses, no institutions of any size.

The first concerted and organized movement made, for the better care and treatment of the insane in institutions, may be said to date from the first meeting of insane asylum superintendents. I do not mean to say that previous to this time the condition of the insane had not changed considerably for the better, but organized, scientific action toward improved asylum construction and management, had not been possible.

This first meeting was held in 1844, at which time there were supposed to be twenty-five hospitals for the insane, thirteen of which were State hospitals. The total number of insane provided for was about fifteen hundred. If there were seventeen thousand insane

¹ Progress in Provision for the Insane. Dr. W. W. Godding.

persons in the whole population, or one to a thousand,² we see that less than a tenth were provided for. In considering these figures, however, we must always make allowance for their probable unreliability, as I have already intimated.

Taking the census of 1880, we find one hundred thousand insane persons, with nearly forty-one thousand of this number provided for, or two-fifths of the entire number, against one-tenth in 1844. Whereas in 1844, the number provided for may have been a fair indication of the confidence felt by the public in institution provision for the insane, the present figures are entirely misleading, as undoubtedly from one-half to two-thirds of the insane would be placed in institutions, if there were room for them. But the melancholy fact of the case is, that the insane hospital accommodation is miserably inadequate in this country, in almost all States.

This state of affairs is not owing to a lack of intelligent appreciation of the modern methods of care and treatment of the insane on the part of the public, though insanity is still viewed by many as a moral disgrace, rather than a physical disease, and lunatic hospitals are sometimes spoken of as prisons. It is largely due to the stupidity, narrow-mindedness, and timidity of legislative bodies. The members of these bodies seem to lose all freedom of judgment and action when elected, and are controlled by traditions, which make it next to impossible for them to appropriate money for any purpose, however good, unless political pressure is brought to bear on them. For this reason, more than for any other, thousands of the insane are at this moment exposed to suffering and sorrow, which it is sad to think of. Human sympathy is almost dead in the breast of the average legislator. He counts no cost but the money cost. If hospital care costs more than almshouse care, nothing more need be said to him: the almshouse is good enough.

As I have already said, the better hospital care and treatment of the insane began in 1844, with the organization of the Association of Insane Hospital Superintendents. These men were practical men, of scientific and executive ability combined, and they bent their energies largely to the construction of buildings for the insane. This was the precise direction at that time in which such energy was needed.

The first fruits of their deliberation appeared in their so-called "propositions" of 1851, which we can criticise easily enough now, but which were admirably suited to the time when they were promulgated. Dr. Kirkbride was largely responsible for these dicta, which showed him to be in advance of the time.

I have no intention of doing more than to allude to such of these "propositions" here, as have reference to building in general, that I may be able to contrast the changes and advances made in the general provision for the insane.

Proposition five, stated that "The highest number that can be treated with propriety in one building, is two hundred and fifty, while two hundred is a preferable maximum."

Proposition nine, which specified that no apartments should ever be provided for the confinement of patients, or as their lodging-rooms, which were not entirely above ground, seems strange to the casual reader, perhaps, of the present day, but such rooms have undoubtedly existed in a number of asylums, and

can be found to-day in almshouses. They should be entirely abolished.

Proposition ten, stated that "no class of rooms should ever be constructed without some kind of window in each, communicating directly with the external atmosphere." Such rooms were frequently constructed in lunatic asylums and less than half a century ago, I fear, in some of them. They were a relic of the dungeon treatment of the insane. These rooms still exist for the custody of lunatics in almshouses, and are only an additional illustration of the danger of trusting the insane to almshouse treatment.

Propositions fourteen and fifteen, provided that a large hospital should consist of a main central building for administrative purposes, and the wings for patients.

An additional set of propositions was adopted in 1853. This was chiefly in reference to the duties of the hospital staff (the word, hospital was not much used in reference to the insane until 1850) and the employees.

In 1866 several important propositions were adopted, which, in the light of the twenty-one years' experience since, have been found to be, in the main, sound and true. These were chiefly in regard to the care of the chronic insane. The position was taken that the curable and incurable should be provided for in the same institution, the States being divided up into sections of convenient size, to furnish patients to a local hospital.

This method of provision is much the most satisfactory and convenient for the friends of patients, and for various other reasons, in general the best of all plans so far advocated. Many exceptions have, however, been made, and are still being made to the plan, partly by theorists, and partly by economists, who think of the cost first and the patient's welfare second. Perhaps the most notable exception, and in the early stages, largely in the nature of experiment, was the Williard Asylum for the Insane, at Ovid, New York, opened in 1869 for the custody of the chronic insane.

The Williard Asylum was the result of a combination of circumstances, which made it a possible success from the first. The poorhouses of New York were running over with unfortunate lunatics exposed to ignorant, and often inhuman treatment. They constituted a mass of old cases for which some better provision must be made. An immense institution, managed strictly on insane hospital principles, was what was needed, and Williard exactly fulfilled these conditions.

This asylum now contains more than eighteen hundred patients, and may, perhaps, grow to even larger proportions. No one can consider the history of the Williard Asylum, without a feeling of thankfulness that many thousands, of the most helpless and pathetic class in the community, have been saved from a life of suffering and misery, in the ghastly New York poorhouses, and made comfortable, and in many cases happy. But the Williard Asylum had an exceptional work to do, and its having done that work wonderfully well, in no way changes the *exceptional* character of the circumstances. The rule is proved by the exception.

The trustees, and superintendent Dr. P. M. Wise, both consider this point in their last report.³ The latter says: "As a fundamental proposition, the divi-

² Progress in Provision for the Insane. Dr. W. W. Godding.

³ Report of the Williard Asylum for 1886.

sion of the State into districts with an asylum in each district, located with a view to give easy access to the largest number seeking its accommodations, with hospital facilities for the recent, and capacity to care for the chronic insane as they accumulate, would seem logically correct. . . . Drs. Chapin and Cook advocated virtually a similar proposition nearly a quarter of a century ago. . . . In the meantime there have grown to completion, or nearly so, four State hospitals for the recent, and two great asylums for the chronic insane, located apparently without regard to future districts."

Hence, Dr. Wise thinks, that it would be unwise and embarrassing to change the general policy of the State, and he would advise the sending of chronic cases only to the Williard and Binghampton asylums. The trustees in general endorse the superintendent's arguments, but go farther, and suggest, that when all the asylums are completed and filled, buildings for the chronic cases can be erected on the grounds of those institutions now receiving presumably recent cases. This they think would be better than redistricting the State.

It is safe to say, they suggest, what will eventually be done, as the most expedient plan for furnishing further provision. At a still more remote period, however, the State must be districted, and all hospitals and asylums receive all kinds of cases. This may be one of those so-called questions of time, but it is none the less inevitable.

Another proposition adopted in 1866, though not unanimously, was to the effect that an institution "may" be enlarged to a point sufficient to receive six hundred patients. This, it will be observed, is a radical change from the dictum of 1851, which allowed a *maximum* of two hundred and fifty. Such a change of opinion showed that it was necessary to modify ideas to keep progress with the times, to say nothing of expediency. The insane, as well as institutions for them, were multiplying with unexpected rapidity, and either hospitals must be made larger, or a large number would be left unprovided for.

A point generally insisted on in these excellent propositions, was the need of elaborate classification. In the first set of propositions, eight sets of wards for each sex were recommended, and again in 1866, the importance of classification was emphasized.

To meet all the requirements in the case of the insane, such as convenience of access, light, heat, ventilation, classification, a main building with wings was designated in the propositions, and this plan was followed and developed, until it reached its climax, and turning point, at least in New England, in the hospital of the type of that at Danvers.

This hospital was intended to be the perfect embodiment of the practical experience and wisdom contained in, or deducible from the above proposition. Such it appeared to be in the early stages, but the unfortunate location, the poor construction, the deficiency in details, and the immense cost in proportion to the number of inmates, justly gave rise to criticism of this form of insane hospital architecture; primarily in regard to cost, and secondarily in regard to its adaptability to the purpose for which it was intended.

The latter criticism had already been frequently made of the close, congregate, or linear type of hospital, and the erection of such palatial structures as the Danvers building gave fresh zest to the subject.

As is well known, a large proportion of patients entering insane hospitals, are cases of over two years' duration, or in other words, cases liable to remain as incurables. In view of this fact, as well as in view of the limited hospital accommodations all over the country, the great cost of the congregate buildings, and the difficulty of obtaining the needed appropriations, the question of some different, and less expensive plan of building presented itself with renewed force.

The necessity of the old form of building was further shown to be less absolute than had been supposed, owing to the general advance made in the care of the insane. Mechanical restraint was rapidly lessening in amount, and with it, the bolts and bars and prison-like arrangements in other directions. It was found that insane patients could in many cases sleep in ordinary rooms, surrounded by ordinary furniture. They could take their meals together in large numbers, could sleep in large dormitories, and be trusted at large in the grounds without fences, or expensive stone walls, which were earlier regarded as a necessary safeguard.

The next step taken was to apply this added knowledge in a practical direction, which was done by putting up detached buildings. These were first used for small numbers of selected cases, and regarded with some distrust, as experimental. So satisfactory were these buildings, however, that they were multiplied and duplicated in different parts of the country, until finally the hospital buildings at Kankakee, Illinois, were laid out on the so-called "village plan."

These buildings have already been described in the JOURNAL, but as many changes have taken place since they were last spoken of, it will be interesting to again refer to them.

The first point of interest in the history of this hospital, is the fact that its capacity was increased in less than two years from six hundred and thirty-nine to fifteen hundred patients, by the erection of new buildings. The superintendent, Dr. R. Dewey, thinks that no institution in this country has increased in number at an equally rapid rate.⁴

The entire capacity of the institution is now sixteen hundred patients. The general plan of the buildings is a small linear building on the old plan, with a capacity of three hundred and seventy patients.⁵ The balance of the patients are divided up in separate cottage buildings, scattered about on regular village streets. These buildings accommodate from thirty-three to one hundred and sixty patients. There are eighteen of them in all, accommodating twelve hundred patients.

Among the various detached buildings are infirmaries for each sex, bath-houses for each sex, an amusement hall, dining-room, kitchen, etc.

There is a fire-department annex connected with the male bath-house. This department has been perfected since the destruction of the South Infirmary by fire in January, 1885, when seventeen patients lost their lives. At the time this fire occurred, "the appropriation for fire apparatus had only been sufficient to put up the hydrants and lay the mains for bringing water to them, and in doing this a considerable additional amount had been used from the ordinary fund." Here again is an instance of the lamentable, and it

⁴ Illinois Eastern Hospital for the Insane. Biennial Report, 1885-6.

⁵ Two sections of this building are semi-detached.

would seem, inexcusable tardiness of legislatures in making the most important appropriations.⁶

There are four hose-carts and a hand and ladder-cart in the fire-department building. There is a tower in the building in which is placed a bell, and in this tower the hose can be hung to dry. There is a central telephone station where a watch is kept day and night. From this station signals can be given for putting on pressure at the water-works, notifying the fire-department, etc. Scattered about the buildings are fifty-seven hydrants. Altogether the arrangements appear to be ample to prevent another large fire.

(To be continued.)

REPORT ON MEDICAL CHEMISTRY.¹

BY WILLIAM B. HILLS, M.D.

THE RELATION BETWEEN UREA, PHOSPHORIC ACID, AND SUGAR IN URINE.

Bretet¹⁸ has analyzed the urine of a large number of patients affected with diabetes. The quantity of phosphoric acid eliminated during the twenty-four hours was, on the average, one-tenth that of the urea. It fluctuates with the latter, but is much less affected both by the disease and by the treatment; thus, when the urea is a third less or a third more than the average normal quantity, the phosphoric acid deviates from the normal only by a sixth or a fifth, rarely a fourth.

No relation was found to exist between the sugar and phosphoric acid eliminated. According to the author phosphatic diabetes or phosphaturia is extremely rare. He estimated the phosphoric acid in the 24 hours urine of 798 persons. In 39 cases only the phosphoric acid exceeded four grammes. In 31 cases the amount was between four and five grammes; in 7 cases, between 5 and 5.6 grammes; in 1 case only, as high as 7.2 grammes. According to Bretet the elimination of sugar bears no relation whatever to that of the other urinary constituents.

SUGAR.

H. Molisch¹⁹ describes the following new reactions for the detection of sugar: One-half to one cubic centimeter of the solution to be tested is mixed with two drops of a fifteen to twenty per cent. alcoholic alphanaphthol solution, and an excess of concentrated sulphuric acid is added. Upon shaking, in the presence of sugar, a deep violet color is developed, and upon dilution with water a violet-blue precipitate, soluble in alcohol and ether with a yellow color, or in potassium hydrate with a golden-yellow color, is obtained. If the alphanaphthol is replaced with thymol a deep red color is produced, and upon dilution with water a carmine-red flocculent precipitate, soluble with a pale-yellow color in alcohol, ether, and potassium hydrate, but with a bright yellow color in ammonium hydrate. Most kinds of sugar answer to these reactions; inosite, however, does not. Most glucosides respond sooner or later to the tests; indican is an exception. Urea, creatinine, xanthin, uric acid, allantoin, hippuric and succinic acids, phenol, and pyrocatechin

all give negative results. These tests are, according to Molisch, far more delicate than any other known tests for sugar, detecting the latter in solutions containing only 0.00001 per cent. Normal urine responds to these tests even when diluted with 300 volumes of water. Molisch considers, therefore, that the presence of sugar as a constant constituent of normal urine can no longer be doubted.

To distinguish normal from diabetic urine, Molisch recommends the following proceeding: (1) Dilute a specimen of normal urine and one of the urine to be tested for sugar with 100 volumes of water and compare the colors resulting from the application of the tests. (2) Dilute two similar specimens with 300 or 400 volumes of water. The diabetic urine will still respond to the test, while normal urine fails to respond under this degree of dilution.

Seegen²⁰ has submitted these tests to a careful examination with the following results: Sugar solutions containing 0.05 per cent. gave both reactions distinctly. Solutions containing 0.01 per cent. sugar gave with thymol a dark sherry-yellow color, with alphanaphthol a faint violet tint; but on dilution with water no precipitate was formed. The tests are therefore less delicate, according to Seegen, than Trommer's test. Normal human urine gave the reaction as described by Molisch. When the urine was diluted 100 times, a light red or violet color was obtained but no precipitate. Urea and uric acid gave negative results with both tests. But various animal substances and secretions, and chemically pure albuminous bodies, for example, peptone, egg albumin, serum albumin, and casein, all gave the reactions. These reagents, therefore, are of no value as tests for sugar alone, and Molisch's conclusion that sugar is a normal constituent of the urine is not justified.

In answer to Seegen, Molisch still maintains that his reagents are more delicate as tests for sugar than the Fehling's solution. In dilute solutions it is necessary to employ a small quantity of solid alphanaphthol in place of naphthol solution. With reference to albuminous bodies Molisch says that while these may give results resembling somewhat those obtained with sugar solutions, still the precipitates obtained upon dilution with water are, excepting in the case of peptone, all of a different color (dirty yellow or yellowish brown), from those produced with sugar solutions. Besides, they are all soluble in hydrochloric acid with a carmine-red or reddish-violet color, while the precipitate obtained with sugar solutions is insoluble in hydrochloric acid. Molisch now states that in place of sulphuric acid, hydrochloric acid may be employed in these tests, the mixture being subsequently boiled for a minute. Fibrine, vitellin, serum-albumin, egg-albumin and peptone do not give the reaction when hydrochloric acid is used. Normal urine gives the reaction when boiled with alphanaphthol and hydrochloric acid, even if diluted ten times. Molisch still asserts that normal urine must contain sugar, or, otherwise, some body as yet unknown.

R. v. Jaksch²¹ employs phenylhydrazine for the recognition of sugar. When a solution of hydrochlorate of phenylhydrazine, containing also sodium acetate, is added to an equal volume of urine and the mixture warmed for twenty minutes over a steam-

¹ Concluded from page 329.

¹⁸ Journal de Pharmacie et de Chimie, 1887, p. 145, from Journ. des Commissions Médicales, December 16, 1886.

¹⁹ Archiv der Pharmacie, 1886, page 803, from Monatsh. f. Chem., 7, page 216. See also Centralblatt für die Medicinischen Wissenschaften, 1887, pages 31 and 49.

⁶ Biennial Report.

²⁰ Centralblatt für die Medicinischen Wissenschaften, 1886, pages 785 and 801.

²¹ Centralblatt für die Medicinischen Wissenschaften, 1886, page 708, from Zeitschr. f. Klin. Med. xi, page 20.

bath, there is obtained, in the presence of sugar, a yellow precipitate composed of needle-shaped crystals (a compound of phenylhydrazine and sugar). The melting point must be 204° C. Normal urine gives a negative result with this reagent. This test, according to the author, is more delicate than the ordinary tests for sugar. It does not react with other reducing substances besides sugar which occur in urine. Albumin, if present, must first be removed. The author found that the urine, in diseases of the liver, rarely contained sugar. The reducing urines passed after the administration of benzoic and salicylic acid, and in cases of poisoning by potassium hydrate and sulphuric acid did not contain sugar. Traces of sugar were found in the urine in cases of high fever; especially large in cases of ulcerative endocarditis. Sugar was found in the urine in three cases of carbonic-oxide poisoning, and in two cases of asphyxia following the inhalation of other poisonous gases.

Prof. Ottomar Rosenbach²² has adapted the principle of the fermentation test, which theoretically is the most reliable means of discovering the most minute quantities of sugar, to the practical purpose of detecting sugar in the urine. A small quantity of the urine under examination, the reducing effect of which in a measured quantity of Fehling's solution (one cc. of the urine in an equal volume of Fehling's solution, whereby an incomplete reduction proves the presence of less than one-half per cent. of sugar) has previously been tested, is boiled, after the addition of a few drops of tartaric acid, which prevents the precipitation of the phosphates. The urine after cooling is divided into two portions. To one of these a small quantity of yeast is added and this portion is kept in a warm place. If after a few hours equal portions of each specimen be taken and each be tested with an equal quantity of Fehling's solution one of these as before, will reduce the solution, while the other, proportionate to the degree of decomposition of the sugar will give either a perfectly negative or at any rate a noticeably weaker result; so that a simple comparison of both solutions will show the difference. By this method extremely minute quantities of sugar will be detected with certainty as proved by Rosenbach's experiments on diabetic urine and on normal urine, to which traces of sugar had been added. The presence of albumin does not interfere with the application of this test.

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Clinical Memoranda.

BERI-BERI: A BRIEF ACCOUNT OF OUTBREAKS IN THIS COUNTRY AND OF SOME RECENT CASES NOT HITHERTO REPORTED.

BY FREDERICK C. SHATTUCK, M.D.,
Visiting Physician, Massachusetts General Hospital.

UNDER the head of "A Curious Endemic" I reported in the *JOURNAL* of October 27, 1881, an outbreak of disease on a Provincetown bank fisherman. Out of a crew of nineteen, fifteen were attacked by sensory and motor disturbances and œdema, beginning in the legs and extending upwards a variable distance on the trunk: two of the cases came under my observation in the Out-Patient Department of the Massachusetts General Hospital. No satisfactory cause could be assigned for the outbreak, and I was quite in the dark as to the nature of the malady from which the man suffered. Dr. Costello, of Vevay, Indiana, seeing the report, wrote to the *JOURNAL*¹ suggesting that the disease was beri-beri. This suggestion I could not at the time accept, for the reason that, as far as was known this disease was confined to the tropics and had never been known to originate in this country. The only recorded cases which I could find as having been seen in this country were in the Marine Hospital in San Francisco in 1880, and came from a Brazilian man-of-war.²

Subsequent reflection and events have convinced me that Dr. Costello was right and that the disease which broke out on the *Nellie Swift* was beri-beri. This outbreak, however, to the best of my knowledge and belief — and I have followed the question with some care since then — remains to-day the only one recorded as having originated in these latitudes. The fishing vessel on which it occurred was engaged the previous winter in the West India fruit trade; but other vessels of the same class had been similarly engaged in previous and the same years without any such consequences. Within the last four months the experience of the *Nellie Swift* has been brought freshly to my mind in the following way:

Dr. Séguin³ reports three cases of beri-beri, originating in Cuba, the Isthmus and Brazil.

Again, Dr. Roosevelt⁴ reports cases from the *Henry S. Sandford*, which sailed from Hong Kong for New York, July 20, 1886. Twelve out of eighteen were attacked and several cases were fatal. Some of the crew were treated in New York hospitals.

¹ December 13, 1884.

² Marine Hospital Report for 1881.

³ Phila. Med. News, December 15, 1886.

⁴ Medical Record, February 19, 1887.

²² The London Medical Record, February 15, 1887, page 68, from *Der Fortschritt*, April 5, 1886.

Again, very recently, Mr. F. W. Anthony, of the Harvard Medical School, brought to me a sea-captain, a fellow townsman of his, who was the subject of a strange malady, to which none of the physicians whom he had seen could give a name, but which Mr. Anthony, fresh from preparing for a recitation including the subject of neuritis, suspected to be of that nature.

Captain R., sailed from Singapore for New York, July 10, 1886, after a stay of eight weeks at that port, during which time the officers and crew eat and slept aboard the ship. All went well until September 20th, when the second mate began to have swelling and numbness in the legs, without pain, accompanied by vomiting and loss of appetite. His countenance was natural, his tongue was clean, and the pulse was not markedly quickened. At first he kept about his work as usual, then had to give up in part, and November 9th he was obliged to take to his bed. November 16th he died, the swelling and numbness gradually making their way up to his chest before death. There was no delirium and until near the last he looked well in the face.

The first mate began to complain of the same symptoms October 20th, grew rapidly worse, gave up work November 1st, and died November 7th. The pulse was about 70, the tongue was darkly coated in the centre, and for two days before his death he was delirious.

October 25th, the captain's legs began to swell and grow numb and weak, but he had no vomiting. The swelling gradually increased and mounted, with impairment of sensation which was especially marked over the region of the bladder, and muscular weakness. It became difficult for him to move his head, but he succeeded in navigating the ship until he reached New York, toward the last of November. Since then he has been slowly improving, but is not yet well enough to resume his occupation. He is a temperate man, and of great bodily vigor, but when I saw him, March 20th, there was slight œdema of the legs with impaired sensation and muscular weakness. A slight patellar reflex could be obtained. Weakness in the arms was also noticeable. The urine was normal and, apart from a somewhat rapid pulse, a general examination was negative. On the arrival of the ship in New York, five of the crew entered a hospital with the same symptoms as had been presented by the officers, and three died.

Captain R. has of late been somewhat disposed to attribute the illness to canned string-beans, of which the officers eat freely, and which were sometimes of bad color. After the death of the mates he ordered the steward to give the beans to the crew. It seems, however, perfectly clear that the disease was a multiple neuritis, and that form of this affection which is called *beri-beri* in India, *kakke* in Japan. This conclusion seems to be placed beyond reasonable doubt by the outbreak on the *Henry S. Sanford*. Captain R. also told me that he heard of similar cases on a ship arriving in New York about the same time from the Philippine Islands.

It seems to me important that wide publicity should be given to these cases, so that physicians at our seaport towns may be on the lookout for them and promptly recognize their nature. It may well be that cases have occurred from time to time for years. It is only of recent years that the existence of such an affection as multiple peripheral neuritis has been known.

It is of special interest to note that the disease first appeared on the *Henry S. Sanford* and Captain R.'s ship, nearly three months after leaving port. The disease is endemic in portions, at all events, of Brazil, but the first case on the Brazilian man-of-war, to which allusion has already been made, occurred in Aden six months after the ship left Rio. The voyage was from Rio to Lisbon, thence through the Mediterranean, the Suez Canal, and the Red Sea. Between Aden and San Francisco there were a great many cases and eighteen were treated in the Marine Hospital at the latter city. The sanitary condition of the ship was reported as dreadful. Competent observers have studied the disease during life and after death, but I believe a Brazilian physician is the only one of these who considers it bacillary. The experience of these three vessels suggests that conditions favorable for the development of the disease may exist on the ocean as well as on land.

A CASE OF HÆMOSPERMATISM.¹

BY F. B. HARRINGTON, M.D.

IN January, 1885, Mr. J. A., twenty-five years of age, a teacher in one of our institutions of higher education, a single man of good physique and of excellent habits, came for advice because of a slight enlargement of the epididymis of the right side. It caused slight pain after long standing or walking. The patient had never had gonorrhœa. The immediate cause of this epididymitis seemed to have been a long cold walk with insufficient clothing. Cold applications and a suspensory bandage soon brought relief to his trouble.

It transpired during the course of the questioning that there occasionally occurred a nocturnal emission which was reddish in color, and that the red color was also sometimes seen after straining at stool, and on one occasion after a cold sea-bath. There was no complaint of a frequent occurrence of these stained discharges, but they had caused the patient some anxiety.

About seven years ago the patient first noticed this discoloration of the semen. There occurred intervals during which there was no staining, and at no time were the losses frequent, occurring on the average once a month. Nothing about the patient or his condition suggested spermatorrhœa.

After the meatus had been snipped, a No. 29 French sound was passed with ease into the bladder, and caused no pain. There was no sensitiveness in the region of the prostate. Rectal examination showed no enlargement or tenderness of the prostate nor of the seminal vesicles. There was no pain on passage of urine or of semen, nor did movements of the bowels cause any distress. The patient had been accustomed to horseback exercise, but it never caused him any distress.

He was requested to bring any specimens which it was possible to save. During the course of several months the following specimens were obtained. Two pieces of cotton cloth stained a reddish-brown, cut from the night clothes, and a few drops of the fluid which were passed while straining at stool. This fluid

¹ Reported at a Meeting of the Surgical Section of the Suffolk District Medical Society on January 6, 1887.

was sent to Dr. Gannett, from whom I received the following report:

"March 12, 1886. The small specimen of fluid sent me on the 10th, shows, microscopically, numerous spermatozoa; a few red blood-corpuscles; a few granular nuclei; granules. It certainly deserves the name of a bloody seminal fluid."

The seminal fluid may be discolored in several ways.

An admixture of pus changes its color from gray to white or cream color. An admixture of blood may change the color to a bright red, an orange, a light brown, a dark brown, or a dark red. A dark blue color¹ is occasionally seen, but its origin is not clearly understood.

The origin of the blood is generally believed to be in the seminal vesicles. An admixture may take place with blood from an inflamed urethra, but such a case would not be one of true hæmospermatisin. There are several causes for the appearance of the blood.

Vibert² says that slight capillary hæmorrhages in the vesiculæ seminales are of frequent occurrence among the continent and among old men. The cause is here an over-distension and irritation of the vesicles.

Many authors (Lallemand, Ricord, Velpeau, Fournier, Gosselin, etc.), speak of bloody seminal fluid occurring after gonorrhœa. An extension of the inflammation to the seminal vesicles is a rare occurrence.³

Such inflammation is usually unilateral, affecting but one of the vesicles. By the rectum a hard or fluctuating mass can be felt, having the location and the general contour of the vesicle, but larger in size. There is pain on pressure and a constant dull pain which is increased by defecation, by micturition, by coitus, and emission.

Some authors claim that the blood comes from the epididymis or from the testicle, but it seems to be proven that the seminal vesicles are the usual source.⁴

A third cause, generally recognized by all writers upon this subject, is excessive coitus or masturbation. That such excess should lead to congestion and irritation is not surprising.

The character of the patient and his statements, lead me to believe that the cause of the blood in this case is over-distension of the vesicles. It may be possible that the discharge occurring at times after straining at stool, due probably to distension of the vesicles and to weakness of the ejaculatory duct, may have resulted from horse-back exercise.

The patient has been given fluid extract of ergot, and apparently with good results. The anxiety in the patient's mind has been allayed. He has been told that marriage instead of being contra-indicated, would probably be followed by a cessation of the symptom.

When we consider the moral effect upon patients of such bloody discharges, it is a little surprising that more has not been written upon the subject in our text-books.

Prognosis and treatment. In the continent and among old men, the condition, hæmospermatisin, is of little consequence. Marriage will probably be followed by a disappearance of the symptom in the former. The use of ergot seems to be followed by benefit in this case, and may be tried in all of this class.

In the second class, in which the blood comes from the inflamed vesicles, the symptom is liable to continue

as long as the inflammation lasts. Chronic inflammation of the vesiculæ seminales is of indefinite duration. To cause a disappearance of the symptoms which we are considering, we must cure the inflammatory condition.

In the third class, are those cases which result from excessive coitus or masturbation. Here to remove the cause is to effect a cure.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING January 5, 1887. DR. J. C. WARREN in the chair.

DR. GEORGE W. GAY reported a

CASE OF CHRONIC CYSTITIS IN THE FEMALE RELIEVED BY AN UNUSUAL OPERATION.

A widow, forty-eight years of age, had suffered more or less from cystitis for fifteen years, before coming under Dr. Gay's care. The symptoms were frequent and painful micturition; mucus, pus and phosphatic gravel in urine. There was very little pain in the region of the kidneys and ureters throughout the disease.

The treatment of the patient was varied and, as is frequently the case, the result was unsatisfactory to a great degree, until a resort was made to an operation described below. In the first place a trial was made with irrigation, a stream of warm water, medicated or not as seemed best, was allowed to flow slowly through the bladder for four, six, or even eight hours a day for six weeks. The symptoms improved temporarily under this treatment, but it finally caused so much pain, that it had to be abandoned. The urethra and meatus were then forcibly dilated sufficiently to admit the forefinger. The relief following this procedure lasted only two or three weeks. An artificial vesico-vaginal fistula was then made with Paquelin's cautery, but it was impossible to keep it open for any length of time, even after removing a section of the tissues about the fistula. Anything placed in the opening to keep it dilated soon became encrusted with the triple phosphates, and caused so much irritation, that it had to be removed. The parts were too sensitive to allow the patient to dilate the fistula with her finger, as is sometimes done. Finally the symptoms became so distressing, that opium failed to give any relief. The patient had chills, emaciation, delirium, and vomiting, and dissolution seemed near at hand, when as a last effort the following operation was performed: With a pair of strong scissors heated to a black heat all the tissues between the vagina below, and the bladder and urethra above were divided from the meatus to the cervix uteri, thereby laying open into one large cavity the vagina, bladder and urethra. The hæmorrhage was unimportant. The object of this operation was to prevent the urine from collecting and remaining for any length of time anywhere between the kidneys and the meatus. This object was fairly well attained. The parts were very sore and painful for three or four weeks, but after that time she began to improve, and finally became able to ride, to go shopping, and on the whole, she enjoyed herself a good

¹ O. Guelliot. *Annales des Maladies des Organes Génito-Urinaires.*

² Nouveau Dict. der Méd. et de Chir.

³ Van Buren and Keyes.

⁴ O. Guelliot. *Annales de Dermat. et de Syph.* 1833, p. 204.

deal during the remaining four years of her life. She finally died after a fortnight's illness from vomiting, diarrhoea and coma.

Dr. Gay wished it to be distinctly understood that he advised this operation only in those desperate cases in which all other measures had been faithfully tried in vain, and in which death seemed inevitable, unless relief could be given within a short time. Under those circumstances he would not hesitate to resort to it again; should be satisfied if he succeeded in giving the patient as much relief as was obtained by the one reported above.

In conclusion, Dr. Gay expressed the wish that the discussion be not confined to cystitis in the female, as the same principles of treatment apply to the disease in both sexes. He stated that at the time this case was under his treatment the only antiseptic much used was carbolic acid. This he had tried in injections, but had found that hot water answered the purpose somewhat better.

Dr. E. W. CUSHING spoke of the great value of injections of bichloride of mercury (1 to 1500 or 2000) followed by iodoform emulsion in arresting fermentation, which fermentation he considered to be the element in the disease which we should especially attack. The emulsion was to be made by shaking up iodoform with gum-water and glycerine.

Dr. H. L. BURRELL remarked that in his experience with iodoform emulsion was confined to one case, and that in the male. He considered that caution was necessary in its use, and stated that iodoform once in the bladder was difficult to remove. To remove the iodoform used in his case required six or seven washings.

Dr. O. K. NEWELL called attention to the value of the *porte-remede*, of Dr. Dittel of Vienna, by means of which iodoform could be introduced into the bladder.

Dr. C. P. STRONG spoke in favor of injections of a saturated solution of boracic acid every day or two.

Dr. GAY spoke of the great benefit he had obtained in cases of phosphatic gravel from the daily use of good, hard cider. In several cases in which it had been necessary to remove calculi, every six or eight months with the lithotrite the gravel had ceased to form at all, even to collect under this treatment, and the patients had been relieved of their former troubles to a great degree. No drug in Dr. Gay's experience had produced such happy results in those cases, and he thought it deserved a further trial.

Dr. J. C. WARREN had operated twice for the production of an artificial opening in the female bladder in cystitis. There is no danger of an incurable fistula in these cases, as the chief difficulty lies in keeping them open. The edges of the mucous membrane of the bladder were stitched to the edges of the vaginal membrane to prevent closure. In one of these cases had he followed the patient through the treatment: a complete cure had resulted and the fistula was closed at the end of a year.

Cystotomy for the radical cure of enlarged prostate is an operation at present interesting to surgeons. It is chiefly employed to give good drainage to bladders which are so far advanced in disease as to resemble a pus cavity, but the sphere of this operation is likely to be extended in the future.

Dr. Warren did not use the double current catheter as the amount of liquid at one moment present in the bladder could not be so well regulated as by other

methods. Sir Henry Thompson limits the amount to four ounces, and prefers two ounces. The speaker had seen bad results follow the attempt to inject a larger quantity. Boracic acid is a valuable agent for this purpose; a four per cent. solution, which is not quite a saturated solution, is the strength commonly used.

The care of the catheter is one important point in the treatment. Custom varies greatly in this respect. During temporary use of the catheter, as in females after operation on the genitals, it is customary to keep the instrument submerged in an antiseptic solution when not in use. Such constant scrupulous care becomes difficult when it is necessary, as in a case of enlarged prostate, to use the catheter several times daily, perhaps for a lifetime. Thorough disinfection before and after use may, however, have a more important influence upon the future of a diseased bladder than the most elaborate internal medication.

Dr. E. H. BRADFORD stated that in two cases of chronic cystitis in the male which he had treated by drainage through a perineal incision, the relief was marked. He also considered that the operation was a much simpler one than it is usually thought to be.

Dr. F. B. HARRINGTON reported a

CASE OF HÆMOSPERMATISM.¹

Dr. M. H. RICHARDSON called attention of the Section to some observations he had made upon the

SURGICAL ANATOMY OF THE ŒSOPHAGUS,

already published, for the sake of inviting discussion. At a former meeting of the Section Dr. Cheever had asked what caused the difficulty in passing a probang into the œsophagus during etherization, having himself met with the same difficulty in four cases. By Dr. Richardson special dissections had been made to determine this point. It was found that the ivory bulb of the probang became lodged in the lower part of the pharynx at the beginning of the œsophageal tube in all subjects where the trial was made. Continued efforts at its passage resulted either in penetrating the larynx or in rupturing the pharynx. When guided with the thumb and forefinger outside the neck it was made to enter the œsophagus. This was demonstrated by introducing the left forefinger into the pharynx from below, by left œsophagotomy.

The explanation offered is that in etherization as in death the pharyngeal muscles are relaxed and do not grasp and guide the instrument to the œsophagus. The bulb point of the probang pushes the relaxed pharyngeal wall ahead of itself and makes a path from which it cannot make its escape, and through which it may be forced by too great effort on the part of the surgeon.

Dr. E. W. CUSHING remarks that this relaxation of the pharyngeal muscles possibly explained why the pharynx appeared to be so large during etherization, and was able to hold so much mucus.

Dr. RICHARDSON thought this highly probable, and stated that during etherization deglutition did not take place.

Dr. WARREN called attention to the difficulty in passing the stomach tube in cases of opium poisoning: and said that the expedient of hooking forward the larynx had to be occasionally resorted to.

Dr. M. H. RICHARDSON showed a specimen of

¹ See page 350 of the Journal.

MULTILOCLULAR OVARIAN CYST.

The case was first seen in consultation with Dr. McColleston, of Ayer, December 11, 1886. The history briefly stated was as follows: The patient was forty-six years old and married. She first noticed a lump in her abdomen six years before. For several years it gave her no discomfort. Three years ago it had grown to such a size that its weight and pressure seriously incommoded her. She then consulted certain prominent surgeons. After examination the diagnosis of fibroid tumor of the uterus was made, and no operation advised.

The symptoms continued to increase in severity, pain was more or less constant, and emaciation followed to quite a marked degree. Some weeks before Dr. Richardson's examination, Dr. McColleston aspirated the tumor, which was now very large and fluctuating, and withdrew a ropy, brown fluid.

On examination I found a tumor filling the whole abdominal cavity, fluctuating and symmetrical. The uterus was somewhat adherent to it. General condition of patient good enough apparently to justify operating. The urine had been examined repeatedly by Dr. McColleston and no albumen found.

Dr. Richardson advised careful nursing and feeding, with tonics, for a week at home, and then that she should come to Boston for operation, if able.

December 20th she was brought to St. Margaret's, having borne the journey quite well, but still too weak for immediate operation. She was stimulated and fed, with rest and tonics, under which treatment she began immediately to improve. The operation was postponed from Wednesday, December 22d, to Thursday, if by that time she seemed strong enough to undergo it. Wednesday morning she was much stronger, and everything looked favorable for an operation the following day. At 8 A. M., she suddenly became comatose and died the next noon, with almost complete suppression of the urine.

Autopsy five hours after death. The tumor was found to be a multilocular cyst of the right ovary, attached everywhere by old adhesions. It was very easily shelled out of its attachments, however, and in doing this no vessels of any size were met with. The pelvic cavity was filled with one of the cysts and both ureters sufficiently obstructed to keep the pelvis of the kidneys distended with urine. The right kidney was much atrophied and both were in a state of parenchymatous inflammation. The uterus was normal in size. (Dr. Whitney.)

There are two interesting and important points connected with this case: the first is, the error in diagnosis (if we may believe the patient's story), made by experienced men. A tense ovarian cyst in close proximity to the uterus was mistaken for a fibroid tumor. An operation which at that time would have had every chance of success was therefore advised against. The second point emphasized by this case is the importance of early operations in ovarian tumors. This case was fatal because it was left too long. Had not the kidneys become already hopelessly diseased, the pressure on the ureters at the time of death was sufficient in my opinion to have caused at no distant day serious trouble in the pelvis of the kidney or in the kidney itself. Finally the adhesions which were found would probably not have been present at an earlier date, and the operation would have

been attended by much less risk. I am of the opinion that it is best to aspirate with a fine needle in all cases where the diagnosis of fibroid is not absolutely certain, and when the diagnosis of ovarian cyst is made, to proceed to its removal without delay.

FORT WAYNE ACADEMY OF MEDICINE.

MEETING December 15, 1886.

DR. G. W. McCASKEY read a paper on

CLINICAL REPORT OF SIX MONTHS EXPERIENCE WITH THE PNEUMATIC CABINET, WITH TWENTY-SEVEN CASES.¹

DISCUSSION.

DR. W. P. WHERY. In cases where it is possible to accomplish anything the effect of cabinet treatment I believe to be beneficial. The pneumatic cabinet, I take it, is not a specific; but it is a very valuable adjunct, capable of aiding other treatment, and bringing patients on toward recovery. With its aid the class of incurable cases might be greatly narrowed. But while good results have been shown with this treatment it must not be forgotten that good results have been obtained without its use. But I believe that still better results can be obtained with it.

DR. T. J. DILLS. I am glad to notice that Dr. McCaskey assigns the cabinet to the position of an adjuvant to general treatment. As such it is undoubtedly entitled to recognition. In some of the cases which have been reported this evening the diagnosis does not seem to be fully sustained by physical signs, although I think that phthisis may exist without very marked physical signs.

DR. CARL PROEGLER. I am pleased with the candid statements of the essayist, and think that good may result from the judicious use of the cabinet. The diagnosis should be made largely with the microscope, and should depend on the presence of the bacilli in the sputum.

DR. M. F. PORTER. I would like to know whether Dr. McCaskey has carefully studied the vital capacity, and whether he has found it to vary as much as would be expected from the degree of consolidation present? Also whether there was any probable relation between the dysentery in the case mentioned (Case XIII) and the administration of the bichloride spray? The value of cabinet treatment could best be determined if those who were treating large numbers of cases would treat similar cases with the cabinet and without it, comparing results. I consider the cabinet a valuable acquisition.

DR. McCASKEY. In regard to the case of dysentery I do not think that it was due to mercuric chloride because the patient was convalescent from typhoid fever and had had persistent abdominal tenderness, which I think was due to incomplete healing of the enteric lesion. His son, aged twenty-seven, also convalescent from typhoid fever, had a similar attack of dysentery preceded by abdominal tenderness, although no mercury had been administered in any form.

I have been frequently impressed with the belief that the deficiency in vital capacity was not in proportion to the degree of consolidation. Some cases with slight lesions have greatly impaired vital capacity,

¹ See page 345 of the Journal.

while others with extensive lesions have a vital capacity greatly in excess of that which would have been anticipated. These discrepancies must depend largely upon the condition of the chest-wall, and probably are not greater than would be found among individuals with similar states of nutrition but not victims of phthisis.

The microscopical diagnosis of phthisis has a greater positive than negative value. The presence of Koch's bacilli must be regarded as pathognomonic; but it would be fatal procrastination always to wait for their appearance.

With reference to the diagnosis of certain cases with insufficient physical signs, I believe that the diagnosis of phthisis should be made in many cases much earlier than it is. If we are to attain satisfactory results and change the statistics of phthisis we must make early diagnosis. Whatever view we may take of the pathology of phthisis it must be conceded that the *very initial anatomical change* is inappreciable to the most skilled diagnostician by physical signs.

I am glad to notice that the judgment expressed in the opening remarks of the paper in regard to the relative position of the cabinet meets with approval. Nothing could be more deplorable than a tendency to elevate it to the position of a specific.

Recent Literature.

Diseases of the Lungs and Pleura, including Consumption. By R. DOUGLAS POWELL, M.D., London, etc. 3d Edition. Rewritten and enlarged with illustrations. pp. 347. New York: William Wood & Co. 1886.

The title of the above work is somewhat misleading, conveying the impression that it is a complete treatise on diseases of the respiratory organs. The anatomy and physiology of the lungs and physical examination fill about fifty pages, pleurisy about fifty more, phthisis and its varieties one hundred and fifty, leaving less than one hundred pages for all other affections of the lungs and bronchi, and for the index. Broncho-pneumonia is dismissed in four pages, abscess and gangrene in two, oedema of the lungs in two more. In connection with the latter condition, no mention is made of the experiments by Welch showing that pulmonary oedema can be artificially induced only through paralysis of the left ventricle, the right continuing to act.

Thus the only two subjects at all exhaustively discussed are pleurisy and phthisis, others receive really less attention than in most of the standard works on the general practice of medicine.

We have no special criticisms to make on the chapters dealing with pleurisy and its treatment, except that the author, in speaking of free incision in empyema, makes no mention of one advantage of the Lister dressing in these cases; we allude to its valvular action, permitting the exit of air from the chest far more readily than its entrance, and thus materially aiding in the expansion of the lung as was first pointed out by Dr. A. T. Cabot,¹ of this city.

Among the rare cases mentioned by the author we note one of *right pulsating empyema*, and one of chronic serous effusion filling the left plura, reaccumulating

after aspiration, but not impairing the usefulness of the owner, a policeman, during the four or five years he has been under observation. With regard to the bacillus tuberculosis the author takes a position of some reserve. "The characteristic lesions of phthisis are brought about by many causes, and furnish a soil upon which the tubercle-bacillus will readily grow. Epiphytic in nature, concomitant in time, neither the seed nor the fruit of the disease, it must nevertheless be allowed that the tubercle-bacillus takes an important part in the extension and conveyance of tubercular lesions."² Of phthisis he makes four varieties, the catarrhal, pneumonic, fibroid and tubercular. For diagnostic purposes the rapid staining of sputum by the method of Gibbes is considered all-sufficient. If the bacilli are abundant there is seldom any difficulty in detecting them by this method. If, however, they are few, and it is under precisely these circumstances that this aid to diagnosis is specially important, we have the high authority of Dr. Ernst for stating that Gibbes', in common with the other rapid methods, is not to be depended upon. Again, the author does not seem to be aware of the fact that Friedländer himself now agrees that the capsule in an accidental, not an essential part of his pneumo-coccus.

Having in a measure performed the duty of criticism, we can now allow ourselves the pleasure of praise, which is to be accorded especially to those portions of the book dealing with treatment, all marked by sound English sense, though sometimes less full than one has a right to expect in a work of so special a character.

F. C. S.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M.D., F.R.C.P., etc. P. Blakiston, Son & Co., Philadelphia. pp. vi, 100. 1887.

It is but recently that we noticed the first edition of this readable little book. The second is much better arranged and has numerous additions. It calls attention to primitive and imperfect ways of doing massage, and insists on its proper administration, if satisfactory results are to be obtained. Like "Fat and Blood" this book will be read by patients as well as by physicians and doubtless through its influence many a chronic invalid who has come to a stand-still will insist on having massage tried, as the physician himself would, if he were the patient.

The second edition bears even a stronger resemblance than the first to its elder American cousin which it honors by quoting from more than from any other source.

D. G.

— Dr. Arthur Farre, F.R.S., died March 25th, at the age of seventy-seven years. He was honorary President of the London Obstetrical Society, Physician Extraordinary to the Queen, and accoucheur to Princess of Wales.

— A writer in the *Australasian Medical Gazette* describes a case of deafness of three weeks' standing, due to a cockroach in the ear. Until the offender was removed, the patient, an elderly woman, had no conception that she had been harboring any living creature, though she had had occasional sharp, stinging sensations in the ear. The remains of the cockroach, when washed out, were very offensive.

¹ Boston Medical and Surgical Journal, 1863, II. p. 145.

² Page 189.

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THE DOCTOR'S OVERCOAT.

THE doctor's overcoat may not look different from other overcoats and yet to an acute observer it tells the tale of its owner's daily life. No overcoat needs new buttons so often, or wears out so soon at the button-holes. Its sleeve linings melt away as soon as put in, and the doctor's wife uses it as a text on which to base a sermon for her good man's benefit, on the sinfulness of unnecessary wear and tear of clothes, while the doctor himself, as he sees the newness of his outer garment disappear, sighs over the days of his youth when he did not feel it necessary to count the cost of his own garments in units of children's shoes and baby's diapers.

There are doctors who walk into the sick room with the overcoat closely buttoned about their forms, and thus save themselves the reproaches of their wives and miss the admiration of their tailors, but such visits are not often paid to the doctor's equals, and probably even less often to those whom he suspects may be his superiors. Occasionally when he visits a patient who is temporarily the occupant of limited quarters in a crowded hotel, he may escape the necessity of removing his outer garment, but even then his button-holes will hardly escape the inevitable wear, as he must take his prescription papers or his stethoscope from some inner pocket. The doctor may, however, wear his overcoat in the sick chamber in such a manner as to gain credit for unusual devotion, as when he runs in, in great haste, with his overcoat on, to make sure that Madame, the Lord Mayoress, can spare him for an hour to minister to the sufferings of the Marquis of Carabbs, but when he makes his daily call he will carefully remove his top coat before entering the sick chamber, and will seat himself by the bedside as though he expected to stay there for half the forenoon at least. That call finished, the overcoat is resumed and deliberately buttoned, while the exact condition of the patient is explained to the anxious relatives or the still more anxious landlady. At this point it is proper to signify that time is valuable, and the skilful

man will know how to say by the manner in which he buttons his coat and takes up his hat, "that, much as he desires to discuss the subject further, he has already done everything in his power, and unfortunately has no time for conversation." At each succeeding place the overcoat is removed and re-assumed until its buttons have been buttoned and unbuttoned some fifty or sixty or more times a day, according to the length of the doctor's visiting list.

It is an interesting question to consider whether it is possible to draw any inference as to the actual size of the doctor's practice from the state of his button-holes. Some acute observers have held that the physician who boasted of the extent of his practice, while his button-holes presented no sign of wear, must of necessity be guilty of prevarication, but the observer needs be careful how he draws such an inference without due knowledge of the relative resistance of the different fabrics from which top coats may be constructed, the strain to which the buttons are subjected by the accuracy of fit, the number of coats among which the wear and tear is distributed, and perhaps such other factors as the zeal with which the *frau doctorin* inserts the timely stitch which eludes observation and saves nine. Undoubtedly the practice is recorded in the button-holes, but to properly read the record would be possible only to those possessed of the special knowledge, at once of the manufacturers of woollen fabrics and of the intimate associate of the doctor's household. Public calamities and epidemics undoubtedly leave their traces, but written as it were in the sand, which the attrition of the often repeated buttonings of the daily routine, like the ebb and flow of the tide, entirely effaces.

It is a question of some importance with medical men of a thrifty turn of mind how to lessen the inevitable effect of daily use upon their button-holes, and various devices have been hit upon. The suggestion to do away with the outside garment entirely, except in weather of unusual inclemency, is not to be soberly regarded even for a moment; for, apart from any other consideration, the air of youth which attaches to an individual who wastes his body that he may save his clothes, would be a fatal barrier to the extension of his practice, and might finally compel him to dispense with shoes also. The adoption of a cloak which may be wrapped about its possessor without fastenings, would obviate many of the difficulties, but the cloak has become so exclusively the property of the stage brigand, that it would be impossible to recognize the merciful physician under so questionable a garb.

Perhaps the most feasible method yet suggested is that of dividing the buttons into sets or series or watches as the seamen are divided on ship-board, and using the different sets on different days, so that the first, third and fifth buttons shall be used on Monday, and those representing the even numbers on Tuesday. If the doctor is portly and his buttons consequently numerous, three relays or watches may be made. The double-breasted coat, by increasing the number of but-

tons. allows a still greater rotation, but the hidden button-holes of the single-breasted coat offer great attractions to those who feel that an evil is diminished when it is hidden from sight.

But why should you always remove your overcoat whenever you pay a visit, asks Madame, with an eye to thus diminishing the wear that she laments.

Ah! Madame, who is more appreciative than yourself of the air of deliberation with which your physician seats himself to study the unusual aspects of disease as manifested in the members of your own remarkable family? Could you describe the symptoms of the preceding hours with such accuracy of detail to a man whose dress showed that the necessity for hurrying on to the next patient was present in his mind even while he entered the room? Would not the overcoat tend to diminish the confidence you feel in your physician's care? The man who takes off his coat and goes to work at anything is popularly supposed to be terribly in earnest, and the man who attempts to solve intricate problems, and accomplish delicate manipulations involving human suffering and existence without taking off at least his overcoat might not unreasonably be suspected to be only half in earnest. The removal of the overcoat may be regarded as a sort of silent expression of the fact that for the time being the doctor's only business is to devote himself both intellectually and bodily to the patient before him. From the standpoint of his own welfare the doctor lessens the load he carries in ascending stairs by leaving his overcoat below, he adapts himself to the often too high temperature of the sick room and preserves for himself an extra covering when he regains the open air. He thus benefits both his patients and himself although he curtails the length of existence of his outer garment which, as it deteriorates till he is forced to lay it aside, cannot fail to remind him of the time when his tired soul shall lay aside its worn-out earthly garment to assume one which may not conform to the cut most in vogue at the present moment, but is constructed of most durable material.

ACADEMIC AND PROFESSIONAL COURSES OF STUDY.

THE aphorism that art is long and life is fleeting, impresses itself with a peculiar force, at the present day, upon the parents and guardians of young men, if not upon the young men themselves, for whom the usual academic course in Harvard College is merely preliminary to a subsequent course at one of the professional schools. Eleven years ago in his annual report, the President of the University said: "The average age of the young men admitted to Harvard College has been gradually rising during the whole of this century, until it has now reached a limit which had better not be exceeded." The average age had then risen six months in the preceding twenty years. Since 1875, however, the average age has risen four

months, students being now nearly nineteen years old when they enter, and nearly twenty-three when they leave the academic department.

Such a result is probably the inevitable consequence of the development of a College into a University, and of the attendant changes in methods of discipline and instruction and in courses of study. The serious drawbacks, however, entailed upon those subsequently training themselves for professional careers — drawbacks which are serious in proportion as that training is thorough — have for some years become more and more apparent. These drawbacks operate with especial force in the case of medical students as soon as any genuine attempt is made to raise the standard of medical education and to increase the requisites for a medical degree.

A young man who begins the study of medicine at twenty-three years of age, having previously secured his degree of A.B., is twenty-six years old before attaining the degree of M.D. (if only three years of study are required). Should he then gain a hospital appointment and spend a short time in other medical centres, or in travel — all of which are unquestionably desirable things to do — the age of twenty-eight or nine years will be reached before the actual practice of his profession and the attempt to become a producer instead of a consumer are begun. Such a person, in this country at least, is no longer a *young* man. The enthusiasm and elasticity which carry one through the inevitable drudgery and probable disappointments of the first struggle, are, to say the least, somewhat chastened.

Strongly impressed by these facts, and undoubtedly hampered by them in attempts to lengthen the medical course from three to four years, the Medical Faculty of Harvard University have recommended to the consideration of the Academic Council — a body representing the undergraduate department as well as the various schools — the expediency of granting the degree of A.B. to all undergraduates who shall subsequently take the longest course of study offered at the professional schools after three years' attendance (at the end of the junior year) in the Academic Department. The professional degree and that of A.B. to be given simultaneously at the end of the professional course, it being understood that the requirements of each have been fulfilled. The first year of a professional school would thus be made equivalent to the present senior year.

In his remarks supporting this recommendation, Dr. H. P. Bowditch, the Dean of the Medical School, showed from various tables and statistics, that foreign systems of university education enable students of medicine to enter upon their life-work at least two years earlier than is possible with us — even for those beginning to practice immediately upon receipt of a degree — and that this result is reached without any loss but with a positive gain in the thoroughness of the professional training.

In Germany, the best class of medical students begin

their professional studies at a little earlier age (18.4 years) than that at which young men enter Harvard College; the course of study lasts five years and the German physician is ready to begin practice before he is twenty-three and one-half years old. In England, four years are required to complete a course of medical study, and a large majority of English physicians begin the practice of their profession before they are twenty-four years old. In France, a complete medical course usually occupies six years, and a French physician usually begins to practice his profession at about twenty-four years of age.

Dr. Bowditch himself, and no doubt many share his view, is ready to go farther than the recommendation of the medical faculty to the council, and to advocate more radical measures. In his opinion, a simple consideration of the way in which the academic department has been developed in recent years will hardly fail to produce the conviction that, in all the changes which have there taken place—changes which have raised the age of graduation—the function of this department as a preparatory school for a professional career has been much less prominent than its other function of providing a liberal education more or less complete in itself. The question, therefore, suggests itself to his mind, whether an organization may not be devised which, while retaining whatever may be of value in the old method of compulsory training, shall permit the elective system to develop itself even more freely than it can under present arrangements. For such an organization he proposes:

(1) An academic course of three years with requirements so graded as to lead to the degree of A.B., at an average age of twenty years. (2) A philosophic course of three years with requirements so graded as to lead to the degree of A.M., or Ph.B., at an average age of twenty three years.

As Dr. Bowditch truly says, such an academic department would, in respect to the age of its students be very much what it was twenty-five years ago, and its graduates would be prepared to enter any of the professional schools, or to continue their course of liberal study under the direction of the philosophic faculty.

Such radical changes as are here suggested, will naturally excite antagonisms and could only be adopted after thorough discussion, which they certainly merit, for there is much to recommend them. On the other hand, the proposal that the first year in the professional schools may be counted as the fourth academic year, under certain contingencies, ought to commend itself immediately, and its adoption is, in fact, essential, if higher standards of professional education—especially of medical education—are to be made permanent and practically serviceable.

—There were 187 degrees of M.D. conferred at the sixty-second annual commencement of the Jefferson Medical College, Philadelphia, which was held April 5th.

INTUBATION OF THE LARYNX.

It is almost too early to pass judgment as to the place which this new operation is to have in the therapy of the future. Is it destined to supersede tracheotomy in the treatment of diphtheritic affections of the upper-air passages?

Theoretically, it seems a simple matter with an applicator shaped somewhat like a male urethral sound, and the aid of the *tactus eruditus*, to pass over the back of the tongue, by the epiglottis, and into the wind-pipe, a little gold-plated tube, skilfully contrived exactly to fit the larynx, and with a collar to rest on the arytenoid cartilages, so that it will keep in place; practically, however, the operation (both the placing *in situ* and extraction of the tube) is one of singular difficulty, not comparable with laryngotomy in respect to the ease and facility with which the latter operation can ordinarily be performed; and we pity the practitioner, who, without considerable previous practice on the cadaver and on the healthy child, shall, for the first time, on a struggling and strangling infant, attempt to perform intubation with O'Dwyer's instrument.

Dr. O'Dwyer, however, deserves great credit for having brought before the profession a method of treatment, which, possessing none of the terrors which tracheotomy has to the common mind, must in certain circumstances, and in the hands of experts who are perfectly familiar with all the details, sometimes save life where, doubtless, every other means would fail. Nor can it justly be said that he has simply revived and improved upon the older process of Bouchut, which by its very clumsiness, and the impossibility of its meeting the indications required of it, had fallen into oblivion. Dr. O'Dwyer's cases now number something more than forty-eight; of these twelve, or one-fourth have recovered; a result which compares very favorably with the statistics of tracheotomy. Northrup¹ reports twelve cases, and claims five recoveries. Dillon, of the New York Foundling Asylum, has operated fifteen times, with five recoveries, Dr. F. E. Waxham, of Chicago, has published thirty cases of which fourteen recovered. Dr. Hance, of the Nursery and Child's Hospital, has reported five cases with one recovery. Jennings, of Detroit, has operated four times; all his cases died. He prefers tracheotomy, and says: "In my experience fully seventy-five per cent. recover after tracheotomy." Dr. Northrup in summing up the results,² gives a sum total of 165 cases, done to date, with 28.05 per cent. of recoveries; Chicago alone has furnished ninety-six of these cases with twenty-nine favorable results, or 30.02 per cent.

Since these reports were published, Dr. G. W. Mason, of Bloomington, Ill., has put on record three cases,³ only one of which was saved. He thus sums up the advantages of intubation: "(1) It involves no

¹ New York Medical Record, Vol. 20, p. 487.

² Medical Record, December 11, 1886.

³ Medical News, March 26, 1887.

cutting, and is bloodless; (2) parents and friends readily consent to it, when they would not to tracheotomy; (3) it gives a larger percentage of recoveries; (4) there is no perceptible shock after the operation; (5) There is no risk of systemic infection, because of an open wound; (6) it does not expose the lungs to inflammation by the air not being prepared for inhalation by passing through the upper-air passages; (7) it does not preclude a subsequent tracheotomy."

THE CENTENNIAL OF COLUMBIA COLLEGE.

THIS week Columbia College is celebrating, with appropriate ceremonies, the one hundredth anniversary of its revival after the Revolution. In 1787 it was reorganized by an act of the State Legislature which confirmed the royal charter granted in 1754 for the establishment of a college in New York and also changed the name of the institution from King's College to Columbia College. In 1719 a lottery was authorized by colonial law to raise money for the founding of a college, and by this means the sum of £3,443 18s. was raised, and in 1754, the same year the charter was granted, the Rev. Dr. Samuel Johnson, of Stratford, Conn., accepted the Presidency of the proposed seat of learning. The first college building was erected, on land presented by Trinity Church, in the year 1756.

The second President was the Rev. Dr. Myles Cooper, who succeeded Dr. Johnson in 1763. He was a strong Tory and excited so much indignation by his efforts in support of the King, that his lodgings were attacked one night in May, 1775, and he was obliged to take refuge on board the British man-of-war *Kingfisher*, on which he soon afterward sailed to England. It was during his Presidency, in 1765, that the Medical School was started; and the students in this department were the only ones who were not, at this time, required to lodge and take their meals in the college buildings. During the Revolution the students were dispersed, and the buildings were used as barracks and hospital by the American troops.

In 1787 Dr. William Samuel Johnson, son of the first President of King's College, was inaugurated the first President of Columbia College, and during his term of office the Medical School was more firmly established by the appointment of a Dean of the Faculty and several medical professors. In the beginning of the present century, Dr. David Hosack was professor of botany and materia medica. He collected an excellent library, and, having failed to secure land from the State for a botanical garden, he leased from the city corporation twenty acres of ground between what are now 47th and 50th Streets and Fifth and Sixth Avenues, a district then far out in the country. This property, which, with \$10,000, was afterwards given to the college by the State, now constitutes a considerable portion of its wealth. The Rev. Dr. Barnard, the present incumbent, was elected to the Presidency

in 1864, and has held the position longer than any of his predecessors.

The Medical School, established in 1767, existed until November, 1813, when it was consolidated with the College of Physicians, which remained entirely distinct from Columbia College until 1860, when it became formally recognized as the medical department of the college. The School of Mines, which was organized in 1864, has had a most successful career, and the associated departments of the college now have nearly 1,600 students in them, of whom 604 belong to the Medical School. The munificent Vanderbilt benefactions will, of course, eventually, if not sunk in bricks and mortar, make the latter the most completely equipped and expensively appointed school of medicine in this country.

MEDICAL NOTES.

—The *Medical Record* gives the following as the composition of the patent asthma cure, which Dr. Holmes in his "One Hundred Days in Europe," says gave him more relief than any other of the many remedies that were showered upon him.

R. Pulv. lobelia,
Pulv. stramonie fol.,
Pulv. potas nitrat.,
Pulv. black tea . . . 35 3 ij.

M. and sift.

Some of this is burned and the smoke inhaled.

—Lord Lytton need not have restricted his celebrated aphorism regarding the comparative might of the pen and the sword as he did. Even outside "the rule of men entirely great," the sword has become, in these latter days, quite a feeble and useless thing. Colonel Paul Methuen stated recently, in the course of an address which he gave at Toynbe Hall, in London, that in the Franco-German war, only six Germans owed their death to the sword, and that the total number wounded with this weapon, with which the Romans conquered the world, was only two hundred and twelve. But all this is saying nothing about the rifle, the revolver, or even the toy-pistol. The average boy finds the latter weapon more effective, and infinitely easier to wield, than the pen; while the daily records of the press show that a considerable portion of the community put their trust, in times of storm and stress, upon the seven-shooter, rather than upon the stylographic pen.

—A meeting of anti-vivisectionists recently held at Edinburgh, recorded a protest against the "memorial recently presented to the Royal College of Surgeons praying that the bequest by Sir Erasmus Wilson should be devoted to the foundation of an institution for physiological and pathological research."

—A correspondent of the *Chicago Medical Journal and Examiner*, writing from the La Pitié Hospital, in Paris, gives the following caustic description and comments regarding the conduct of a laparotomy which he there witnessed: "At this hospital, I saw

the most bungling laparotomy I have ever seen performed, excepting, perhaps, one ten years ago, performed by a gynecologist, who was at that time, and is even to-day, recognized as one of the first authorities in England. To see what a perfect failure two such great authors on the subject of diseases of women are, when they attempt to do an ovariectomy, has led me to the conclusion that there is an especial skill required for the performance of this operation, which a few men possess, and many cannot acquire. This man's idea of antiseptics was evidently the use of the spray; for while the room was so full of the vapor of carbolic acid that one could hardly breathe, one of his assistants had just finished dressing a woman's leg affected with acute phlegmasia dolens, and went directly from the case to the operating room without changing his clothing. The man who handed the instruments had dirt under the finger-nails, and the numerous assistants who attended to the sponges did not wash their hands after coming into the operating room. The cyst was one of the broad ligament; it had a great many attachments, and the operation was a difficult one. The patient died twenty-four hours after the operation, but whether from carbolic-acid poisoning, or from the operation itself, I was unable to settle in my own mind."

BOSTON AND NEW ENGLAND.

— Two cases of small-pox were lately reported from Huntington, among employes of the Chester paper company. An investigation of the circumstances by the Secretary of the State Board of Health, showed that rags were the probable medium of contagion, but whether domestic or foreign rags, it was impossible to determine definitely. A portion of the domestic rags were from New York where small-pox has been prevalent of late, and the probability seemed to Dr. Abbott to be in favor of these rags as being the medium of contagion.

— The medical profession in Maine seems to be still in doubt as to the actual facts regarding the passage of the Medical Bill, which was at first said to have received the governor's approval, and was later said to have been vetoed. There are now rumors that the page of the record containing a signed bill has been cut out and is not to be found. An investigation is expected, pending which some of the incorporated bodies within the State maintain that the act is law.

— A fire last week in the building occupied by Messrs. Wright & Potter, State printers, destroyed a large quantity of printed reports and other public documents, among them the entire edition of the forthcoming Report of the Massachusetts Board of Health, which will consequently have to be set up and printed anew, thus causing a considerable delay. This is, we believe, the third or fourth, more or less serious fire which has taken place in the premises of this firm, and this recurring misfortune has a peculiarly disastrous effect upon those departments whose work is so closely dependent on the prompt transaction of the public printing.

— The Judiciary Committee gave a hearing at the State House, April 6th, on the expediency of legislation to improve the methods of using expert testimony in court. The presence of a large number of prominent physicians attested the interest of the medical profession in the subject. The draft of a bill was submitted by T. W. Tyndale, Esq., who appeared as counsel for the Massachusetts Medico-Legal Society. The provisions of the bill were similar to those of a proposed bill, printed upon page 120 of this volume of the JOURNAL. Drs. Francis Minot, H. I. Bowditch, B. E. Cotting, Theodore Fisher, E. S. Wood, and others addressed the Committee in behalf of improved methods of using expert testimony in court.

— The disappearance and probable death of an insane pauper who escaped from the almshouse at Prescott, Mass., led to an investigation of the place by the State Board of Lunacy and Charity. The investigation resulted in a report that the building was unfit for its purpose; that a ball and chain had been used on the legs of inmates; that they were confined in small, loathsome rooms; that the patient who disappeared, and whose remains were subsequently found about a mile from the almshouse, had jumped from a window and tried to get away in the midst of a snow-storm, having been previously maltreated.

We referred to the condition of the pauper insane in some of the almshouses in this State in an editorial, March 17th last.

NEW YORK.

— The fifty-seventh annual commencement of the New York College of Pharmacy was held at Steinway Hall, March 29th, when the Rev. Dr. Robert Collyer delivered the address to the graduating class, which numbered eighty-three.

— The New Jersey State Board of Health met on April 8th, and discussed the legislation enacted in the interest of the public health during the session of the Legislature just ended. Included in this are new laws, securing the enforcement of the act in reference to the adulteration of foods and drugs by the Dairy Commissioners and the Milk Inspector. The State was reported to be in an unusually healthy condition, except as regards measles, which is epidemic in several cities. There is a slight outbreak of small-pox at Plainfield, but the small-pox in Atlantic County is well under control. There is said to be an increase of pleuro-pneumonia in Hudson County.

— It has been decided by the Committee in charge of the Marion Sims monument fund, of which Dr. George R. Shady, editor of the *Medical Record*, is Chairman, that no award of a design will be made until the autumn. The other members of the Committee are Drs. William T. Lusk, Fordyce Barker, Thomas Addis Emmet, and William M. Polk; and, largely through the efforts of the *Record*, about \$7,500 have been subscribed. For some time past, ten designs for the proposed monument, selected from a considerable number offered in competition, have been on exhibition at the hall of the Academy of Medicine,

and these are by the sculptors, Wilson MacDonald, Alexander Doyle, Giovanni Turini, and Carl Schmidt. The monument is to be a standing figure in bronze, and it will probably be placed in Central Park.

Correspondence.

AXILLARY LUMPS.

6 NOTTINGHAM TERRACE.

YORK GATE, N. W. LONDON,
March 29, 1887.

MR. EDITOR,—Those of your readers who have cared to follow the correspondence on the above subject will not fail to observe that Dr. E. T. Williams has dropped the statement that the cases by Searpa, Siebold, Moore, Lee, and Stanley were "quite similar to those described by Champney" (whose name, by the way, is misspelt). He now drops all these but the case of Siebold, whose case he still thinks is of the same kind as those described by Dr. Champneys (not "Champney.") It may be so; I say it cannot be proved from Siebold's description, and I have already referred to the differences.

Dr. E. T. Williams talks about the advisability of treating "the uncomeliness and uncleanness of a constantly oozing tumor of the armpit," by a surgical operation. From this I gather that he cannot have read the course of these lumps in the original. Several inaccuracies occur in the annotations, from which alone Dr. E. T. Williams appears to have drawn his information. It is no business of mine to save him the trouble of referring to the author's original description for more precise information, and I shall write no further letters with this object.

Had he been accurately informed he would scarcely have considered operative procedure "fair practice," even though a specimen might be thereby procured for microscopic examination.

These "lumps" have doubtless existed for centuries, but that much concerning them remains to be learnt no one will deny; certainly their describer says no word in any other sense. Now that Dr. Champneys' description has at one and the same time afforded a means of recognizing their character and drawn special attention to their prevalence, accident may be trusted to provide a pathological specimen in the near future. For this we must be content to wait patiently.

Yours truly,

ROBERT BOXALL, M.D.

THE DISCUSSION OF THOUGHT-TRANSFER- RENCE AT THE SUFFOLK DISTRICT MEDICAL SOCIETY.

14 DEAN'S YARD, WESTMINSTER, LONDON,

February 25, 1887.

MR. EDITOR,—Will you allow me space for a few comments on the interesting discussion respecting thought-transference, which I find reported in your issue of February 3d. Dr. Morton Prince's presentation of the case struck me as extremely able and fair; and both he and Professor Royce expressed with regard to it just that scepticism (in the proper sense of the term) with which it ought undoubtedly to be approached. But some of the subsequent speakers seemed (partly, perhaps, owing to the necessary condensation of their remarks in your columns) to do our English work somewhat less than justice.

Mr. F. W. Higginson's attitude is a little puzzling; for though he is so circumstanced that he might fairly have blessed us, his utterances have much more the sound of curses. He accepts the reality of thought-transference, and of thought-transference of an extreme form, on the strength of certain experiences of his own; yet his whole interest seems to be in discountenancing inquiry into the

subject (except, perhaps, as a branch of disease) on the ground of the lax moral character of the persons through whom these results were obtained. If his mind was really "read," as he describes, then his results confirm ours; and surely that is the important point—for him, and for us, and for science. That his "subjects" may have been capable of fraud is nothing to the purpose, unless the conditions were such that fraud on their part would account for the results, which, from his account, it certainly would not do.¹ And, at any rate, one who has witnessed phenomena which he can describe as going far *beyond ours, even if ours were genuine*, might avoid "poisoning the wells" of the inquiry by mixing up thought-transference with trick-performances in dark cabinets, and attempting (by implication at any rate) to fix on persons of perfectly good repute, who voluntarily assisted us, the odium and suspicion attaching to professional "mediums," in whom "a slipperiness of moral principle" had been detected. In this connection I must also refer to a remark of Dr. Knapp's, who says: "In England, only a few people are capable of thought-transference, and are often the subject of morbid mental or moral conditions." I do not know on what evidence the latter assertion rests; there is at any rate no ground for it, in respect of any one of the "subjects" with whom we have come in contact.

Passing to Dr. Minot's remarks, I must first resist the inference which he appears to draw from the fact that in America 30,000 experiments have been made, with negative results. A large number of these trials were of a type (guessing the color of playing-cards) which there is reason to think a specially unfavorable one for the purpose, since so narrow a field of choice makes it exceptionally hard for the would-be percipient to avoid mere guessing;² while in the remaining experiments with numbers, the digits, instead of being taken in a chance order (as, for example, by drawing them from a bag), were arranged on a system—which again would be likely to have a disturbing effect on the "subject's" mind. But whether or not these conditions were answerable for the failure, no amount of mere failure elsewhere can invalidate the successes here, in experiments of very various types, involving—if the results were obtained by fraud—our own fraud, and that of other persons of otherwise unblemished character. But this point was so forcibly brought out by Dr. Prince that I need not dwell on it.

Dr. Minot is further reported to have said that "the English Society is in the condition of investigators whose tests have been rendered quite unreliable by the fact that they were themselves the dupes of their own ideas. They ask of us a tremendous act of faith, as the foundation of all further action." Now, as any stick is good enough to beat a dog, so any statement, however rash, may serve to disparage a psychical researcher. But it surely is rash to assume that we believed in thought-transference before we (as we think) found it, or that we were insensible of what we have constantly admitted and proclaimed—the strength of the *à priori* presumption against it. And if, leaving (as we think) found it, we are "the dupes of our own ideas" in believing in it, the function of experimentation seems rather abrogated. It is surely not a necessary condition of reliability in a novel experiment that its results shall conform to previous anticipations. As for our alleged demand for "a tremendous act of faith," I cannot conceive where Dr. Minot thinks that he has come across it. We have urged again and again that in such matters no line can be drawn at which it can be said that a scientific mind *ought* to be convinced; that till every scientific mind is convinced, the proof is incomplete; and that, inasmuch as it is unlikely that all the world will have the opportunity of themselves taking part in conclusive exper-

¹ If Mr. Higginson would be so kind as to send me the details of the experiences to which he refers, he would earn my very warm gratitude.

² It should be noted that in England 17,000 experiments where the idea to be transferred was of the suit (not the color merely) of the cards, gave a cumulative result which was practically conclusive as to the operation of something beyond chance. See "Phantasms of the Living," Vol. I, p. 33.

iments, and most people will have to accept the results, if at all, on the responsibility of others, it is of prime importance to spread this responsibility as widely as possible. I indorse every word of Dr. Prince's remarks as to the need of more observers; and though the number of observers are necessarily to some extent limited by the rarity of hopeful material for observation, the fact of their fewness for which they are not to blame, must none the less be recognized as a real obstacle to the speedy acceptance of their conclusions. And so long as they themselves admit this, and go on trying to remove the obstacle by urging wider and ever wider experiments, their demand is surely not so much for faith as for works.

There is one special criticism of Dr. Minot's to which I must advert, as it again exemplifies the "any stick" style of argument. He mentions the recent case of a hypnotised boy who could discern the matter of a printed page from the extremely minute reflexion of it in another person's cornea; and he adds, "such experiments were unknown to the English investigators, and their results must not be looked upon as conclusive." This remark could have no point unless it were implied that in the results attributed by us to thought-transference the mode of perception may have been the same as the hypnotised boy's. Yet a very little study of our reports would have shown (1) that in not one per cent. of our experimental cases, and, as far as I remember, not in a single case where the idea to be transferred was that of a visible object was the "subject" hypnotised; and (2) that in cases where an object was visibly presented to the agent while the attempt to transfer the idea of it was in progress (as in some of the

³ A fuller discussion of this part of the subject may be found in "Phantasms of the Living," Chap. ii.

experiments in the reproduction of diagrams), either the percipient was blindfolded or the agent was placed behind him.

Coming to our cases of spontaneous telepathy, Dr. Minot objects to them that "the phantasms possess little in the way of diversity or novelty." The subjects all tell the same story, subject only to variations of time, place and persons. The facts are always the same." This is to a great extent true; and the point is one which, in "Phantasms of the living," I have ventured to emphasize as an argument for the substantial corrections of the majority of our first-hand records. Fictitious and anonymous tales of the "supernatural," and even second and third-hand narratives of the telepathic type, abound in novel and sensational details which are conspicuous by their absence from our first-hand testimony. The monotonous uniformity of this testimony — coming as it does from hundreds of independent sources, and from persons who knew nothing of the telepathic theory — though it may make the accounts dull reading, is surely not otherwise to their disadvantage.

Dr. Minot further compares our records to those relating to witchcraft, which he says were of a similar monotonous type. On this subject, I may perhaps be allowed to refer your readers to "Phantasms of the Living," Chap. iv, where I have tried to show the need of very carefully discriminating various classes of witch-cases, and have worked out in some detail the contrast between the evidence for telepathy and that which has been adduced for various species of popular superstition.

I am, sir, yours obediently,
EDMUND GURNEY,
Hon. Sec'y of the English Society for Psychical Research.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 2, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Measles.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	762	287	16.58	19.76	1.95	8.58	1.43
Philadelphia	993,801	441	165	11.73	10.12	2.99	3.45	.32
Brooklyn	745,108	300	47	10.56	—	1.65	5.61	1.05
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	—	—	—	—	—	—	—
Boston	400,000	193	64	5.94	24.84	—	2.16	.54
New Orleans	242,750	—	—	—	—	—	—	—
Buffalo	225,000	—	—	—	—	—	—	—
Disrict of Columbia	210,000	82	35	2.44	1.22	—	—	—
Pittsburgh	210,000	96	43	16.64	24.90	7.14	5.20	2.08
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	50	14	22.00	12.00	10.00	2.00	4.00
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	24	6	4.16	8.32	—	4.16	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,883	14	10	21.42	14.28	—	—	—
Lowell	64,051	35	11	25.74	17.16	11.44	5.72	—
Cambridge	59,660	25	6	4.00	4.00	—	—	—
Fall River	56,863	23	11	13.05	—	—	—	4.35
Lynn	45,861	13	2	—	23.07	—	—	—
Lawrence	38,825	16	6	6.25	6.25	—	—	—
Springfield	37,577	16	3	—	12.50	—	—	—
New Bedford	33,393	15	4	—	6.06	—	—	—
Somerville	29,992	13	6	7.69	15.38	—	—	—
Salem	28,084	12	3	8.33	—	—	—	—
Holyoke	27,894	10	4	50.00	10.00	40.00	10.00	—
Chelsea	25,709	12	2	16.66	—	—	8.33	—
Taunton	23,674	7	3	—	—	—	—	—
Haverhill	21,795	11	1	—	27.27	—	—	—
Gloucester	21,713	7	2	28.42	—	—	28.42	—
Brockton	20,783	7	2	—	28.42	—	—	—
Newton	19,759	3	2	—	—	—	—	—
Malden	16,407	2	0	—	—	—	—	—
Fitchburg	15,375	6	3	—	—	—	—	—
Waltham	14,609	19	2	—	33.33	—	—	—
Newburyport	13,716	10	2	—	20.00	—	—	—
Northampton	12,896	6	2	16.65	16.66	—	15.06	—

Deaths reported 2 277: under five years of age 772; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 289, acute lung diseases 309, consumption 286, diphtheria and croup 118, measles 36, scarlet fever 24, diarrhoeal diseases 23, typhoid fever 21, whooping-cough 17, cerebro-spinal meningitis 11, erysipelas seven, malarial fever four, puerperal fever three, small-pox (New York) two. From diarrhoeal diseases, New York eight, Boston four, Philadelphia and Lowell two each, Brooklyn, District of Columbia, Pittsburgh, Providence, Cambridge, Fall River and Chelsea one each. From typhoid fever, Philadelphia nine, New York five, Providence two, Brooklyn, Boston, District of Columbia, Lowell and Lawrence, one each. From whooping-cough, New York seven, Philadelphia four, Brooklyn three, Richmond two, Salem one. From cerebro-spinal meningitis, Worcester three, New York two, Philadelphia, Boston, Newport, Pittsburgh, Fall River and Somerville, one each. From erysipelas, New York six, Brooklyn three.

From malarial fevers, New York and Philadelphia two each. From puerperal fever, New York two, Philadelphia one.

One case of small-pox reported in Pittsburgh.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending March 19th, the death-rate was 22.4. Deaths reported 3,977: infants under one year of age 919; measles 213, whooping-cough 112, scarlet fever 45, diarrhoeal diseases 35, fever 32, diphtheria 24, small-pox (Sunderland) one.

The death-rates ranged from 13.9 in Birkenhead to 33.2 in Manchester; Birmingham 22.0; Bradford 20.7; Halifax 16.5; Hull 20.1; Leeds 25.1; Leicester 20.4; Liverpool 26.6; London 20.4; Newcastle-on-Tyne 28.6; Nottingham 18.4; Sheffield 25.1.

In Edinburgh 19.6; Glasgow 30.3; Dublin 29.3.

The meteorological record for the week ending April 2, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 2, 1887.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 27	29.362	29.0	34.0	19.0	46.0	27.0	54.0	42.0	N.W.	N.W.	E.	16	5	12	F.	O.	O.	—	—
Monday, ... 28	29.533	40.0	44.0	30.0	100.0	85.0	83.0	89.0	E.	N.W.	W.	6	5	8	R.	O.	R.	—	—
Tuesday, ... 29	29.461	26.0	39.0	1.0	77.0	61.0	58.0	65.0	N.W.	N.W.	N.W.	25	24	29	O.	O.	C.	—	—
Wednesday, ... 30	29.954	23.0	29.0	11.0	52.0	47.0	50.0	50.0	W.	W.	W.	31	28	19	C.	C.	C.	—	—
Thursday, ... 31	30.287	34.0	44.0	21.0	56.0	25.0	43.9	41.0	W.	W.	S.W.	12	6	4	C.	C.	C.	—	—
Friday, ... 1	30.190	35.0	38.0	30.0	76.0	65.0	77.0	73.0	E.	N.E.	N.E.	12	20	21	O.	O.	O.	—	—
Saturday, ... 2	29.692	31.0	35.0	27.0	100.0	100.0	100.0	100.0	N.E.	N.	N.W.	24	30	32	N.	N.	N.	11	1.59
Mean, the Week.	29.920	31.1	33.0	23.0				66.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 2, 1887, TO APRIL 8, 1887.

HOFF, JNO. VAN R., captain and assistant surgeon. Ordered for duty at Fort Reno, I. T. S. O. 43, Department of Missouri, April 4, 1887.

COREUSIER, W. H., captain and assistant surgeon. Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

BURTON, H. G., captain and assistant surgeon. Ordered to Plattsburg Barracks, N. Y., for temporary duty. S. O. 78, A. G. O., April 5, 1887.

LA GARDE, L. A., captain and assistant surgeon. Ordered for duty at Fort Assiniboine, M. T. S. O. 78, A. G. O., April 5, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING APRIL 9, 1887.

URQUHART, F. M., passed assistant surgeon. To assume charge of Cape Charles Quarantine, March 29, 1887.

NORMAN, SEATON, assistant surgeon. To report for duty at Cape Charles Quarantine, April 2, 1887.

BATHACHE, P. H., surgeon. Detailed as chairman, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

PURVIANCE, GEORGE, surgeon. Detailed as member, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

GODFREY, JOHN, surgeon. Detailed as recorder, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To proceed to Baltimore, Md., on special duty, April 8, 1887.

BERTUS, W. J., assistant surgeon. To proceed to Norfolk, Va., for temporary duty, April 4, 1887.

BOSTON DISPENSARY APPOINTMENTS.

At the April meeting of the Managers of the Boston Dispensary, Dr. Henry L. Morse was appointed Physician to the Department for Diseases of the Ear; and Drs. Henry Jackson, John A. Jeffries and Robert W. Lovett, District Physicians.

SOCIETY NOTICE.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at Porter's Hotel, North Cambridge, on Wednesday, April 20, 1887, at 12 o'clock. The annual address will be delivered at 1 o'clock, P. M., by Dr. H. E. Mason, of Brighton. The Censors will meet at the same place at 11.30 A. M., of the same day, to consider applications for admission to the Massachusetts Medical Society. The general assessment should be paid to Dr. J. W. Willis, Treasurer, before the annual meeting of the State Society. Telephone number of hotel 7294. WALTER ELA, Secretary.

BOOKS AND PAMPHLETS RECEIVED.

The Forty-Eighth Annual Report of the Superintendent of the Boston Lunatic Hospital, to the Board of Directors for Public Institutions. For the Year ending December 31, 1886. Boston, 1887.

Sphygmography and Cardiography. Physiological and Clinical. By Alonzo T. Keyt, M.D. Edited by Asa B. Scham, M.D. and M. H. Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887.

The Nursing and Care of the Nervous and Insane. By Charles K. Mills, M.D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, etc. Philadelphia: J. B. Lippincott Company. 1887.

The Presbyterians Eye, Ear and Throat Charity Hospital of Baltimore City, Monthly Report. The New Treatment of Cataract Patients. By Julian J. Chisolm, M.D., Surgeon in Charge of the Hospital. 1887. (Reprint.)

Fourth Biennial Report of the Board of Trustees and Officers of the Minnesota Hospital for Insane (organized 1866.) Located at St. Peter, and Second Minnesota Hospital for Insane (organized 1877.) Located at Rochester. to the Governor of Minnesota for the Biennial Period ending July 31, 1886. St. Paul, 1886.

A Descriptive List of Anthropometric Apparatus, consisting of Instruments for Measuring and Testing the Chief Physical Characteristics of the Human Body. Designed under the Direction of Mr. Francis Galton, and Manufactured and Sold by The Cambridge Scientific Instrument Company, Cambridge, England. 1887.

Cyclopaedia of Obstetrics and Gynecology. The Pathology of Pregnancy, being Volume II. of a Practical Treatise on Obstetrics. By Dr. A. Charpentier. Translated under the supervision of, and with notes and additions by Egbert H. Grandin, M.D. In Four Volumes. Forty-five fine wood engravings and two colored plates. New York: Wm Wood & Co. 1887.

Original Articles.

THE CIRCULATION OF THE BLOOD IN THE ORBIT STUDIED BY MEANS OF THE PLETHYSMOGRAPH.

BY W. F. ELLIS, M.D., SPRINGFIELD, MASS.

THE vascular system of the orbit may be considered as an appendage of that of the cranial cavity. The ophthalmic artery is given off at the base of the brain, and the ophthalmic vein may be regarded as the commencement of the cavernous sinus. The circulation in the orbit is, therefore, intimately connected with that of the brain.

The circulation of the blood in the brain is subjected to peculiar conditions. The cranial cavity of the adult is inextensible, and practically filled with fluid. A certain amount of this fluid must be expressed from the cavity at the time when a new supply of blood enters it. The blood finds a sudden obstacle to its free propulsion when it passes into the cranium. This increased resistance that the blood encounters expresses itself in a very marked manner in the pulse-tracing of the brain.

Mosso¹ made an elaborate series of experiments with individuals who had lost portions of the skull either from accident or disease. He employed the graphic method in these investigations, and was thereby enabled to obtain permanent records of the circulation of the brain. Upon inspecting the numerous tracings published by him one is forcibly struck by the peculiar form of the pulse-curve, which is very dissimilar to that of ordinary sphygmograms obtained from peripheral arteries. In many of Mosso's experiments, the circulation of the arm was recorded at the same time as that of the brain. The arm was enclosed in a plethysmographic apparatus, which Mosso calls a hydrosphygmograph, and has been extensively employed by him in studying the local variations of the pulse.²

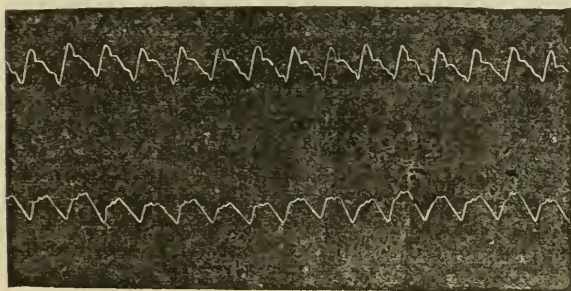


FIG. 1.

Figure 1, is a reproduction of a portion of one of the illustrations in Mosso's work, "The Circulation of the Blood in the Brain." The upper tracing is that of the arm obtained with the hydrosphygmograph, the lower that of the brain. The striking differences in the characters of the two tracings are very apparent. In the plethysmogram of the arm, the secondary undulations all occur in the descending portion of the pulse-curve, and the pulse is, according to Landois, catacrotic. In the brain-tracing, however, the secondary undulations, all occur in the ascending portion of the pulse-curve;

the pulse is, therefore, anacrotic. In many of Mosso's illustrations, the projecting point between the two notches in the pulse-curve of the brain occupies a higher level than the remaining portions of the curve. Mosso calls this the tricuspid form.

The apparatus employed by Mosso to record the circulatory changes within the skull was a simple one. A piece of gutta-percha was made to cover the part of the skull where there was a loss of substance. The centre of the piece was perforated with a glass-tube connected by means of rubber-tubing with a Marey's drum. The lever of the drum recorded the circulatory changes upon smoked paper covering a revolving cylinder. By means of this simple apparatus used in conjunction with the arm plethysmograph, a series of very interesting experiments were made upon the effects of different psychical conditions upon the circulation of the brain.

Several investigators have endeavored to record the intracranial circulation in animals, removing a portion of the skull of the animal experimented upon by means of the trephine. The experiments of Frédéricq³ are among the latest and most successful in this direction. He obtained pulse-curves, in experimenting with dogs, quite comparable to those recorded in Mosso's experiments with the human subject.

It occurred to the writer that it would be of considerable interest to record the circulation of the orbit. The physiological importance of the subject is apparent. The circulation of the orbit is so intimately connected with that of the brain that there would seem to be great liability of circulatory changes in the larger cavity affecting the blood-supply of the smaller. If it could be proven that psychical changes affect the circulation of the orbit in the same way as they have been shown by Mosso to express themselves in the records of the circulation in the cranial cavity, then a very important advance in the means of investigating the physiology of the cranial circulation in the human subject would be made. Direct investigation of the cranial circulation can only be made in the adult upon persons who have lost portions of the skull. Such subjects are rare, and opportunities to utilize them for experimental purposes rarer. The orbit, however, is always accessible.

For the purposes of this investigation, it was necessary to have apparatus much more delicate than that employed by Mosso. The blood-supply of the orbit is brought through an artery only a millimetre in diameter. I therefore employed some forms of apparatus that I had devised for very delicate physiological work.⁴ This apparatus is the piston-recorder for air connections, and the ether piston-recorder. For the purposes of this article it is not necessary to give a minute description of this exquisitely delicate apparatus. I hope to do this in a future article, treating of the finger plethysmograph and its applicability to clinical research.

The experiments were performed as follows: A piece of gutta-percha, five millimetres in thickness, was accurately moulded to the portion of face surrounding the orbit, after previous softening in warm water. A hole was made in this in a part corresponding to the centre of the orbit. A short glass-tube was fixed hermetically to this aperture. The gutta-percha shield was securely bandaged over the orbit, and the glass-

¹ Sulla Circolazione del Sangue nel Cervello dell'Uomo.² Die Diagnostik des Pulses, Leipzig, 1879.³ La Courbe pléthysmographique du Cerveau du Chien, Travaux du Laboratoire, Univ. de Liège, Tome I, 1885 and 1886.⁴ Journal of Physiology, Vol. VII, p. 309.

tube in its centre was put in communication with the piston-recorder by means of a rubber-tube. If there is no leakage of air beneath the shield, which, with proper care, may be obviated, it is easy to obtain a record upon smoked paper of the circulatory changes in the orbit. The most striking feature of these records is the peculiar shape of the pulse-curve. The curve is anacrotic, the secondary undulations appearing in the ascending portion and vertex. In order to greatly magnify these curves, I employed the ether piston instead of the ordinary form, and recorded its excursions by photography according to the method

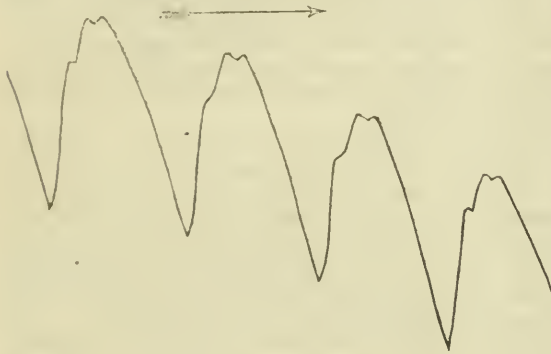


FIG. 2.

described by me in the *Journal of Physiology*.⁵ Figure 2 is a somewhat reduced reproduction of the outline of one of the records obtained. The very marked similarity of the form of the pulse-curves in this record to that of the brain-tracing in Figure 1, is very apparent. This tracing is entirely different from one taken from the carotid in the neck or from any peripheral bloodvessel. It shows very clearly how intimately the circulation of the orbit is related to that of the cranial cavity. The peculiar form of the pulse-curve may also contribute in a measure toward the advancement of our knowledge of vascular physiology in general. The purpose of this preliminary account of these researches is to call attention to the exceeding delicacy of the methods employed, and to record the interesting fact that the pulse-curve of the orbit is very similar to that of the brain. The subject should be of interest to ophthalmologists as well as physiologists. The researches to be made with the apparatus and methods employed in these experiments will naturally tend in two directions: first, to gain, so far as possible, information of the cerebral circulation; secondly, to ascertain to what extent the condition of the circulation of the eye is indicated in the general record of the orbital tracing.

— A correspondent of the *Lancet* (March 5th) describes a case of fracture of the thigh occurring during parturition. The patient was a quintipara; the labor natural, vertex presentation, O. L. A. The birth of the head was followed very quickly by that of shoulders and body; and, as the latter came through the vulva, the attendant heard a snap, which proved to have been caused by a fracture of the patient's left thigh. The only thing noted as unusual about the case was the marked and quick rotation of the face to the right thigh after the birth of the head.

ON A NEW METHOD OF TREATMENT OF CHRONIC-METRITIS, AND ESPECIALLY ENDO-METRITIS, BY THE INTRA-UTERINE CHEMICAL GALVANO-CAUSTIC.¹

BY DR. APOSTOLI, OF PARIS, FRANCE.

INTRA-UTERINE therapeutics is asserting its claims more and more, and is justly supplanting the old exterior treatment of the cervix. The new process, which I have followed for the past four years, in the electrical treatment of fibroids, I have pursued for the same length of time, and with equal success, in curing chronic-metritis; and this same process is even better adapted to the treatment of the form generally called endo-metritis. For a lesion which, before invading the uterine parenchyma attacks first the mucous membrane, fixes itself there more or less to seize afterwards the surrounding parts, I apply a treatment wholly intra-uterine, and which will cauterize all the membrane affected. For the modern process of scraping, of liquid injections, or purely chemical intra-uterine cautery, I substitute a galvano-chemical treatment, less harsh, more concentrated, which can be localized, and which every woman can bear, if properly applied.

The immediate chemical action which consists in a progressional destruction of the mucous membrane is soon followed by a process of shrinking and disintegration which promotes the absorption of the exudation and of the hyperplasia of new formations. To be successful in this operation it is necessary to have the following electrical instruments, the function and necessary qualities of which, ought to be well understood.

First. A medical galvanometer divided, for intensity into milliamperes which I was the first to have graded to 200. It gives the only exact measurement of the electric force used, which before was known only in a vague and empirical way, by the enumeration of the number of cells (a cell once used never affording the same strength as a new one).

Second. A permanent battery of sufficient size to last for some time, and to preserve practically the same strength, after several successive operations, which will furnish with a small number of cells, thirty on an average, a high intensity of 100 to 200 milliamperes; the best battery is that of Leclanché; a good portable battery of small volume is yet to be invented, but for the present, that with bi-sulphate of mercury with facultative immersion will suffice for the requirements of the operator.

Third. An intra-uterine electrode of sufficient length to extend to all parts of the uterine cavity and which is not affected by acids, as platinum. It must also be provided with an isolating muff to protect the vagina, the best being a celluloid tube.

Fourth. A neutral or insensible electrode, which applied on the abdomen, allows a very intense current to pass without pain, without heat, and without fear of burns; the best is the one of clay, which I introduced in 1882.

Fifth. Cords supple enough not to obstruct, and resisting enough not to be easily broken and cause interruptions painfully felt by the patient. The physician possessing a good instrument must conform strictly to the details of the operation hereafter described.

First. Make a tepid and antiseptic vaginal injection.

¹ Translated and read before the Gynecological Society of Boston, February 10, 1887, by L. S. Fox, M.D., of Lowell, Mass.

tion, placing the patient as if for an examination by the speculum.

Second. Charge the battery, arrange the galvanometer and put in proper position the abdominal clay muff, and arrange the current wires.

Third. Introduce into the uterine cavity slowly and progressively the electrode previously singed and disinfected. Isolate entirely the vagina and vulva.

Fourth. Cauterize the uterine cavity thoroughly and positively in all hæmorrhagic cases, and less thoroughly in other cases.

The predominating principle in all movements is never to surprise the uterus or to make a too painful application, for it is well understood that there are irritable uteri, though of a very limited number (say from three to five per cent.) as for instance in hysterical persons, who can scarcely bear any current, however weak it may be. Such patients can receive treatment only in a very mild form. Use the current at first very slowly. Pause before extreme sensibility has been reached, in order to accustom the patient to it, and to overcome all physical and moral resistance.

After two or three applications the intensity must be increased, in most cases reaching from 100 to 150, and, if required, even 200 milliamperes. The intensity must at first be proportioned and regulated according to the patient's power of endurance; afterwards by the extent and gravity of the lesion and the time it has existed. The duration of the application, which varies from five to ten minutes must, like the intensity, be graduated according to what is expected to be accomplished. Applications should be made every week, and every second day if required; and the physician should regulate their number and frequency by the urgency of the case. A rest of at least several hours should be required of all patients who have been operated upon. This rest is necessary for the safety as well as the efficacy of the method.

Vaginal antiseptic injections of carbolic acid should be prescribed which the patient should use morning and evening. This simple and harmless treatment, truly hysterometric, is only a galvanic-chemical scraping, acid or basic, according to cases; it induces a formation of new mucous membrane, and forms a kind of intra-uterine exudation, the action of which can be prolonged and varied at will. Its beneficial effect, which I have verified in a great number of instances, does not fail to make itself felt from the first, increasing rapidly and soon restoring the patient to health. It does not condemn the woman to a forced repose, and calls for no additional treatment.

LAPAROTOMY FOR HYDROSALPINX.¹

BY F. B. HARRINGTON, M.D.

MRS. A. B., thirty-six years of age. Married about one year, had never been pregnant. She had always been well except for slight dysmenorrhœa until she was thirty years old, when she first noticed a watery discharge coming from the vagina. This discharge, the patient thought, was connected with the menstrual flow, either immediately preceding, following or accompanying it. The amount of watery discharge was at first small, but gradually increased until on one

occasion during a period of three weeks she was obliged to use one hundred and sixty-five napkins. These napkins were used until the water began to drip from them. The amount discharged was large, although it was impossible to measure it. The amount of blood lost during menstruation, was usually small, the period not lasting more than three or four days. The watery discharges never disappeared for a longer interval than five weeks. The discharges had no odor and did not stain nor stiffen the clothing on drying. It frequently came unexpectedly, with a rush, drenching the patient. Toward the close of the discharge, it sometimes became slightly urinous in odor.

The patient was nervous, worn-out and anæmic; with a systolic hæmic murmur at the base of the heart. The urine was normal. She had, of late, severe pelvic pains on the left side, which were augmented during the discharge.

The uterus showed left lateral displacement with slight anteversion. The cervix was soft, short and thick. The body of the uterus was slightly enlarged and the cavity measured three and one-quarter inches. At the right of the uterus could be felt a fluctuating tumor, somewhat movable, filling the right side of the pelvis and pushing the uterus into the left side. Between the tumor and the abdominal wall could be felt an elongated tumor, irregular in outline, extending transversely across the pelvis toward the body of the uterus. On the left side a somewhat similar mass could be felt. The diagnosis was hydrops tubæ with a cyst probably connecting with the right tube and discharging into the uterus.

The prognosis was not favorable to recovery from the disease unless the tumors were removed. The patient gladly took the risk of an operation, for she preferred to die to the misery of her condition. On opening the abdominal cavity the right Fallopian tube was found distended to a circumference of two and three-fourths inches, connecting the uterus with an ovoid cyst three and one-half inches in the longest diameter. At the side of the cyst was another somewhat larger. Both of these cysts were covered by peritoneum. No ovary could be seen on this side.

The Fallopian tube on the left side was also dilated and at its outer extremity was the left ovary, so closely attached that they could not be separated. On this side were adhesions, old and new, to the sigmoid flexure of the colon. These masses were removed.

Examination of the tumors after removal showed those on the right of the uterus to have been made up of a cyst of the broad ligament, about three inches in diameter, and a cyst somewhat smaller resulting from the dilatation of the fimbriated extremity of the right tube. This latter cyst was connected with the remainder of the tube by a small circular opening with thickened edges. The uterine end of the tube was much less dilated than the middle portion, but the walls were greatly hypertrophied. Below the middle of the tube was a small red mass which was probably the remains of the right ovary. The left ovary and tube were intimately adherent. The former contained a number of small cysts.

Dr. Whitney, in a report of the specimens said: "The Fallopian tubes left with me show the result of chronic inflammation with retention of the secretion. The fluid which came from the left tube contained fatty degenerated epithelial cells. As to the relation of the larger cyst to the right tube, I am inclined to think

¹ Read before the Obstetrical Society of Boston, February 12, 1887.

that it is wholly tubal, the valve-like opening being merely a connection between the dilated and twisted tube; at any rate the lining is identical in both parts. The thin-walled cyst is probably one of the broad ligament, since the peritoneum covers it."

The patient soon after coming under the ether had a collapse, stopped breathing, and did not rally until she had been inverted.

The operation was completed and the patient was put to bed in fair condition, although the pulse was weak. She took nourishment and stimulants well, and there was no vomiting or pain. The temperature, however, remained slightly subnormal until the third day, when it rose to 100°. The pulse rose to 120. She was given and retained large quantities of stimulants, but she gradually became weaker and died on the third day. The loss of blood had been small, and there were no signs of septicæmia. The cause of death was collapse.

The normal secretion of the Fallopian tubes is slight and finds its way not into the uterus but into the abdominal cavity, where, being innocuous, it is absorbed and does no harm. [Schroeder.]

Closure of the uterine end, therefore, does not produce hydrops tubæ. When the peritoneal end of the tubes is closed, it allows a collection to take place and a hydrop results. Usually both ends of the tube are closed. When the uterine end of the tube is open and the distension of the tube is great, there may be periodical discharges of the fluid into the uterus; this has been called *Hydrops Tubæ Profluens*. The amount of distension of the tubes which is possible, is very great. Peaslee tapped one case and withdrew twenty pounds of fluid. Usually the greatest distension occurs at the peritoneal end of the tube.

The cause of the closure of the fimbriated extremity is either cicatricial ulceration or inflammation from within or from without the tube. The growth of a tumor may also be the cause of the closure. Often the extremity becomes attached to an ovarian tumor, and later on, this tumor may connect with the cavity of the tube.

The inflammatory causes are usually a general or local peritonitis or endometritis which extends into tubes.

Beside the above, there are certain cases of congenital closure of the tubes. Occlusion may take place anywhere along the tube or at several places, and a number of individual cysts may result.

In the majority of cases hydrops is a bilateral disease. It seems to the reader not unreasonable to suppose that some of the cases of *hydrorrhœa gravidarum* and also of *hydrorrhœa non-gravidarum* may be due to distended Fallopian tubes which force their contents into the uterus and vagina.

Concerning the diagnosis of hydrops tubæ, it may be said that the dilated tube has usually a sausage shape with irregular outlines, extending transversely across the pelvis. The tumor usually moves freely and distinctly from the uterus. If the distension is very great it may be impossible to distinguish it from other cystic tumors of that region. The contents may vary from a thin clear albuminous serum to a thick whitish fluid. To distinguish from a *pyosalpinx* the clinical history of the patient must be considered.

Pyosalpinx is usually accompanied by signs of supuration; pain, tenderness, fever and exhaustion.

Many, it might be said most, cases of *hydrosalpinx*

do not call for interference. They exist and are unknown to the patient, and their existence is not a source of great danger. They sometimes cause troublesome displacement of the uterus. Local treatment is of little use. Tapping frequently fails and is not without danger. The feeling of the writer is that, where interference is necessary, extirpation is called for both in *pyo-* and in *hydrosalpinx*.

RECENT PROGRESS IN CARE OF THE INSANE.¹

BY WALTER CHANNING, M.D.

EXPERIENCE WITH PATIENTS IN DETACHED BUILDINGS.

UNDER this heading Dr. Dewey gives some results of the Kankakee experiment. He says they have had three detached wards with one hundred patients, in use for six years; six such wards with two hundred patients, in use for four years; and for eighteen months eighteen buildings in use with an average of over eleven hundred patients in them, though not full until June, 1886.

The expenses have not been any greater "than those of similar institutions on the 'linear' plan, nor the care of the patients presenting any greater complications. . . . And as far as the welfare of the patients occupying these buildings is concerned, their condition has been in some buildings peculiarly happy and comfortable, and in none of them have any greater discomforts and inconveniences been noticeable, than the same class of patients would encounter under any circumstances. The amount of help required averages relatively about the same as in an average congregate asylum."

One very interesting feature of these detached buildings, is a large dining-room for four hundred male patients. These patients are the able-bodied and inoffensive class, and a large number of demented, more or less destructive and untidy, and all of them have to travel two hundred and fifty feet in the open air in all weathers to reach the dining-room. The latter arrangement is almost, or quite unique in insane hospitals.

The disadvantage of this plan is the difficulty of supervision of such a large number, especially when the weather is bad, and when the days are short and breakfast and supper are gone to in darkness.

The advantages, however, outweigh the disadvantages. The patients show a gain in health, and the attendants are obliged to look more carefully after their clothing, than would otherwise be the case. The food is also received in much better order than in ordinary ward dining-rooms.

The per capita cost of the Kankakee institution has been much less than that of most of the linear hospitals.

As a further example of the widespread tendency to provide separate buildings for different classes of the insane, the Michigan Asylum for the Insane may be mentioned.² The trustees, in their last report, state that the main asylum building is crowded, and they clearly show that simple, inexpensive buildings can be erected for a large number of the patients, in which, under proper medical supervision, they can be made comfortable, beside receiving such treatment medically as may be necessary.

¹ Concluded from page 354.

² Biennial Report, 1885-86. Trustees' Report.

"For want of a better term," they say, they call their plan the "colony system." It is to be regretted that they make use of the word colony, as it has been used to represent a plan of providing for the insane not sanctioned in most countries. Gheel is the prominent illustration of the colony plan, which, though well enough for Belgium, is not to be recommended for other countries. The Michigan trustees have a widely different plan in view, and it is very desirable that they should find a name for it with fewer objectionable associations.

"Their plan contemplates establishing a colony of chronic and quiet patients in some healthy farming locality, near to the institution by which it is to be managed, and from which it is to receive its patients, and derive most of its supplies. To establish this system, the institution should have, at least, six hundred acres of grass land. . . . On this tract of land colony-houses could be erected, each with a capacity of thirty beds, to be plainly, but substantially built, at an expense not to exceed \$6,000 each. . . . There should also be a cottage for the resident physician, to be placed near to, and in direct communication with all the colony houses and the asylum proper, by means of telephones, so that the business of the institution can be easily conducted at one central office. The land should be divided into farms: one for raising milk, one for making butter, one for growing stock, and one for cultivating fruit and vegetables, which will afford a variety of suitable occupation for very many male and female patients."

The general plan seems an excellent one, though it is hard to understand how a suitable building can be erected for thirty insane persons, with the proper appliances for heating, supplying water, ventilation, fire-apparatus, etc., for \$6,000, or \$200 per capita, especially if, as is stated elsewhere, the buildings are to be two miles away from the central building. This long distance will make it more difficult to connect with the general engine-house, and to reach the laundry, bakery, refrigerator building, kitchen, store-rooms, chapel, amusement hall, etc.

To make the carrying-on of the institution economical, as well as easy, all these departments should be easy of access; and the first cost of building will be much lessened if kitchen, dining-rooms, store-rooms, laundries, bath-rooms, etc., do not need to be duplicated.

However, it is to be supposed that Dr. Palmer, the experienced superintendent, and the trustees, have thought over all these points, and discovered some practical solution of them. Two buildings only are to be erected at present, each of which is not to cost over \$5,000.

Among the institutions which have already made use of detached buildings, or are now considering the question of so doing, are: the Connecticut State Hospital; Norristown, Pa., Hospital; Toledo, Ohio, Hospital; North Dakota Hospital; Wisconsin State Hospital; Athens, Ohio, Asylum; Butler Hospital, Providence, R. I.; Boston Lunatic Hospital; Oregon State Insane Asylum; Topeka, Kansas, Asylum; Government Hospital, at Washington, D. C.; Northampton, Massachusetts, State Lunatic Hospital.

THE COLORED INSANE.

Dr. P. Bryce⁸ and Dr. R. Barksdale⁹ refer to this

class of the insane in their last reports, and state that added buildings will be needed for their accommodation.

Dr. Bryce says: "The increase of insanity among the colored people since their emancipation has been very remarkable. The federal census, in 1850, reported in the whole United States but 638 colored insane; and in 1860, the number had increased to only 766, or say one for 5,799. Returns for 1870 show one for every 2,695, and in 1880, we find one for every 1,096. If this rate of increase is maintained, we may expect to find, in 1890, about the same proportion for both blacks and whites, which is about one for every 500 inhabitants."

Dr. Godding, of the Government Hospital, urgently asks for an appropriation to provide accommodations for the 183 colored insane persons in his institution.¹⁰ He says that it is not pleasant, either to the colored or to the white patients, to be treated together.

In the annual report of the Eastern North Carolina Insane Asylum for 1886, the superintendent, Dr. Roberts, refers to the colored insane in these words: . . . "It is evident that we need increased accommodations for the colored insane. . . . While there is a vast breach between the race and the tax-paying portion of our citizens, socially, morally, politically, yet, carp as the pseudo-philanthropist may, the old slave-owner is the negro's best friend, and has for him the most genuine pity in times of affliction. Thrown on his own resources, with the cares of life and the support of his family; surrounded by temptations to indulge his passions, lusts, appetite, etc., from which he was partially, if not wholly exempt in his slavery, it is no wonder that his mental balance gives way."

In connection with the colored insane, it is interesting to know that, in the California asylums at Stockton and Napa, there are in the vicinity of 150 insane Chinamen. At Stockton, there are 67 males and 3 females. Dr. W. H. Mays, the medical superintendent, states that, in proportion to the number of Chinese in the State, insanity is particularly rife among them.¹¹

CLASSIFICATION OF MENTAL DISEASES.

This subject is one always considered by all authors of works on insanity, usually with results that may be satisfactory to the individual writer, but not to readers in general.

A new interest has recently been imparted to further study in this direction by the efforts of the Society of Mental Medicine of Belgium. An International Committee to prepare a report on the subject was appointed at Antwerp, in September, 1885, which has done considerable work since that time.

Systems of classification have been prepared by Professor Verga, of Italy; Meynert, of Austria; Wille, of Switzerland; Lefebvre, of Belgium; Steernberg, of Copenhagen; D. Hack Tuke, of London; and others. All of these systems present many excellent points for adoption from a scientific point of view. Space will not permit an analysis of them here, but one of them is given for consideration. It is that of Meynert, and is as follows:

Idiocy.
Simple Mental Disorder.
Acute Melancholia.
Mania.
Insanity.
Primary Imbecility.

⁸ Biennial Report, Alabama Insane Hospital, 1885-86.

⁹ Annual Report, Virginia Central Lunatic Asylum, 1885-86.

¹⁰ Annual Report, Government Hospital for the Insane, 1886.

¹¹ Annual Report, 1886.

Chronic Primary Insanity.
 Intermittent Mental Disorder.
 Secondary Mental Disorder.
 Complicated Mental Disorder.
 Paralytical Disorder.
 Epileptical, and Hystero-Epilepsy with Brain Diseases.
 Toxic Medical Disorders.
 Alcoholic Delirium.
 Other toxic forms.
 Individuals who need watching.
 Attempts at Suicide, Crimes, etc.

This arrangement of Meynert's is probably a satisfactory one to Germans, but would not be to Americans. More especially is this the case in the present instance, as the efforts of the International Committee were to be exerted to offer a classification which might serve as a basis for international statistics of insanity, and not to represent the highest scientific point to which a system might be developed. For this purpose, the simpler the arrangement, the more practically useful it would be, and hence simplicity is apparent in nearly every system.

Clark Bell, Esq., the present President of the New York Medico-Legal Society, was the member of the International Committee for North America; and, at his request, delegates were chosen by various societies to attend a meeting called by him at Saratoga in September, 1886, to prepare a system for this country, which he could present in his report to the International Committee.

At this meeting or conference, the following points were regarded as settled: (1) That the proposed classification should be framed with special reference to its practical use, for the purpose of securing a uniform basis for international statistics. (2) That it was not deemed desirable to make a complete, detailed scientific classification of insanity, but as simple a classification as could well be framed, keeping in view American ideas on the subject of insanity.

The plan of classification finally settled on was modelled somewhat after the English one, and is as follows:

- | | |
|--|---|
| 1. Mania | { Acute.
Chronic.
Recurrent.
Puerperal. |
| 2. Melancholia | { Acute.
Chronic.
Recurrent.
Puerperal. |
| 3. Primary Delusional Insanity (monomania). | |
| 4. Dementia | { Primary.
Secondary.
Senile.
Organic (tumors, hæmorrhages, etc.). |
| 5. General Paralysis of the Insane. | |
| 6. Epilepsy. | |
| 7. Toxic Insanity (alcohol, morphine, etc.). | |
| 8. Congenital Mental Deficiency. | { Idiocy.
Imbecility.
Cretinism. |

It was not claimed by those present at the Saratoga conference that the system was perfect, or even, perhaps, approximately perfect; but it is simple enough to be made use of by the average insane hospital superintendent, and can easily be used in tabulating hospital statistics.

As a basis to start from to establish an international standard of classification, it appears fairly satisfactory; and, in bearing a strong resemblance to the proposed English system, it possesses the advantage of making harmony of action between England and America extremely easy. These two countries may be able to unite on a system, as the first step toward a more extended international system.

Clinical Memorandum.

THE TREATMENT OF CHRONIC URÆMIA.

BY J. B. AYER, M.D.

A PATIENT, fifty-one years of age, who died November 19, 1886, from progressive contraction of the kidneys (as shown by autopsy), was, during the last nine months, a sufferer from chronic uræmia, although he performed satisfactorily the duties of an important office during the greater portion of this period.

His father died from an unknown urinary trouble, and a brother from chronic Bright's disease. There is said to be further history of kidney disease in the family.

The first symptom of nephritic disease was slight epistaxis four years ago, which was not repeated. At that time his disposition changed. He took less interest in playing with his children, and in reading to them at night. He became more reserved, went to bed early, and grew older rapidly.

The next prominent symptom was in March, 1885, when, one evening, he suddenly lost the sight of his left eye, the right eye remaining unaffected. However, he slept well, and next morning the sight was fully restored, and remained so. The third noteworthy symptom was in the fall of 1885, when he suddenly fell to the floor, losing consciousness for a moment only.

Nothing of marked importance occurred up to the period of my first attendance, February 15, 1886, and kidney disease had not been suspected. He then weighed 197 pounds; arose every morning early to take a cold bath; took long walks; slept well, and only complained of depression of spirits, of nausea, and of occasional dizziness.

There was no œdema then or subsequently. The urine was then slightly in excess of normal, and so continued up to the last month of life. All the specimens examined contained a considerable layer of albumen. Urea, which, at the first examination, was diminished to sixty-six per cent. of the normal amount, steadily decreased, until, in the last week of life, only one-quarter of the normal amount was voided. Very few casts were ever found—hyaline and granular forms. He steadily lost flesh and strength, and was constantly worrying about himself.

March 30, 1886, while at a concert, he came near losing consciousness, vomited freely, and was taken home in a half-stupid state; but he entirely recovered on his arrival home, and joked with the anxious relatives who had hastened to see him.

Last summer, there were times, after dark, when he was quite confused. Would get out of bed, and would not be able to find his way back; would, perhaps, be found on the sofa, cold and apparently lifeless. In the morning he would analyze the symptoms of the previous night, his mind being again perfectly clear.

During the fall his mind became clearer by night, but his strength rapidly diminished. He spoke of a dull pain in the occipital region, but his principal complaint was: "I feel badly all over." As soon as the duties of the day were over, he began to worry about himself. Three days before death he sank into a state of coma.

Undoubtedly the free diuresis, which continued up to the last month of life, will account for the great

preponderance of chronic uræmic symptoms over those of acute uræmia in this case. That the chief symptoms of Bright's disease, to quote Fagge, are in many cases cerebral, have been well known from an early period in its history, but there have been wide differences of opinion as to their mode of origin, which have not prevented their being called uræmic. There seems to be no doubt that uræmia is produced by the poisonous action upon the nervous centres of materials accumulated in the blood, as the result of defective excretion by the kidneys.

. As Rommelæus says, "there are many theories, but one thing alone we may accept as invariable, namely, that the maladies which entail uræmic disturbances are characterized, at the time when uræmic complications break out, by the presence in the tissues of the body of an excessive amount of nitrogenous, excretory material."

We know that urea which is wholly or in part the toxic agent is derived from many sources, but principally from (a) retrograde metamorphosis of tissue (including the blood), and (b) from excess of nitrogenous food.

Attention to diet is, consequently, of prime importance in the treatment of uræmia.

An exclusive milk diet, or one made up largely of milk, is favored by the best authorities. Milk contains the right proportion of nitrogenous to non-nitrogenous food to form a *perfect diet*. It also has the advantage of being a good diuretic.

In our case the patient was benefited by milk diet, which he frequently took with avidity, and which, his wife noticed, had a soothing effect upon him. Unfortunately, he was frequently nauseated and made costive by it, in spite of many methods adopted, with the hope of making it more digestible and laxative.

When milk was not tolerated, other forms of liquid diet were ordered, and a certain amount of digestible meat and of farinaceous and fatty food, but as little albuminous food as possible. The theory that the loss of albumen should be made up by an extra amount of albuminous food is absurd, when we consider that the daily loss of albumen in this case did not exceed the albuminous contents of a single egg. It is a good rule not to over-feed the patient. Unless the diet is of liquid character, a large amount of pure water (Dr. Webber says fifty-two ounces daily) should be taken between meals. I could discover no advantage in Lithia water in this case. Any pure water may be taken.

Alcohol does harm, except for nausea, when a little dry champagne is indicated; or, for anorexia, when a small amount of sherry wine may be taken with food.

Diuretics proper (scoparius, nitre, and juniper, the best of the class) were not needed in this case; but digitalis was given to "save the heart from strain," and the diuretic influence of water has been fully considered.

Diaphoresis, by keeping the bed and by warm baths, was recommended by Bright and Christison. I believe that twelve hours (at least) out of the twenty-four should be spent in bed when chronic uræmia exists. It is important to keep the temperature of the body even, and the perspiration free by wearing proper clothing; and, if patient's means allow, it will be advisable to recommend a permanent residence in a warm, dry climate. It is a fact that diseases of the kidney (except the lardaceous form) are not common

in warm climates. Pilocarpine is often useful in warding off acute uræmic symptoms.

Laxatives must generally be used when the milk diet is taken. Hunyadi water acted well with our patient. When acute cerebral symptoms threaten, calterium may be indicated.

Sedatives. Bromides, in ten-grain doses, seemed to act well in this case in quieting the patient at night. This was important, as there was a tendency to more frequent micturition by night than during the day.

Most authors, to-day, favor the use of morphia in Bright's disease when that drug seems indicated. I have used it subcutaneously in paroxysms of renal asthma, and would not hesitate to employ it in severe neuralgia accompanying chronic uræmia, provided the patient were not an alcoholic subject. It was not indicated in the course of the case we have reported. Dr. Edes states that he has never seen a more completely favorable action of morphia, with all advantages and no disadvantages, than in excessively severe headaches in contracting kidneys.

Tonics, in our case, were not beneficial.

It seemed best to allow the patient to attend to his official duties. In this way, he obtained relief from his anxious thoughts for a few hours daily, undoubtedly prolonging life.

Finally, we can say with Bartels: "The treatment is essentially that of earlier times. So far as practice is concerned, the theoretical controversies over the nature of uræmia have proved utterly barren." And with Bright (1836): "With care, life may sometimes be prolonged many years, and without care, it is materially shortened."

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MARCH 14, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. E. H. BRADFORD being absent, his paper, entitled

A CASE OF MCEWEN'S OPERATION FOR RADICAL CURE OF HERNIA,

was read by DR. E. G. CUTLER. The following is an abstract:

Various attempts have been made in the last fifteen years or more, with the help of strictly aseptic details, to cure hernia radically by ligature of the sac suture of the sac, either cutting off the sac, or rolling and twisting it into a mass, which is secured in the ring, if possible, for the purpose of acting as a plug or pad. These attempts have been, in many cases, successful; but in a number of cases relapses have occurred two or three times after the operation, and the patients, although helped, have not been cured.

Andaregg, collecting one hundred and five cases of his own, watched during a period of from seven months to seven years, found relapses in thirty-nine per cent., which justifies the statement that, in a large number of instances, the benefit of the operation consists of making an uncontrollable hernia controllable. As Banks has clearly pointed out, the chief difficulty encountered is that of making the internal surface of the abdominal wall perfectly flat, for if any depression

outward remains at the inner surface of the internal ring, the omentum and intestine pressing on it will gradually force it open. It is manifestly impossible, by any suture, to sew the internal ring flat; and if that is not done, pads of sac, or suture of the external ring, though a help in many cases, are not to be depended upon in the severer cases. Even Banks, although recognizing fully the difficulty, and devising an operation of twisting the sac within the ring, and securing the twisted coil by suturing, thus preventing the untwisting, is unable, in all instances, to secure the desideratum of a flat internal surface of the abdominal wall.

McEwen's operation is so new a one, comparatively, that the Society will, perhaps, pardon the mention of it in some detail, and the report of a single case.

His aim is to pull the sac within the abdominal cavity, and place it, in a compact and wrinkled condition, on the inside of the internal ring — a pad, with the convexity pressing backwards into the abdominal cavity (under the peritoneum), around and beyond the edges of the sewn-up canal.

In brief, the details of his method are as follows: The sac is separated from the surrounding parts, and, by the help of a director or finger, freed from the outer ring, the cord, and from attachments in the canal. The finger is then passed up within the canal, and the peritoneum adjacent to the internal ring is separated by finger, detaching it from the attachment to the belly wall to an extent of half-an-inch around the inner opening of the internal ring. A needle (with a handle or needle-holder), threaded with stout catgut, knotted at the ends, is then passed through the sac, beginning at the lower end in such a way that the catgut will transfix it, as a basting-stitch or the cord in a Venetian blind. The needle is then passed through the internal ring, between the stripped-up peritoneum and the abdominal wall, and then pushed through the abdominal wall. On pulling on the catgut after the needle has been removed, the mass of sac can be pulled through the canal, and placed between the peritoneum and the internal ring. The ring should then be sewn in the usual way, except that McEwen advises passing a loop of suture through the fascias, as near the internal ring as possible; and then, after again threading with two needles, the two projecting ends of suture, to pass them through the outer edge of the incision, near the external ring. This, on tightening, will roll the parts so as to act as a flap, closing the canal.

When the hernia is congenital, the sac, after separation from the cord, is to be divided above the testicle and sewn up below, so as to form a tunica vaginalis, and above so as to form a sac, to be returned as above described.¹

Dr. WARREN, being called upon to open the discussion, said that he had had little experience with the radical cure of hernia, but he did not see that McEwen's operation differs much from others. In dissecting the ring, we find no particularly tough places giving support; nevertheless, the proportion of relapses occurring in the practice of experienced operators is not very encouraging. Why this should be so is not very clear. Possibly patients are not kept in bed long enough after operation. It is true that there are many cures. So there are by treatment by truss, and this is pretty surely so under twenty-one. With a recent hernia below that age, he gives an encouraging

prognosis. The truss must be put on before rising, and taken off after going to bed. Adults may recover in the same way, and quacks advertise, what is the truth, when they claim that it is done. The cures by truss in adult life are, however, the exception. One set of statistics gave two hundred cures in twenty thousand cases.

Dr. CUTLER said that McEwen had now operated on hernia by his method over forty times, and had, so far, had no relapse.

CASES OF ORTHOPÆDIC SURGERY.

Dr. BRADFORD showed, for the forcible correction of severe contraction at the knee-joint, *with* subluxation of the tibia backwards, an appliance to be used, an anæsthetic, and reported several cases of forcible under-straightening. The method is only applicable to such cases as present no bony ankylosis, but with strong fibrous adhesions. When subluxation is present, it offers a troublesome complication, for the removal of which the ordinary means of section of the ham-string tendons, followed by mechanical extension, will not entirely suffice. When the force is gradually applied in the ordinary way, in severe cases, complete correction does not take place, for the reason that the skin over the knee (where counter-pressure must come) is unable to stand the necessary pressure. A direct pulling force alone will not bring the tibia forward, if firmly adherent in the position of subluxation.

The appliance shown by Dr. Bradford was based on the principle that great momentary pressure could be applied without injury to the soft parts, as has been demonstrated by the osteoclast.

Before any attempt to straighten the limb, forward pressure for the correction of the subluxation should be made (the patient being anæsthetized) by a screw-force on the calf of the leg, as near to the popliteal space as is practicable, the counter-pressure being regulated by straps over the lower end of the femur (condyles) and the lower part of the leg. It will be found that the tibia can be pushed forward without injury to the vessels or muscles. After this is done, extension of the limb can be made, the forward force on the tibia being increased, if necessary. After correction, the limb is to be placed in a fixed bandage.

Dr. WARREN said that it is almost impossible to replace the bones by mere extension and bandaging. In that case some shortening remains, even if extension be made under ether.

Dr. WATSON spoke of the advantage in the apparatus described by Dr. Bradford for knee-deformity over that formerly used, in which attempts were made at extension by gradually increasing the angle between a calf and a ham-splint, which motion did not tend to push the head of the tibia into place.

ENCYSTED PERITONITIS FROM ABSCESS OF LIVER.

Dr. J. B. AYER showed the specimen, and reported the case as follows:

Mr. B., forty-eight years old, has had no serious illness, but during the past fourteen years has suffered from looseness of bowels, seven or eight discharges daily, frequently of mucus character and involuntary.

He felt pain in right inguinal region February 8th, but kept himself employed at his desk till February 17th, when Dr. Ayer saw him and treated him for bronchial catarrh. As fever diminished in the course

¹ New York Medical Record, March 5, 1887, p. 261.

of four days, the pain in the abdomen became more marked. On the 25th, fever reappearing, he asked Dr. Warren to see him, and the following day Dr. Warren and Dr. Fitz examined him. At that time the only abnormal condition to be made out was a circumscribed pain in the region above the anterior superior spinous process. During the thirty-six hours following the examination he passed mucus, pus and blood to the extent of five ounces, and it was hoped that relief would follow.

He did seem more comfortable for a day or two, but the swelling becoming more prominent, and temperature rising, Drs. Warren and Fitz again saw him March 4th, and as there was present a circumscribed tumor as large as a fetal head in the inguinal region, advised an immediate operation. The same day the former, with the assistance of Dr. M. H. Richardson, made a transverse incision evacuating a pint of pus.

The wound did well and recovery would have followed but for double pneumonia coming on with chills March 5th, death occurring on the tenth day.

Dr. Fitz made the autopsy and found:

(a) Acute fibrinous pneumonia of left upper lobe and of right lower lobe, the former firmer and apparently more recent.

(b) The abdominal wound communicated with a circumscribed peritoneal abscess which opened into the upper part of the anterior edge of the right lobe of the liver into an hepatic abscess as large as a big plum.

(c) Liver enlarged one-third, injected, presented no abnormal appearances.

(d) Rectum thickened, especially muscular coat; its mucous membrane swollen and pigmented—in general free from ulceration. Fat tissue about rectum showed occasional fibrous septa. Apparently a couple of ulcers in lower part of rectum. Nothing abnormal elsewhere.

Conclusion. Abscess of liver from chronic dysentery—the abscess causing encysted peritonitis for which an operation was necessary.

DR. WARREN says that the case simulated typhlo-enteritis. There were certain features that made it not advisable to operate when he first saw the case. There was dulness, but it was not complete, and a faint resonance over the seat of pain just above the anterior superior spinous process. Three days before death there was a discharge of bile. No peritonitis followed operation, and death was due to other causes.

TENIA SAGINATA REMOVED BY PELLETIERINE.

DR. BUCKINGHAM showed under the microscope, the head of a *tænia saginata*. This worm, otherwise called *tænia mediocanellata*, is the worm of the cysticercus of beef, and is said to be the most difficult of the human tape-worms to expel. With this particular worm success followed only the seventh attempt, which was made with pelletierine, the previous attempts being with male fern and with pomegranate. One of the attempts with male fern, which was made by another physician was nearly successful, bringing all but the head.

In looking up such authorities as had come in his way, the speaker had become impressed with the fact that while there is strong evidence that kameela and housso are very effective in their own countries, yet turpentine and pomegranate seem to be universally well spoken of. The statement is made by Tanret

that pomegranate varies in its power according to the age of tree as well as the climate, and also with the time of year when it is gathered; also that it deteriorates with age. Pelletierine is one of the four active principles of pomegranate.

It is said to be the fact that the sulphate if given alone, is too rapidly absorbed with possibly dangerous effects, but that the tannate, which has however a bad taste, or the sulphate combined with tannic acid are safer; the dose of the sulphate being three decigrams, with the addition of tannic acid. His patient had taken it in the form put up by Tanret, but there seems to be no reason why an extemporaneous prescription should not be written. Soon after taking the medicine there was some flushing of the face and peculiar sensation in the head, with so much nausea that a cathartic, directed to be taken in half an hour, could not be taken for an hour and a quarter. It is worth while to call attention to v. Schroeder's experiments with this drug in the laboratory of Strassburg, which agree with the clinical results of many observers, that the pomegranate should be taken in one or two doses; and not as recommended in the United States Dispensatory, in small doses repeated over a considerable time. This last has the further disadvantage of unnecessarily prolonging starvation.

Dr. A. T. CABOT showed the specimens from

THREE CASES OF STONE IN THE BLADDER REMOVED BY LITHOLAPAXY.

CASE I. A man of about sixty was operated upon early in February. The stone weighing 110 grains and was very friable, being reduced to a fine powder by a crushing lasting only four minutes. Considerable obstruction was found in the prostate, and although there was no sign of blood during the operation it was followed by a hæmorrhagic cystitis, due apparently to the sudden emptying of a bladder habitually distended. In spite of this and of the fact that a catheter had to be tied into the bladder for several days on account of complete stoppage, the case ran on a febrile course, and recovery though slow was steady.

An interesting feature in this case was that an examination of the urine previous to the operation, showed the presence of arrow-head uric acid crystals, which Ultzmann regards as evidence of stone in the pelvis of the kidney. There had been at no time any kidney symptoms in this case.

CASE II. Was that of a man seventy-seven years old, with a greatly enlarged prostate, requiring the constant use of the catheter. The stone was a soft one, and weighed eighty-six grains. Recovery was uninterrupted and quick.

CASE III. The patient was a man of seventy-six. He had a long prostate, much congested, as was shown by the amount of bleeding following the slightest instrumentation.

The stone was a hard uric acid calculus of 120 grains, and was removed February 25th.

This operation illustrated the difficulty in seizing the fragments when there is any amount of hæmorrhage; for the blood collecting in the bottom of the bladder prevents the fragments from falling into this pocket where they can be easily found, and therefore makes a more protracted search for them necessary. Recovery in this case was steady and without any fever.

RESECTION OF ELBOW.

DR. MIXTER showed sections through the joint from a case of Dr. Warren's.

DR. WARREN said that he had lately written to a number of old hospital cases in order to get permanent results. One patient operated upon in 1866, had a flail-like joint with great power in certain directions. Two operated on for ankylosis had better power. Three operated on for disease had a half motion. There were four or five others.

TUMOR OF UTERUS: LAPAROTOMY.

DR. MIXTER showed the specimen for Dr. M. H. Richardson. Growths had been going on for about a year. But one broad ligament and one ovary were seen, and puncture with a trocar showed the tumor to be solid. The tumor was transfixed by two knitting needles and a rubber-tube applied as a tourniquet before removal.

OSTEO-SARCOMA.

DR. MIXTER showed the specimen for Dr. Beach; also several macerated specimens.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

FEBRUARY 12, 1887, the President, DR. WILLIAM L. RICHARDSON, in the chair.

DR. F. B. HARRINGTON reported, by invitation, a case of

LAPAROTOMY FOR HYDROSALPINX.¹

DOUBLE PYOSALPINX OF UNUSUAL SIZE.

DR. J. W. ELLIOT showed drawings of a specimen of pyosalpinx which he thought was the largest on record which had been successfully removed by laparotomy. The left Fallopian tube was dilated at a point near its outer end to the size of a cocoanut, and contained between seven and eight ounces of pus. "The right tube was nearly an inch and a half in diameter at its widest part, and doubled upon itself. Each part was some three inches in length and was adherent to its fellow. On opening the tube the canal was found to be cork-screw like, and valvular septa projected into the interior, forming sacculi corresponding with the convolutions seen from without." (Dr. Fitz). This tube contained a yellow puriform fluid and a quantity of soft, cheesy material.

The patient had been sent to Dr. Elliot for operation by Dr. Dunn. She was twenty-nine years old, and had been married one and one-half years; was healthy in her general appearance, but complained of having two tumors, one in each side, which she could easily feel. She had never had a white discharge and had never been pregnant. Her menstruation was perfectly regular, normal in amount, and without pain. She had first noticed the tumors three years ago, and they had slowly grown since that time. She suffered from partial obstruction of the bowels, which her physicians had told her was due to the pressure of the tumors. On examination, Dr. Elliot found a hard tumor on the left side about as large as a cocoanut, which he considered an ovarian cyst. On the right side the Fallopian tube was distinctly felt with its

characteristic convolutions, as large as a man's fist. Laparotomy was done on January 25th. The left tube was extensively adherent and imbedded in the broad ligament. The right tube enlarged so close to the uterus that there was no pedicle; it was necessary, therefore, to amputate it without clamp or ligature, and to take up the vessels separately. The operation was severe, lasting two and one-fourth hours. Pus escaped into the abdominal cavity, and a glass drainage-tube was accordingly placed in the abdominal wound. The patient made an excellent recovery, and was sitting up on the fourteenth day.

In reply to questions Dr. Elliot said he believed it was now well established that the best treatment of pyosalpinx was extirpation by laparotomy, and not puncture per vaginam and drainage. In regard to hydrosalpinx, the question of treatment was unsettled. Dr. Harrington's case was one of peculiar difficulty; but the question is still open whether it is not better to aspirate such tumors through the vagina. Simpson and Mundé have treated hydrosalpinx in this way with success. This does not apply, of course, to ovarian cysts.

DR. HOMANS said that the differential diagnosis between pyo- and hydrosalpinx was often difficult to make; but given a case of pyosalpinx, there was no question in his judgment but that the proper treatment was to remove the sac and its contents. These tumors are usually removable, and tapping is a slow, tedious and doubtful process, and fatal in a very large proportion of cases. He thought Dr. Elliot was fortunate in the recovery of his case, after having spilled some pus into the peritoneal cavity. A case he had seen in London, in which each tube had become a tumor twelve to fifteen inches long and two or three inches in diameter, had terminated unfavorably from the spilling of two or three drops of pus into the peritoneum during laparotomy. The operator did not drain in this case, however, as Dr. Elliot had done in the case reported.

DR. BOARDMAN agreed with the previous speakers, that extirpation was the proper treatment for pyosalpinx. No doubt the tubes had sometimes been removed unnecessarily or for insufficient reasons; but conservatism should not stand opposed to operation in proper cases. He had no belief in the common idea that the removal of the tubes unsexed a woman: patients with diseased tubes were already sterile. Being asked to define the term "unsexing," Dr. Boardman quoted Madden's definition, that the "unsexed" woman is gross in appearance, has a masculine voice, and has lost her sexual desire, this last characteristic being the one popularly associated with the term.

DR. HOMANS said that from one patient afflicted with marked nymphomania, he had removed both ovaries and tubes on account of a large fibroid tumor. The patient was glad to have the operation performed, hoping thereby to be relieved of her intense sexual desire; but the operation had no effect on this condition. Another patient, with an ovarian tumor, who had previously no sexual feeling, after ovariectomy had a boundless sexual appetite. Still another patient was in no way different in respect to her sexual feelings after removal of her ovaries from what she had been before. He thought, therefore, that the effect of removing the ovaries could not be predicted in this particular. He had never noticed any change in the voice; but such patients became stout and fat.

¹ See page 371 of this number of the Journal.

Regarding the operation of oöphorectomy for the relief of certain nervous symptoms, Dr. HOMANS said that in only one case of his own had the operation been efficacious. This was the case of a young woman who had been in an insane asylum from the age of nine, and was very violent at the menstrual epoch. She was entirely cured by oöphorectomy. In another case of insanity the patient was better for a year; but the ultimate result was not beneficial.

DR. DAVENPORT said that within a week he had seen a patient whose ovaries had been removed two years ago, for disease and for the relief of certain nervous affections. The nervous symptoms were no better: she still had the menstrual molimen, with feelings of weight in the pelvis, and headache; she had grown stouter. She had more sexual feeling than before the operation; but intercourse was followed by prostration, and there was no orgasm.

DR. INGALLS inquired as to the nature of the nervous symptoms for which oöphorectomy was recommended by some writers; and what reason there was to suppose that the relief from the symptoms would follow the removal of the ovaries.

DR. HOMANS said the train of symptoms was as follows: a good deal of discomfort at the menstrual period, sometimes associated with mania; mental depression; emaciation; constant thought of the sexual organs; tenderness, either real or imaginary, over the ovaries; the uterus small or atrophied; the patient bedridden or nearly so.

DR. HARRINGTON said that the great majority of cases of hydrosalpinx do not call for operation; but when the tumor is so large as to simulate an ovarian cyst, he believed it was better to treat it as such and remove it. These cysts often do refill, and become a source of danger from frequent tapping. The cyst in the case he had reported emptied itself; but no cure took place. When a tumor is discovered, one should try to make an accurate diagnosis: if there is doubt, it was well to puncture for diagnostic purposes.

DR. ELLIOT said there were no constitutional symptoms to suggest pus in the case he had reported, and he thought he was to deal with an ovarian cyst. Some pathologists believe that even pyo-cysts cure themselves, as they are so seldom found at autopsies: few nephritic calculi are found at post-mortem examinations; yet surgeons find them and remove them. If pyo-cysts are neglected, they may continue to grow and cause peritonitis and pyelo-nephritis from pressure on the ureters.

THE PRESIDENT inquired how the watery discharge in a case of hydrosalpinx could be distinguished from hydrorrhœa gravidarum.

DR. HARRINGTON said that perhaps the fimbriated extremity of one tube has been long occluded and pregnancy has recurred through the other tube: fluid may accumulate during pregnancy in the occluded tube, and towards the end of gestation, the pressure may be sufficient to push away the membranes, and the fluid thus escape as an hydrorrhœa gravidarum. Or the water may escape after labor.

THE TREATMENT OF FISSURED NIPPLE.

DR. BOARDMAN spoke of a case of fissured nipple, in which the application of cocaine enabled the patient to suckle without pain. The baby was in nowise affected by the cocaine.

DR. REYNOLDS thought that all applications to fis-

sured nipples were of little value compared with mechanical protection. The desideratum was to relieve pain, and this could be best accomplished with a nipple shield. The variety of shields was great; one should be selected which could be used with comfort to the patient.

DR. GREEN exhibited a case of obstetrical instruments and spoke of

THE NECESSARY ARMAMENTARIUM FOR OBSTETRIC PRACTICE.

In cities and large towns, where the proximity of the patient to the physician's home is such that any needed instrument can be sent for with only short delay, and where it is possible to promptly obtain from one of the many drug stores any desired medicine, the outfit which a physician need carry to a case of labor may be extremely simple: he needs only to be prepared to deal with the emergencies of obstetric practice without undue loss of time. In consultation practice, however, and in the country, where the obstetrician may be called to a distant patient, to deal with he knows not what complication of labor, he should go provided with an armamentarium sufficiently comprehensive to enable him to meet every possible demand upon his skill. It will be found convenient, therefore, for the accoucheur to have two obstetric bags: a small gripsack containing the comparatively few instruments and drugs which may be necessary in ordinary cases, and a larger bag, containing a complete set of instruments and appurtenances, which may be sent for when needed, or carried to cases at a distance and in consultation practice. The contents of the larger operative bag should be as follows:

1. ANTISEPTICS: nail-brush; corrosive sublimate tablets for the convenient preparation of solutions of any desired strength for disinfecting the hands and the patient's genitals, for vaginal or uterine irrigation, and for cleansing wounds or lacerations before suturing them; carbolic acid crystals, with which to make a 1:20 solution for disinfecting instruments; a small jar of oil of eucalyptus and vaseline, 1 to 8, to use as an antiseptic emollient for hands and instruments.

2. CATHETERS: a long, silver, female catheter, for emptying the bladder; a long, English gum-elastic catheter with stylet for a variety of uses, namely:—to empty the bladder, when the fœtal head is low and pressing on the urethra, or when for any reason a more pliant or longer catheter is needed; to rupture the membranes high up in hydramnios or other conditions; to catheterize the uterus for the purpose of exciting contractions; to inflate the fœtal lungs; to replace the prolapsed funis, after the manner described by Prof. Richardson² at a former meeting of this society.

3. SYRINGES: a Davidson syringe with rectal and vaginal nozzles, the latter to be of hard rubber, also the long, block-tin, intra-uterine tube, which can be bent to conform to the pelvic curve; it is also well to have the hard rubber spray attachment for irrigating the external genitals. A two-ounce, hard rubber syringe, although not essential, is of great utility in the administration of certain rectal enemata, which soil, and in some cases injure, the soft rubber syringe. A hypodermic syringe; in the same case may be included soluble tablets of morphine, pilocarpine, atropia, and ergotine.

² Boston Med. and Surg. Journal, Vol. cxiv, No. 11, p. 254.

4. **CERVICAL DILATORS AND TAMPONS:** although in most instances the fingers are the best dilators, cases do occur in which Barnes' bags are very serviceable: they should therefore be included, together with the inflating bulb. Braun's colpeurynter is also sometimes of value, both for exciting pains and consequent dilation by mechanical distention of the vagina, and for temporary use in some cases of hæmorrhage.

5. **MEDICINAL AGENTS:** sulphuric ether, chloral hydrate, laudanum, ergot, brandy for hypodermic use, and Monsel's solution.

6. **FORCEPS.** While the ordinary Simpson's or Braun's forceps, which should be carried to every case of labor, is sufficient in most instances to accomplish delivery, the operative bag should contain some variety of the longer and more powerful instruments: the axis-traction forceps of Simpson, which can be used also without the axis-traction rods, serves very well in high operations, and is much less cumbersome than the long, French forceps, or the axis-traction forceps of Tarnier. The short, straight, Dublin forceps (Beatty) is sometimes of great value in occipito-posterior and mento-posterior positions, since, owing to the absence of the pelvic curve, the instrument may be allowed to rotate within the vagina, without danger of injury to the maternal soft parts.

7. **EMBRYOTOMY INSTRUMENTS:** For decapitation: Braun's hook and Ramsbotham, Jr.'s knife, the combined use of which possesses some advantage over the single use of either. For craniotomy: Simpson's modification of Smellie's perforating scissors or Braun's trephine with pelvic curve [while either will generally suffice, it is advantageous to have both instruments]; Braun's cranioclast and Meigs's bone forceps. The cephalotribe and crochet may well be omitted.

8. **IN GENERAL:** a blunt hook for instrumental extraction of the breech; a pelvimeter; a straight, blunt bistoury for incising the cervix or perineum in the rare instances in which these procedures are necessary; a sharp, straight bistoury suitable for opening the abdomen and uterus or for opening a vein; a good needle-holder, with a variety of needles, in a suitable box, for closing the uterus and abdomen after Cæsarean section or for repairing the vagina and perineum; two artery or tissue forceps with sliding catch; a dressing forceps, which is also useful in pulling forward the tongue during etherization, and a box-wood gag; a stout pair of long, curved scissors, which may serve to cut the funis, to trim the tissues in repairing the perineum or to remove the uterus in a Porro operation; silk, silver wire and catgut for sutures; Harrington's salt infusion apparatus, with a few powders, and a suitable filter (absorbent cotton will answer).

9. **MINOR ACCESSORIES:** long, curved, uterine dressing forceps; a pair of placental forceps, for the rare instances when the fingers will not suffice; a roll of half-inch tape, for use as a fillet in extracting the breech, or a sling in podalic version; some bobbin for tying the funis; collodion; safety pins.

10. **THE BAG ITSELF:** with the help of an inside, hinged flap, and a pocket to hold bottles and other small articles, this armamentarium may be contained in a bag twenty inches long, twelve inches high, and six inches thick; by the aid of loops or of wooden blocks and buttons, the instruments can be kept each in its proper place and not rub or abrade their neighbors. The whole interior should be lined with chamois skin,

and thereby the instruments may be kept bright and clean, if they are nickel-plated. There is also sufficient space in such a bag for several toilet articles, should the distance of the patient detain the physician over night and render such accessories desirable.

With a complete instrumentarium within sending distance the accoucheur may go to his cases in light marching order. His skirmishing gripsack need contain only the few necessary drugs, short forceps, catheter, perineal instruments, syringes, and scissors, and the ever-necessary means for surgical cleanliness.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

JANUARY 20, 1887, DR. GEORGE T. TUTTLE in the chair.

DR. J. B. AYER read a paper on

THE TREATMENT OF CHRONIC URÆMIA.¹

DR. FISHER said that he had been interested in the subject of uræmia for twenty-five years. In his early practice, he had had a patient who died with an anomalous form of delirium, and the urine found in the bladder after death was albuminous. At that time he considered the delirium uræmic. In a medico-legal case not long after, where there was a question of testamentary capacity, he testified that Bright's disease could cause mental impairment, although experts on the other side denied it. He had seen such impairment due to uræmia in his own practice, and it is now acknowledged to cause both acute and chronic mental symptoms. He spoke of a case of transient hemiplegia, followed by violent insanity, where there was albuminuria, but this latter symptom was not discovered until after recovery from the hemiplegia and the insanity.

DR. GOLDSMITH said that, at first, he had thought that renal disease was comparatively common among the insane, but he had found that the amount of albuminuria was astonishingly small. Very little renal disease was found at the autopsies, and there were very few cases where renal disease caused insanity. He had seen uræmic delirium, but he had never seen a case of insanity where the patient was in good condition except for the renal disease, which seemed due to disease of the kidney. Evidence of renal disease was not evidence of mental affection. Morphine had not been permitted in Bright's disease until recently, and even now it was allowed only by a few. He had seen a case of insanity with great excitement, where there was albuminuria. Two half-grain doses were given within thirteen hours, with better results than usual, and the patient recovered from the insanity. Liquid food seemed to him to be of advantage; a case with gastric dyspepsia took skim-milk well. All milk was constipating, but he did not know whether skim-milk differed from ordinary milk.

DR. FISHER said that, in his experience, Bright's disease was a not uncommon lesion at autopsies of insane patients, and a few cases of insanity were due to it, although not many.

DR. GOLDSMITH thought it not unlikely, *à priori*.

DR. FISHER said that, in uræmia, we probably have starvation and anæmia of the brain, which may well cause mental trouble.

DR. GOLDSMITH said that although a comparatively

¹ See page 374 of this number of the Journal.

large number of sane people had renal disease, that of insane people who had it was relatively small.

DR. FISHER said that there seemed to be some relation between the two states analogous to that between insanity and cardiac disease.

DR. BOLAND said that the evident heredity in the reader's case was curious. The son of the patient, with transient hemiplegia, mentioned by Dr. Fisher, died of Bright's disease. Milk was pretty rich in nitrogen, but whey eliminated most of the caseine, and ought, theoretically, to be a good food. Peptonized milk worked well. He mentioned a case of Bright's, apparently moribund, where there was nausea, scanty urine, and severe frontal headache. The headache was so severe that a quarter-of-a-grain of morphine was given; and, when the pain returned with greater severity, and the patient became delirious, half-a-grain more. The patient slept heavily for some hours; the pupils were contracted, but the patient improved, and is now at work, apparently well. Quantitative examinations of the sweat have shown that pilocarpine eliminates very little urea, perhaps not enough to counterbalance its dangers.

DR. TURNBULL said that the use of morphine in Bright's disease, and the connection between Bright's disease and insanity, were important, as morphine is often used in insanity. In a case where Bright's disease had not been suspected, he had known a quarter-of-a-grain of morphine to produce disastrous results.

DR. KNAPP had known of one case, where an unintentionally large dose of morphine was given for some time to a patient with amyloid kidney, in which the morphine might have hastened the result. Ordinarily, however, he had given morphine in renal disease in the same way that he would in other cases, and with no ill effects. One case of disease of the heart, liver, and kidneys, with great ascites and general oedema, took a quarter to a half-a-grain of morphine by the mouth every night for weeks, with benefit.

DR. TUTTLE said that the connection between Bright's disease and insanity was interesting. He had seen several insane patients, lately, who had albuminuria and casts, and the mental symptoms and the urine improved together, so that he thought there might be some connection between the two. He mentioned an obscure case, where a nurse, who had previously had pelvic cellulitis, took cold while menstruating. She had severe abdominal pain, vomiting, coma, and jaundice. There was no albuminuria or change in the size of the liver. Three doses of elaterium caused her to regain consciousness, and she recovered.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON PRACTICE OF MEDICINE.

STATED meeting, March 15, 1887.

DR. C. E. BILLINGTON read a paper on

LOCAL TREATMENT IN DIPHTHERIA.

Both constitutional and local treatment, he said, were of vital importance in diphtheria. The first factor to be considered in this disease was the entrance into the system of a specific poison or contagium, which, in many cases, at least, seemed to act by direct local implantation upon some portion of the air-passages, and this naturally suggested the local use of an-

tiseptics. The second factor in diphtheria was inflammation. This, if preëxisting from other causes, was very apt to invite the disease. Inflammation was an essential constituent in diphtheria, and ceased only with the cessation of the disease itself. The therapeutical indications furnished by the inflammation were: (1) The treatment of catarrhal trouble. (2) The employment of the most active anti-phlogistic measures, local and general, in the hope of cutting short or modifying the course of the disease. There was also an important contraindication, namely, the avoidance of all local applications, which have the effect of causing irritation of the parts.

The third factor in diphtheria was a membranous exudation. This, he thought, was probably an invariable element, though it varied very greatly in extent and in its characteristics in different cases. Besides acting as a local obstruction, the membranes had the effect of covering up the diphtheritic poison, thus preventing whatever antiseptic measures which might be resorted to from accomplishing their purpose effectively, and permitting septic infection to go on. The presence of membranes, however, were sometimes the lesser of two evils, the greater being their premature removal whether intentional or accidental. When this occurred, the general inflammatory action and the membranous exudation were both apt to become more marked than before. Indeed, the forcible separation of the membrane might be attended with very considerable danger. The destruction of the membrane by powerful caustics or the actual cautery had been repeatedly resorted to, in the hope of substituting a simple ulcer for the diphtheritic deposit; and undoubtedly this was the true indication present in cutaneous diphtheria. But this plan was difficult or impracticable as regards the mucous membrane, and the use of such agents had now been discarded by the great majority of the profession. In severe cases of diphtheria, the sudden removal of the exudation would leave exposed a raw and irritated surface, and the sequel would almost inevitably be an increased absorption of the diphtheritic poison. The rational indications in regard to the membrane were: (1) To effect its gradual softening and thinning by the local use of non-irritating solvents; and (2) in exceptional cases, in which their prompt removal was necessary, to accomplish this by such means as would cause the least irritation possible. The true object in treating diphtheria, Dr. Billington remarked, was not so much to cure the disease as to bring the patient through it alive.

The fourth factor in the disease was the absorption of the poison, with its attendant evils. In the earlier stages of diphtheria, the condition of the throat was not distinguishable from that met with in ordinary angina. The absorption of the poison began with the exudation, and it seemed probable to him that the disease was, at first, a local one. He here referred to the series of cases reported by him in the papers which he read before the Academy in 1876 and 1880, in which the plan of local antiseptic treatment was systematically and carefully carried out. The result was that in a large number there was little or no evidence of constitutional disturbance, while the number of deaths from toxæmia was extremely small. As indicated by his experience, nature was capable of tolerating and successfully eliminating a certain amount of the poison absorbed.

The fifth factor was the emanation of poison from those affected with the disease.

The indications of local treatment were, three: (1) To subdue inflammation. (2) To effect a gradual and superficial thinning and softening of the membranes. (3) By antiseptic measures, to minimize septic absorption.

Passing on to speak of the means by which these ends were to be accomplished, Dr. Billington said that, in the first place, the frequent swallowing of water, milk, or other bland fluid had a good effect in washing the parts clean. Ice and iced beverages also had a beneficial effect upon the inflammation present. Of medicinal agents, tincture of chloride of iron and chlorate of potassium had long been regarded by many as holding the first place. When employed with glycerine, in the proportion of one to eight, the tincture of iron was very grateful to the taste, and could be given every hour, with a little water. The chlorate of potassium might be employed in the following formula:

R Potass. chlorat. gr. xii
Glycerin, f ʒ ss
Liquor: calcis, f ʒ i ss
M Dose, a teaspoonful.

In certain cases the tincture of iron was found too irritating, and there were other agents which could be employed in its place, such as the benzoate of sodium.

Gargles were condemned by him, and the use of the syringe was regarded as more generally applicable. Any ordinary syringe holding half an ounce or an ounce would answer, and warm water holding common salt in solution was, perhaps, as good as anything else to employ with it. Still, the use of the syringe had its limitations and dangers. Great care should always be observed in such manipulations, and this method should never be practiced when any of the membranes were partially dislodged. In nasal diphtheria, the syringe had been so long in use, he said, that it was unnecessary to speak of its advantages; but here, also, it was essential to use the greatest caution. The fluid should be thrown in with sufficient force, and the injection kept up long enough, to thoroughly cleanse the passages. He thought that the physician should always use the syringe himself, and that two or three times a day was often enough for the injections. The frequency should never exceed the tolerance of the patient. Spraying, while possessing the advantages of being a gentle and unirritating method, was not of as much service in nasal diphtheria, in his opinion, as syringing.

As regards solvents for the membrane, lime-water was of no service if it was required to secure a very rapid effect; but, in general, it was of positive therapeutic value by its gradual action. A useful formula consisted of ten minims of carbolic acid to four ounces of lime-water, which might be employed every half-hour. Lactic acid, pepsin, and other similar agents had often been recommended, but their practical value as solvents had not as yet been satisfactorily demonstrated. Trypsin and papayotin, however, had been used with good results. Inhalations of vapor were often resorted to as adjuvants. As an escharotic, nitrate of silver was to be recommended, on account of its superficial action. Tincture of chloride of iron, in the proportion of two to one, and Monsell's solution, were also of service in certain cases.

Dr. A. JACOB said that nasal diphtheria was very apt to prove fatal unless local treatment was resorted

to at an early period. The treatment which he practiced consisted of repeated injections, kept up at short intervals, both day and night, and he did not think that two or three times a day was often enough to use the syringe. Lime-water, carbolic acid, and bichloride of mercury (the latter in the proportion of 1 to 10,000), were useful for this purpose. Spraying could often be alternated with the injections with advantage. It had formerly been supposed that, in order to have any effect upon bacteria, it was necessary to use very powerful agents; but later investigations had shown that this was not really the case. Koch and others having demonstrated that a solution of carbolic acid of the strength of only 1 to 1,200, while it would not destroy bacteria, was sufficient to check their activity. It was his invariable practice to have the sick room constantly filled with the vapor of either turpentine or carbolic acid, or both.

Dr. J. LEWIS SMITH said that at the present time the greater part of the profession coincided in the opinion expressed by Dr. Billington, that diphtheria is primarily a local disease; but he could not believe that this was really the fact, at least in all cases. He had met with a number of instances in which the disease had a period of incubation lasting as long as six or eight days; which certainly indicated that it was from the first a constitutional affection. At the same time he was thoroughly in accord with Dr. Billington as to the great importance of local treatment, and also agreed with him that all irritating substances should be carefully avoided in the applications made. Muriate of pilocarpine had been very highly recommended by some, and even lauded as a specific, but he regarded this agent as exceedingly dangerous, and related a case in which fatal pulmonary oedema was apparently induced by it. The nasal passages were in his experience not infrequently the seat of the primary exudation in diphtheria; but he had found that it was quite a common occurrence for the diagnosis of nasal diphtheria not to be made out until the membranes had become very extensive, while the patient was apt to die if local treatment was not resorted to at a comparatively early period. As to the medication to be applied through the nostrils, common salt, which had been recommended by Dr. Billington was, he thought, hardly antiseptic enough, and he preferred to use salicylic or boracic acid. The following was a very good formula:

R Acid boracic. ʒj
Sodii borat. ʒj
Sodii chloridi. ʒj
Aque ʒj M

In his practice he was in the habit of making applications to the nasal passages by means of an ordinary medicine-dropper.

He thought highly of alkaline inhalations; but the amount of lime in lime-water, which was still used to a large extent, was very small. Its alkalinity and solvent action could be materially increased, however, by adding a drachm of bicarbonate of soda to each pint of lime-water. Trypsin seemed to be of considerable benefit, and it could be used in connection with the ordinary alkaline solutions. It was the duty of every physician attending a case of diphtheria in young children, Dr. Smith thought, to note at each visit whether the child was becoming hoarse at all; hoarseness being the first indication of the invasion of the larynx and trachea of the membranous exudations.

Dr. F. H. BOSWORTH said that one point of great

importance had not been referred to, namely, the fact that glandular tumors of the pharynx, offered one of the most favorable niduses possible for the lodgment of the diphtheritic poison; while if the nasal passages and fauces were entirely clear of all obstructions the individual was much more likely to escape the disease.

Dr. Billington's paper only afforded additional proof of the fact that there are no specifics for diphtheria. It was, therefore, to the faithful carrying out of the two or three indications to which he had referred that we were to look for success in the treatment of this disease. In regard to nasal injections, he thought that placing the use of the syringe in the hands of even a trained nurse involved considerable danger, and he greatly preferred to employ the spray. Delano's atomizer (which Dr. Billington had recommended in this paper), was a good instrument as long as it would work, but the trouble with it was that it was constantly getting out of order. Hence it was better to use one constructed on a different principle, and the "Magic" atomizer, which could now be obtained at any druggist's for one dollar, was as efficient as any for the throat. For the nose, Millard's atomizer, No. 5, costing \$1.25, was probably the best form of apparatus. It had a large nozzle, and by means of it fluid could be made to pass into one nostril and out of the other. Of all cumbrous and useless applications ever put into the hands of the medical profession, he thought the galvano-cautery the worst. The effect produced with it was simply that of heated platinum wire, without any electrical action whatever, and precisely the same results could be obtained by other agents which were infinitely more convenient to handle.

DR. D. BRYSON DELAVAN spoke particularly of the value of bichloride of mercury in the treatment, and expressed regret that it had not received the attention in the present discussion to which its merits entitled it. This agent had been conclusively shown to have much greater germicide power than carbolic acid, and therefore he thought it ought to be preferred to the latter. In his own hands it proved more efficient than any other remedy. While in nasal diphtheria the efficiency of the antiseptic spray was unquestionable, he thought it was a good plan to spray the nasal passages even in the pharyngeal form of the disease, as it assisted in freeing the fauces of obstructions, and also enabled the patient to breathe through the nose. He greatly preferred the spray to the use of the syringe.

The chairman, DR. E. DARWIN HUDSON, JR., stated Dr. J. T. Hutton, of Minnesota, having reported unusually good results with the topical use of lunar caustic, Dr. Billington had written for some further particulars of his method of treatment, when Dr. Hutton replied that he would be present in person and express his views when the paper was read; and it now gave him great pleasure to introduce that gentleman to the Academy.

DR. HUTTON said that while the disease was local in the pharynx he believed that he could arrest it in every instance. His statistics showed a mortality of only twelve in two hundred and nine cases, and that notwithstanding the fact in several of them he did not give continuous treatment. His experience was confined entirely to Minnesota; although he presumed the disease was essentially the same in its general characteristics everywhere. He had gone to Minnesota to practice nine years ago, but did not meet with

any diphtheria until seven years ago. In the neighborhood where he resided five families had lost twenty children, and thirteen families thirty-six children from the disease, before he moved there. The first time that he was called upon to treat diphtheria his experience was very unfortunate. When he arrived at the house, which was twenty miles from his own home, he found that three children had already died of the disease, and three others were very low with it. He was sorry to say that two of the latter also succumbed afterwards. In the next family that he visited he first made use of the plan of treatment to which he has ever since rigidly adhered. In this household no less than five children were dead from diphtheria, and three others were very low with it. All three of the latter, however, recovered under the treatment which he then instituted, and which he believed to be infallible for the first stage of diphtheria in the region of country in which he lived, however it might be elsewhere. He did not make use of it in the stage of stenosis.

The two great indications in diphtheria, he believed, were, first, to destroy the false membranes, the disease being, in his opinion, entirely local at first, and, second, to support the patient, as the disease was usually attended with marked depression of the vital powers. For destroying the membranes he employed a solution of nitrate of silver, of the strength of twenty to fifty grains to the ounce, applied by means of a camel's hair pencil, and the application (which he said was no more painful than that of syrup or water) repeated until all the membrane was completely destroyed. He had known violent cases sometimes to be controlled by a single application. Chlorate of potash was also directed to be used as a gargle, or swallowed. In carrying out the second indication an abundant supply of fresh air was a necessity, and if it could not be obtained in any other way, the patient should be taken out of doors, unless the weather was intensely cold. As the heart was liable to fail, it was desirable to have the patient as quiet as possible, with the body kept in the recumbent position and sufficiently warm. Milk, eggs, beef-extract, and alcoholic stimulus were to be given freely, and he generally employed quinine in one-grain doses about every hour. With this plan of treatment most of the cases were gotten under control within twenty-four hours, and there was no subsequent paralysis, or other disagreeable sequela. In nasal diphtheria he used a five per cent. solution of carbolic acid by means of the syringe.

DR. JOSEPH E. WINTERS said that local treatment was impracticable in cases of diphtheria limited to the throat in young children, though this was not the case when the disease affected the nose. If diphtheria were primarily local, the first object in the treatment ought to be to destroy the membranes by means of strong caustics; yet all who had taken part in the present discussion, with the exception of Dr. Hutton, had condemned their use. All, however, agreed that local treatment should be directed against the membranes; but for his part he could not see why so much stress was laid upon the membranes, as long as they were confined to the fauces. If they were removed forcibly, or by means of caustics, they would only re-form. The one thing that promotes secretion more than anything else, is heat, and it should be constantly applied, both internally and externally. Hot applications should be made early, and should be kept

up continuously. The primary indication in diphtheria, he thought, was to prevent the extension of the membrane into the larynx, and this was also accomplished by the persevering use of heat. The patient was to be kept absolutely still, and no change from the recumbent posture allowed for any purpose whatever. If heat were properly applied externally and internally he did not think it worth while to fatigue the patient with the frequent or continued use of the spray. The croup-kettle giving off the vapor of turpentine he had found very useful, and he was also in the habit of employing the remedies mentioned by Dr. Billington. In nasal diphtheria local treatment could be satisfactorily carried out if sufficient tact were used. In the treatment of swollen glands in connection with nasal diphtheria, Dr. Winters said that he could not subscribe to the use of ice, as recommended in the paper, as he believed it to be injurious by promoting the spread of the inflammation.

Dr. H. D. CHAPIN said that he greatly preferred the spray to the syringe for local treatment in the throat, and spoke particularly of the liability of the use of the syringe to excite vomiting.

Dr. BEVERLY ROBINSON said that he should be very much opposed to any form of douche which caused vomiting; and that he also was decidedly in favor of the spray. He did not believe, however, that the ordinary spray-producer was of any use practically. The only atomizer which he employed was that of Dr. Lefferts, and he thought that spraying with an efficient apparatus was the only thorough way of washing out the nasal cavity. The plan referred to by Dr. Smith, of using a medicine-dropper, was simply a delusion and a snare. As to Dr. Hutton's method of treating diphtheria, it was pretty nearly as old as the history of the disease itself, and the use of lunar caustic, which had formerly been employed by a large number of physicians, had long been abandoned. Cubebs, he thought, was more useful in its action upon the throat than the chlorate of potash. He had at one time supposed that it had some specific effect, but he now believed that it was simply a very efficient agent in combating the catarrhal element of diphtheria. In his opinion there was no one remedy which would cure a very toxic case of diphtheria invariably, and death would occasionally result, whatever means might be employed against the disease.

Dr. ANDREW H. SMITH said that while he agreed in the main with the practice of those who had spoken in the discussion, he did not agree with the majority of those in the matter of theory. As to the nature of diphtheria, he was glad to hear it stated that the membranes do not constitute the disease, and personally he believed it was as much a constitutional affection as scarlatina, for instance, and that the membranes were not even an essential element. We were told that the membranes were precisely the same as those met with in ordinary membranous croup, and also in those cases in which patients from time to time brought up complete casts of the trachea and ramifications of the bronchi. But if this were so, the latter class of patients must be affected with chronic diphtheria; which he could not possibly believe to be the case. The membranes, therefore, were not so important as had been represented; but still there was apt to be a necrotic process going on underneath them, and the absorption of septic material rendered it necessary to resort to local treatment. Local treatment was more important in

the nose than in the throat, and as the hard-rubber syringe was apt to cause suffering and do injury, he had been in the habit of using a soft-rubber nipple, which was attached to an ordinary hand-bulb. When this was applied in one nostril, the fluid could be made to flow out from the other. It was important that the fluid employed should be of the same density as the serum of the blood, and the preparation which he preferred was a weak solution of bichloride of mercury (1 to 4,000 or 6,000) with a drachm of salt to the pint of fluid, in order to give it the required density.

Dr. WM. H. THOMSON said that what he had heard this evening had shown him that there was nothing new to be learned at present concerning the treatment of diphtheria. Twenty-five years' experience had also convinced him of the advantages of local treatment. He then related a case indicating that the disease was primarily of constitutional character.

A young man whose bed-fellow was taken with diphtheria was separated from his companion and carefully watched. On the ninth day afterward he had a very severe chill, and within ten minutes afterward his physician examined his throat and nostrils, but found nothing but a little diffused redness. In an hour, however, there was extreme congestion of the fauces, with grave constitutional symptoms; but it was not until the next day that any membranes made their appearance. On the sixth day afterward all the membrane disappeared, and the temperature was found to be normal. On the evening of the seventh day, however, he had another chill. The urine was now found to be loaded with albumen, and in two days he died from cardiac paralysis. This was a case, he thought, which clearly demonstrated that diphtheria is a purely constitutional disease. His own treatment, therefore, was based on internal support, and the question which he put to himself was, What antiseptics can be given in the largest quantity? The answer, he had found, was, Those of the chlorine group. Bromine was a useful remedy locally, and there was one agent which had not been referred to to-night which was an admirable antiseptic, particularly when any necrotic process was going off. This was the persistent use of oxygen gas.

Dr. ALFRED L. LOOMIS remarked that it seemed to him that Dr. Billington had arrived at the conclusion which every sensible practitioner would come to who carefully watched his cases. While in a certain proportion of cases diphtheria might be primarily a local disease, he believed that in the great majority of instances it was primarily constitutional. In former years he had seen a great deal of it, and he had travelled over pretty much all the ground that was known as regards local treatment. He had employed, first, mechanical agents, second, escharotics, and third, astringents, including the nitrate of silver. The conclusion that he had at last arrived at was, that nothing but cleanliness, with local antiseptics and constitutional support, was required. There were no specifics in this disease, and it was always best to treat the case, and not the diphtheria.

— A State Board of Health has just been established in Vermont, the twenty-ninth State in the Union to be provided with such an organization.

— Dr. H. C. Wood, of Philadelphia, has been offered the chair of medicine at the Johns Hopkins University.

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THE RAG QUESTION AND PUBLIC HEALTH.

In the recent cases of small-pox among rag-workers at Huntington, Mass., to which we referred last week, neither of the victims had ever been vaccinated. One, a girl of thirteen or fourteen years old, goes often to the rag-room where her grandmother works, and even at times helps her. The old woman has a typical vaccinal scar and does not contract the disease, but the child, unprotected by any vaccination, takes the small-pox. This child had been in attendance at the public schools, contrary to the law, and yet no objection had been made to her attendance by the town authorities.

Coincidentally with these revelations of culpable negligence on the part of mill proprietors and town authorities, whereby a whole community was endangered through the infection supposed to have been brought by rags, we have a bill passed to a second reading in the lower house of the State Legislature, relaxing the precautions now by law required in such matters, and providing that an unvaccinated pupil may be allowed to attend public schools on the certificate of two reputable physicians that "it is not advisable to vaccinate such child and that no injury to the public health is likely to occur from the admission of such child to the public schools." If a child's health is not good enough to admit of his vaccination, is it good enough to warrant sending him to school unvaccinated, and can it be true, whether certified to by "reputable physicians" or not, that school attendance of unvaccinated children, exposed as they are in manufacturing towns to multiple sources of contagion, is likely to cause "no injury to the public health?"

The report to the Boston Board of Health by Dr. J. H. McCollom, City Physician, as to the recent cases in the mill of the Parsons Paper Co., at Holyoke, — which was incorrectly outlined in two of the daily papers before it was rendered, but has not been forced into publicity since — agrees substantially with the facts heretofore laid before our readers. Of the two kinds of foreign rags used in this mill, those from Germany bore the certificate of the United States in-

spector that they had undergone (sulphur) disinfection. The other kind consisted of Russian rags, sorted and packed at Königsberg, whither they were brought ungraded, and where they lay in store for months before being baled. They were sorted into nine or ten different grades and the importers averred that no case of small-pox had occurred among their workmen for years, or "was known to exist" (*sic*) in Königsberg.

The special committee of the American Public Health Association to which were referred the resolutions of the Philadelphia Board of Health regarding the importation of infected rags, reported a resolution at the meeting in December, 1885, which after considerable discussion was referred back to the same committee with enlarged numbers for further consideration. At the meeting in 1886, the committee made a report which has just been published by the association. In this report the various infectious diseases are grouped together without any special order, and with no attempt at distinction from one another, but the actual cases of reported infection are seen to be nearly all small-pox.

In this report Dr. George M. Sternberg, the well-known bacteriologist, was extensively quoted as in favor of the compulsory disinfection of *all* rags, he having said in a letter, under date of March, 1885, "my studies relating to disease-germs leave no doubt in my mind as to the possibility of the importation of the germs of cholera, malignant pustule, small-pox and yellow fever in old rags whether baled or otherwise." Another letter from the same gentleman, however, written December 22, 1886, with reference to this report of this committee and by vote published as an addendum thereto, says: "I am not by any means as positive with reference to the necessity for disinfecting all rags as I was two years ago." He goes on to say that he has had a recent opportunity to study the methods of rag collection and shipment abroad, and that he finds that the cost of land transportation is an effectual bar to removal of rags to be shipped from a port other than one near which they were gathered. The remainder of the letter, which is rather a long one, reviews the general subject, and he concludes that during an epidemic of cholera he would exclude all rags from infected ports, and disinfect by steam, before export, rags shipped from healthy ports; but that in the absence of prevailing epidemics he would not treat rags differently from other merchandize.

The forthcoming report of the State Board of Health of Massachusetts contains an inquiry into the transmission of infectious diseases through the medium of rags, by Dr. Charles F. Withington. The paper which, as we observe from advance sheets, will occupy some seventy pages of the report, after giving a description of the gathering and treatment of foreign and domestic rags from a commercial and industrial point of view, and a historical sketch of the sanitary regulations in the United States and various European countries on the trade in rags, during times of epidemic disease, proceeds to a consideration of the recorded

evidence of infection through rags, for various diseases, giving enough of the literature to establish the fact that such infection has at times occurred. The conveyance of small-pox through this channel is abundantly shown. As to cholera the author finds *no case* in which the disease was shown to have been transmitted by foreign baled rags. The three instances cited in the Report of the Cholera Epidemic of 1873, published by order of Congress, which have been claimed by the advocates of universal disinfection, as proof of transmission of the disease by rags, were caused, if through fomites at all, by *clothing* of immigrants, and there is reasonable doubt in at least one of the cases if the disease was not contracted by direct infection through persons. Other cases are given where clothing was apparently the channel of infection, notably those on the ships *Swanton* and *New York* in 1848, on both of which immigrants opened their boxes of clothing while at sea, and were at once attacked with cholera. So, too, Dr. Ruysch's cases reported to the Hague conference, resolve themselves into six in which the source of infection is definitely stated to be clothing, and three in which the only evidence against rags is that rag-pickers were the first persons in the community to be affected.

Only one case remains, and that is the somewhat noted one, at Kriegstetten, Switzerland, where the infection was ascribed to rags, brought only sixty miles out from Zurich, and of course not subjected to any of the processes which afford protection against foreign baled rags.

Four instances, all occurring in Germany and Austria-Hungary, are given of epidemics of "rag-sorter's disease" which we understand to be simply anthrax, of which rags afford a far less serious danger than the hides and wool which commonly transmit that disease in this country.

The original observations recorded in this paper bear out in general the above facts. The source of rags causing small-pox is always difficult to determine with certainty, for the reason that in most paper-mills both foreign and domestic rags are used, all are dusted in the same machines, and the sorters work alternately on them, or at least are protected from exposure to neither class.

Of the physicians who answered the inquiries made on this point, five expressed uncertainty; three said probably foreign; five foreign; and eight domestic. It is probable that the grounds upon which these replies were made were all more or less conjectural rather than demonstrable. But it seems to us that what is known of the tenacity of life of the variolous poison makes the attempt to differentiate between the culpability of foreign and domestic rags, in this one point, rather nugatory. There being confessedly in the aggregate quite a number of cases of small-pox infection through rags, it is probable, even though in the nature of the case the exact proportion cannot be traced, that some of the offending rags are domestic and a smaller proportion are foreign, less of the latter

being in use than of the former. This is not by any means to admit the same thing regarding cholera, whose transmission by rags appears to have occurred, if at all, in but one case — and that not from baled rags. The infectious principle of cholera is of such a character that it is likely to be killed by just the processes involved in the sorting and baling of foreign rags, namely, much handling, drying, etc., and especially length of time.

The inquiry of Dr. Withington revealed no instances of transference of other affections, nor of greater ill-health among rag-sorters than in other mill operatives. A series of charts are given showing the mortality for a series of years, from various infectious diseases, scarlet fever, diphtheria, measles and typhoid fever, for a group of paper manufacturing towns compared with the State at large, and for a smaller group of exclusively paper towns compared with an equal number of similarly situated towns devoted to other branches of manufacture. The curves show no preponderance of disease in either class of towns except in the case of small-pox and possibly in that of typhoid fever.

Investigations as to the requirement of vaccination showed in some cases a lamentable slackness, in this regard, among mill owners, though it should be said that the greatest laxity was found in mills outside of Massachusetts. Inquiries as to the usage of hospitals in their disposition of soiled and infected rags showed in the main a satisfactory state of things, though one or two hospitals, instead of burning such rags, merely throw them into ash barrels, where they are probably for the most part rescued by rag-pickers and so find their way to paper-mills.

In a word, the great danger to public health from rags is small-pox. The best preventive we know against this danger is vaccination, not disinfection of rags. With vaccination, other means of protection are more or less superfluous; without it they are inadequate.

THE ADMINISTRATION OF QUININE IN INTERMITTENT FEVER. ARE THE PHYSIOLOGICAL ACTION, AND THE THERAPEUTIC ACTION COINCIDENT?

ALL physicians are agreed as to the utility of quinine in intermittent fevers, and whatever scepticism may exist with regard to the usefulness of medicines in general, no one doubts that the alkaloids of cinchona are efficacious in malarial diseases. Nor is there much difference of opinion as to the doses required.

There is not the same unanimity as to the period when sulphate of quinine should be given in order that the utmost benefit may be derived from it. Junior practitioners are apt to experience some bewilderment on finding that for a long time three great methods of administering bark (or quinine) have prevailed; all differing somewhat in details. There is, first, the method of Torti, called the Roman method, then that of Sydenham, called the English method, and finally

that of Bretonneau, called the French method. Torti gave his cinchona bark (quinine was then unknown) immediately *before* the ague fit. He prescribed two or three drachms of the powder in one dose, then he let the patient rest two days, then gave for two days in succession one drachm, and after an interval of a week, half a drachm every day for a week. Sydenham administered one large dose (3iii.) of bark (which he called "febrifuge powder") after the paroxysm, and repeated the same dose every four hours, till the time of the next chill, then let the patient rest a week when he recommenced the treatment. Bretonneau and Trousseau, who lived after the discovery of quinine, began the treatment with one large dose of sulphate of quinine, which they gave immediately after the attack; this is also Briquet's method, who urged that at least fifteen hours should elapse between the giving of the dose and the ague fit which he wished to prevent.¹

Dujardin-Beaumetz, in commenting on the views of these French authorities, thinks that the space of time which separates the administration of the massive doses from the onset of the chill is too long, the physiological effect will have worn off; and he recommends to give the quinine, not immediately after the ague fit, but three or four hours before. When the fever is tertian (which is the most frequent type) he would give the quinine every other day, in one dose of half a gramme to a gramme — enough in fact should be administered to prevent the expected attack. This was also substantially the method of Gubler, who gave his quinine five or six hours before the time for the chill, as it takes about that time for the physiological action of the alkaloid to attain its maximum. Sometimes he would begin the treatment the night before the looked-for return of the chill (the patient being allowed exemption from medicine on apyretic days); at bedtime he would give the patient twenty-five centigrammes in one dose, and followed it by another equal dose in an hour; the next morning another twenty-five centigramme dose would be administered, and with this entire quantity of seventy-five centigrammes, thus given in anticipation of an attack, he was generally successful in throttling the malady.

Torti, Sydenham, Bretonneau, Trousseau, and Briquet, agree in this, that the massive doses of quinine should be given a long time (at least fifteen hours) before the ague fit which they desire to prevent. Gubler and Dujardin-Beaumetz, believing that the physiological and therapeutical effects are the same, lasting at the most not more than six hours,² do not rely on one large dose administered fifteen hours or so before the chill, but prescribe several repeated doses, of a fraction of a gramme, began near the time of the anticipated fibrile crisis.

We may remark, in concluding, that American practitioners have generally adopted the method of Bret-

onneau, Briquet, and others, whose experience has taught them that quinine proves most effective when given as near as possible to the paroxysm which has passed. Flint thinks that if the antiperiodic be given in the sweating stage, the chances of preventing the next paroxysm are greater than if the administration be delayed till after this stage. As regards doses, he says, the most effective plan is to give the remedy so as to produce evidence of cinchonism as speedily as possible. One full dose of ten to twenty grains will generally accomplish this; he prefers, however, the method of giving smaller doses — five grains to an adult, every two hours until cinchonism is produced. By this method of treatment, he affirms, in a case of quotidian type, the chances that another paroxysm will or will not occur are about even. In a case of tertian type, the chances that another will not occur preponderate.³

Bemiss⁴ follows substantially the same line of treatment. Beginning with the sweating stage, he gives three grains of quinia every hour till eighteen grains have been taken.

Stillé endorses the same method and remarks that "the anti-febrile influence of quinia does not coincide with its physiological operations, either in time or in degree." The physiological "cinchonism," for instance, will often have passed off, when the therapeutical effects are most apparent. He considers as sufficiently disproved the theory that the antiperiodic action of quinine is due to its sedative influence upon the nervous system.⁵

THE MISSION OF A MEDICAL SOCIETY.

IN an article published in this JOURNAL, June 8, 1882, attention was called to the changes which had then been only recently inaugurated in the manner of conducting the meetings of the Suffolk District Medical Society, as the local body representing the Massachusetts State Society. The change then commented upon was the division of the large and somewhat cumbersome State Society, as represented by its membership within the District of Suffolk (about 350 at that time), into smaller bodies or Sections, devoted to the various more prominent divisions of medical and surgical practice. The plan, at that time, had been recently adopted, but the result was already much greater than the most ardent advocates of the Sections could have expected.

After a period of five years, it is possible to determine the influence of the division of this District Society, and to estimate the practical advantages or disadvantages of the system of Sections. During this time the great bulk of public medical work of the members of the State Society in this District has been done in the subordinate bodies, that is, in one or another of these Sections. There are three at present

¹ Gubler. *Leçons de Théraputique*, 1880, p. 374; D.-Beaumetz. *Leçons de Clin. Ther.*, t. iii, p. 781; Briquet. *Traité Théraputique du Cinchona*, etc., p. 500.

² Gubler. *Loc. cit.* p. 373; Dujardin-Beaumetz. *Loc. cit.*

³ Flint's *Practice*. Third Edition, p. 862.

⁴ Pepper's *American System of Medicine*, Vol. I.

⁵ Stillé. *Therapeutics and Materia Medica*, Vol. I, page 460.

in successful operation: that for Clinical Medicine, Pathology, and Hygiene; that for Surgery; and that for Obstetrics and Gynecology. In all these bodies there has been an abundance of scientific material for discussion at each of their regular sessions; and in some of them, notably that for Clinical Medicine, extra meetings have become necessary on more than one occasion, in order to bring the papers which have been freely offered, before the Society. The system may no longer be regarded as an experiment, but has abundantly proved its usefulness, and would now be sadly missed were its career to be interrupted. The fact is surely demonstrated that the large body of physicians residing in this District can work to much greater benefit for each and all when they are able to meet in smaller bodies, each of which may be devoted to the special consideration of some definite portion of medical practice, than when the whole body of practitioners was summoned at each meeting, where only a portion might be specially interested in the proceedings. The effect of the divisions has been to afford more frequent opportunities for gathering together, and has called out, on the whole, a far greater number of the physicians to the meetings than was the rule under the old system. The various Sections have slowly advanced in favor with the members of the Society at large, until now there are probably very few who do not consider their establishment a decided advantage to the Society itself, as well as to the individual members of the Suffolk District.

One of the most valuable indications of the healthy influence which the system of Sections has exerted upon the general profession is seen in the fact that the younger members of the Society are actively engaged in valuable work, and that they are encouraged to bring the fruits of their labors before their colleagues for their mutual benefit. There is a feeling that good work is gladly accepted from any source. It is safe to say that at no former time in the history of the Suffolk District Society has there been developed so healthful an activity among all its members, and among the profession at large, as now exists, and certainly at no previous period has there been anything approaching the amount of valuable work accomplished by the Society in its divisions as Sections, or as an individual body. The Sections are now in good working order, and are fulfilling the highest mission of such an organization. There is little of idle material in their composition, and all seem to be working for the best interests of the profession, which alone should be the aim of such a society.

The officers of the various Sections, as well as those of the general Society, are devoted to their work, and their efforts have always been generously and heartily seconded by the members. The reports of the meetings are quite full, and their production is accompanied by an amount of care, and at an expense of time and energy which speaks well for the diligence and integrity of the various secretaries. One very much needed

improvement in the Sections would be the employment of a professional shorthand writer, who should relieve the secretaries of much of the mere routine work, and thus enable them to add still more to the general efficiency of the work done at the meetings. The union of the various Sections in this effort would be the means of benefit to each, and the expense would not be a matter of any considerable importance.

We have thus passed in review the main features in the short history of the Sections, with suggestions for the further improvement of their work, and a more extensive degree of usefulness from their labors. It is not to be thought that they have yet arrived at the highest attainable degree of utility; and what has been already accomplished is only an indication of the way in which we should continue to push our efforts, trusting that another five years will show even greater results than those already accomplished. With a continuance of the loyal support thus far accorded to the Sections by the profession, this will certainly be effected. There was never a time when the work of medical progress was carried on with a greater degree of enthusiasm than at present, and there never was a time when the promise for positive and valuable results was so flattering as now. We are glad to notice among other District divisions of the Massachusetts Medical Society, though, it must be confessed, in a lesser degree, the same desirable tendency to an awakened activity.

HOSPITAL SATURDAY AND SUNDAY ASSOCIATION OF NEW YORK.

THE eighth annual report of the Hospital Saturday and Sunday Association, which has just been published, shows that the collection of 1886 presents an increase from its various sources, both secular and religious, in almost equal proportion. The total collection for 1886 amounted to \$53,051.98, as against \$46,085.33 in 1885, and \$36,542.75 in 1884.

When the work was first organized, the offerings from the churches came almost altogether in the form of designated gifts to particular institutions having specific denominational connections, so that this class was inordinately favored above institutions of an undenominational character. Without positively refusing designated gifts, the Association has worked steadily to discourage them, as out of harmony with the broadly humanitarian spirit of the movement, and, as events have proved, with excellent success. In the collection for 1880, for example, the designated portion constituted 45 per cent. of the whole collection, and 80 per cent. of the church collections, from which source they were chiefly derived. In the last collection, on the other hand, the designated gifts to denominational institutions had fallen from 45 per cent., in 1880, to 24 per cent. of the total collection, and from 80 to 33 per cent. of the church collections — a rate of decrease, which, if maintained, will, in a few more years, see this form of donation entirely eliminated

from the collection. Attention is also directed to the gifts of ladies in the last collection, and the hope is expressed by the Association that, out of this beginning in special interest on the part of the women of New York, there may eventually result a helpful ladies' auxiliary.

As heretofore, the Episcopal church, by members of which the hospital collection was originated in this country, continues to be by far the most liberal in its contributions to the Association. These amounted, in the last collection, to \$16,578, or nearly one-third the entire sum collected from all sources. Next come the Presbyterians, with \$6,458; the Congregationalists, with \$3,520; the Israelites, with \$1,602; the Methodists, with \$1,402; the Reformed (Dutch), with \$1,262; none of the other denominations giving as much as a thousand dollars.

The Roman Catholics have never entered to any extent into this movement, and the total contribution from them is only \$168, which is specially designated to an institution under the direction of that church. From religious sources, the whole amount contributed is \$32,784.66; and from secular sources, \$20,267.32.

MEDICAL NOTES.

— A device has been patented in England for the combustion of sewer-gases, which is said to act perfectly.

— Dr. A. Meynot has given the Académie de Médecine 70,000 francs for the foundation of two annual prizes; one for studies on diseases of the eyes, and one on diseases of the ears.

— A Norwegian physician named Mohn, discovered after disinfecting the bedding of one of his own children who had suffered from scarlet fever, that another child who had whooping-cough and who accidentally inhaled some of the fumes of the sulphur, was suddenly cured of the disease. Acting on this suggestion, he has treated other cases of pertussis by placing the patients in a room where sulphur had been burned in the usual manner in which it is employed for disinfectant purposes. He claims that after being put to bed in such a room, the patients awake the next morning cured.

— The *New York Sun* tells a pretty story of a woman who was carrying three leeches home, in a street-car, from an apothecary's for her sick husband, when one escaped from the box and fastened upon her wrist. Piercing shrieks from the lady called the attention of the passengers to the mishap. One man, unusually bold, went to the rescue and removed the creature, but on replacing it in the box it was found that the other two had also escaped. A general panic ensued with screams and mounting of seats by the female passengers, each of whom imagined she was wearing one or both of the other two leeches. A semblance of peace was restored only

when the missing creatures were found in the matting of the car. Their spirit was broken and their functional usefulness past restoration, but the sick man for whose swollen leg they were intended, on hearing the story, laughed till the swelling went down.

BOSTON AND NEW ENGLAND.

— The lectures by Dr. J. S. Billings on the History of Medicine before the Harvard Medical School will be delivered at the school building on Boylston street, on the 4th, 5th, 6th, 9th, 10th, and 11th of May, at 7.30 P. M., in lecture-room C.

— *A Marine Biological Laboratory.* — A laboratory was established at Annisquam, on Cape Ann, in 1881, by the Woman's Educational Association, with the co-operation of the Boston Society of Natural History, for students in zoology and botany, and especially for such as desired to become teachers. Since then, instruction has been given to 102 students, men and women, but the instruction has been almost wholly gratuitous, and the equipment meagre.

It is desired to extend the facilities offered by this laboratory, and to place it upon a more permanent basis. At a meeting recently held, which was attended by a number of naturalists, most of them officers of the New England colleges, it was resolved to try to raise \$7,500, to pay for a location, building, and equipment, and as much more to carry on the work of such a marine biological laboratory, as is proposed, for five years. A Committee was appointed, of which Prof. Alpheus Hyatt is Chairman, and Miss Phillips, 23 Marlboro Street, Boston, is Secretary. Subscriptions may be sent to Samuel Wells, Esq., 31 Pemberton Square, Boston.

— A most important addition is to be made to the Hemenway Gymnasium, at Harvard College, through the generosity of two gentlemen, the name of one of whom is not announced, the other of whom is Mr. Henry R. A. Carey, of New York City, a special student. The latter has given the College \$25,000, to be used in erecting a swimming bath at the rear of the gymnasium. There was a brief agitation of the subject last spring. Borings were made, and water was found in abundance. Plans were drawn up, and it was hoped that the building might have been erected and in use during the winter; but funds were lacking, and the scheme had to be given up. The gift of Mr. Carey will enable the College authorities to erect a handsome, well-equipped building at once. The usefulness, and even necessity, of a swimming bath has been felt for a long time, and it will be a great addition to the present facilities for gymnasium work and exercise. There are no swimming baths connected with any college gymnasiums at present, though it is said that there are quite a number in operation in the various large cities. Dr. Sargent highly approves the idea, and has advocated it for years. Operations will be begun immediately. The following description of the contemplated building is given: It is to be about 100 feet long by 60 feet broad. It will stand immedi-

ately back of the gymnasium, between the Jefferson Physical Laboratory and the Law School. The building will be of brick, and of a style of architecture to harmonize with that of the gymnasium. A covered passage-way will connect the two buildings, in order that the students exercising in the gymnasium may take a plunge without leaving the building. Moreover, all of the 974 lockers at present in the gymnasium are to be moved into the new building, and their space used for a larger fencing-room, and for added athletic appliances. The small douche-room is to be moved into the new building, or rather, a new one will be built, which will contain improved apparatus. The entire cost of the building, including the gift of Mr. Carey, will be about \$75,000. Besides the bathing and dressing facilities referred to, the new building is to have a perfectly-equipped racquet court. It is hoped that the building will be ready for use by the beginning of the next college year.

NEW YORK AND NEW JERSEY.

—Columbia was not as generous to the profession with her honorary degrees, on the occasion of her recent anniversary celebration, as Harvard was; the only two medical men on whom such degrees were conferred being Helmholtz, of Berlin, and Dr. John C. Dalton, President of the College of Physicians and Surgeons, of New York.

—The new library building, which is to be erected at Yale, through the generosity of the Hon. Simeon B. Chittenden, of Brooklyn, is intended as a memorial of the only daughter of the donor, who was the first wife of Prof. W. T. Lusk, of New York. The building, which will be the first of four or five semi-detached structures around the main library of the University, to be erected as occasion requires, will contain a handsome memorial window bearing the name of Mrs. Lusk, who is said to have been born a short distance from the spot.

—On account of the steady increase of diphtheria during the past few years, a number of prominent physicians have organized a movement to a hospital, to be devoted exclusively to cases of this disease.

—At the request of President Bayles, of the Board of Health, a census of dwellings for the poor, stables, etc., has been made, which shows that below One Hundred and Thirtieth Street, there are 28,977 tenement-houses, 316 lodging-houses, 4,576 stables, 5,522 vaults, 10,164 school-sinks, and 14,369 closets.

—About four weeks ago, measles broke out in the Brooklyn Nursery, on Herkimer Street, Brooklyn; and since that time, thirty-five out of the fifty inmates have had the disease, while the number of deaths from it has reached nine. The age of the children ranges from six months to four years, and the disease is said to have been introduced into the institution by two children who were in good health at the time of admission, but who had already been exposed to the infection of measles.

—On April 11th, the corner-stone of the Townsend pavilion annex to Bellevue Hospital was laid, with appropriate ceremonies. The new building is designed especially for cases of abdominal surgery among women, and Dr. W. Gill Wylie is to be the surgeon in charge. It is generously erected as a thank-offering by Mrs. R. H. L. Townsend, of New York, in gratitude for the success attending an operation upon herself, and will be under the supervision of a committee of ladies belonging to Calvary Church. It is to be a two-story, cottage-like structure, with a frontage of seventy feet on First Avenue, and will cost about \$7,000.

—Last week, a very successful kirmess was held at Paterson, N. J., for the benefit of the Ladies' Hospital of that place, and it is believed that about three thousand dollars will be received by the institution from the proceeds.

PHILADELPHIA.

—The Commencement Exercises of two of the medical schools took place last week. At the Sixty-Second Annual Commencement of the Jefferson College, which was held April 5th, Prof. Holland delivered the valedictory address, and 187 students were graduated. The Alumni Oration was given by Prof. Hunter McGuire, of Richmond, Va., on the night preceding the Commencement. His subject was the "Progress and Development of Medical Science." The lecture was held in the Hospital of Jefferson Medical College; subsequent to the lecture a reception was tendered Dr. McGuire at the Bellevue Hotel by the Alumni and friends.

—The Sixth Annual Commencement of the Medico-Chirurgical College was held on the 7th inst. Prof. P. D. Keyser delivered the Valedictory Address and Prof. Dudley S. Reynolds, of Louisville, Ky., and President of the Mississippi Valley Medical Association, delivered an Alumni Oration on "Medical Teaching, Past and Present." A dinner was afterwards held at the Colonnade Hotel, at which there were 210 covers; this is believed to be the largest entertainment by a medical college ever given in this city.

—The cause of higher medical education is not allowed to languish here, and it is quite evident to those whose observation extends over several decades that students are worked harder, longer, and to more practical ends than ever before. The examinations are more carefully conducted and are more thorough year by year. An effort has been made by the State Medical Society, by appointing a Committee on the subject, to have a State Board of Examiners and Licensees established, who alone shall confer the privilege of medical practice. Unfortunately, this has met with some opposition, both open and secret, from the colleges, who consider that they have some vested rights which are imperilled. A Matriculation Board to pass upon the preliminary qualifications of the student before permitting him to register, would probably be even less acceptable to the schools, but would

greatly aid in improving the standards of medical education and practice.

—The surgical practice of the Pennsylvania Hospital, one of the oldest and most conservative of American hospitals, has been so improved by the introduction of antiseptic dressings and methods that it is believed to be impossible for a surgeon who does not use antiseptics to be elected a member of the staff.

—Dr. William Hunt, one of the prominent surgeons of the city, met with a serious injury lately. While walking across a street he was knocked down and run over by a wagon, by which he incurred fractures of the humerus and clavicle, and severe contusions. He is slowly recovering from the accident, but will be crippled for some time to come.

—Dr. W. W. Keen, of St. Mary's Hospital, has recently performed a laparotomy for gunshot-wound of the abdomen, the subject being a woman living in Vineland, N. J., not far from this city. The patient perished finally with peritonitis, which was attributed to the presence of effused blood in the peritoneal cavity, occurring prior to operation. The autopsy showed perfect union of the wounds which had been ligatured. Dr. Jos. Hearne performed the same operation upon a boy, wounded by a toy rifle, on the 15th inst., but

the liver was wounded and the hemorrhage had been profuse; the patient scarcely survived the operation.

Correspondence.

THOUGHT-TRANSFERENCE.

Boston, April 14, 1887.

MR. EDITOR,—I had not thought my remarks on the subject of thought-transference at the meeting of the Clinical Section of the Suffolk District Medical Society, of sufficient importance to trespass on your space by correcting a mistake in the report, but as Mr. Gurney has taken notice of them, I feel that it is only just to answer his criticism.

In connection with Dr. Royce's suggestion that telepathy might be "a persistent trait of a former less cultured condition of the mind, a rudimentary characteristic," I called attention to the fact that the phenomena of transfer of sensation, and the curious phenomena of hypnotism were produced chiefly in hysterical patients, and those whom Féré termed "*dégénérés*,"—people whose nervous development was in some way defective,—and I added that it would be of interest to know whether the subjects of telepathy belonged to the same class. The subjects of hypnotism and the subjects of telepathy are both probably few in number, but nothing could have been farther from my intention than to speak of the latter, of whom I have no personal knowledge, as "the subjects of morbid mental or moral conditions," or to class them as "weak-minded."

Yours truly,

PHILIP COOMBS KNAPP, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 9, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	771	274	15.99	19.01	1.82	8.58	1.30
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	318	126	15.81	11.47	1.86	6.82	2.79
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	156	58	7.04	10.88	.64	—	.64
Boston	400,000	205	75	9.31	16.66	1.96	2.45	1.95
New Orleans	242,750	124	34	16.21	17.82	6.48	3.24	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	89	36	7.44	24.80	2.48	1.24	1.24
Pittsburgh	210,000	84	36	21.61	26.18	—	4.76	4.76
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	55	29	9.10	12.74	—	7.28	—
Providence	121,000	47	23	27.69	17.04	4.26	4.26	17.04
Richmond	100,000	36	14	13.90	13.90	—	—	2.78
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	29	7	17.25	20.70	6.90	—	3.45
Portland	40,000	10	2	—	—	—	—	—
Worcester	68,383	23	8	—	—	—	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	22	2	4.35	4.35	—	—	4.35
Fall River	56,863	20	11	10.00	—	—	5.00	—
Lynn	45,861	19	5	5.26	26.30	—	5.26	—
Lawrence	38,825	15	3	—	—	—	—	—
Springfield	37,577	15	2	20.00	13.23	—	6.66	—
New Bedford	33,393	7	1	14.28	—	—	14.28	—
Somerville	29,992	3	1	66.66	—	33.33	—	—
Salem	28,084	15	5	—	—	—	—	—
Holyoke	27,894	10	5	30.00	10.00	10.00	—	20.00
Chelsea	25,709	14	1	7.14	—	—	—	7.14
Taunton	23,674	8	—	—	12.50	—	—	—
Haverhill	21,795	9	2	—	11.11	—	—	—
Gloucester	21,713	1	0	—	—	—	—	—
Brockton	20,783	5	2	20.00	20.00	—	—	—
Newton	19,759	5	2	—	—	—	—	—
Malden	16,407	5	2	—	10.00	—	—	—
Fitchburg	15,375	8	0	—	37.50	—	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Newburyport	13,716	8	0	—	25.00	—	—	—
Northampton	12,896	5	2	—	—	—	—	—

Deaths reported 2,149; under five years of age 777; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 298, acute lung diseases 476, consumption 305, diphtheria and croup 112, measles 45, diarrhoeal diseases 41, malarial fever 24, typhoid fever 18, scarlet fever 17, cerebro-spinal meningitis 12, whooping-cough 11, puerperal fever nine, erysipelas eight, small-pox one. From malarial fevers, New Orleans eight, Brooklyn six, Baltimore five, New York four, Charleston one. From typhoid fever, New York and Pittsburgh, five each, Boston, Richmond, and Worcester two each, Baltimore and Springfield one each. From scarlet fever, New York seven, Brooklyn and Boston three each, District of Columbia, Pittsburgh, Providence, and Brockton one each. From cerebro-spinal meningitis, New York seven, Boston, Baltimore, Worcester, Fall River and Somerville one each. From whooping-cough, New York, Brooklyn, Baltimore and Richmond two each, Pittsburgh, Newport, and Charleston one each. From puerperal fever, New York and Pittsburgh three each, Brooklyn two, Springfield one. From erysipelas, New York four, Brooklyn, District of Columbia, Pittsburgh and Milwaukee one each.

In the 20 cities and greater towns of Massachusetts, with a population of 973,945 (population of the State 1,941,465) the total death-rate for the week was 21.95 against 22.22 and 23.72 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending March 26th, the death-rate was 23.5. Deaths reported 4,155: infants under one year of age 899; acute diseases of the respiratory organs (London) 509; measles 223, whooping-cough 97, scarlet fever 46, diarrhoea 35, fever 32, diphtheria 26.

The death-rates ranged from 16.1 in Derby to 35.4 in Manchester; Birmingham 20.5; Bradford 24.6; Hull 29.4; Leeds 21.5; Liverpool 28.7; London 21.3; Newcastle-on-Tyne 21.6; Nottingham 21.2; Portsmouth 21.2; Sheffield 22.3.

In Edinburgh 24.6; Glasgow 28.5; Dublin 31.3.

The meteorological record for the week ending April 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 9, 1887.	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 3	29.880	44.0	52.0	30.0	55.0	33.0	53.0	47.0	W.	W.	S.W.	17	12	11	C.	C.	O.	—	—
Monday, ... 4	29.800	41.0	62.0	37.0	78.0	69.0	100.0	82.0	S.	E.	N.E.	12	10	10	O.	C.	G.	—	—
Tuesday, ... 5	29.795	36.0	47.0	30.0	94.0	54.0	53.0	67.0	W.	W.	W.	6	22	15	R.	F.	O.	—	—
Wednesday, ... 6	30.122	32.0	40.0	23.0	57.0	32.0	46.0	45.0	N.W.	N.W.	W.	20	22	8	C.	C.	C.	—	—
Thursday, ... 7	30.456	36.0	42.0	28.0	57.0	24.0	35.0	39.0	N.W.	N.W.	N.W.	8	14	10	C.	C.	C.	—	—
Friday, ... 8	30.574	37.0	46.0	25.0	49.0	60.0	65.0	58.0	N.W.	S.E.	S.W.	6	6	12	C.	C.	C.	—	—
Saturday, ... 9	30.226	52.0	65.0	35.0	68.0	34.0	60.0	54.0	W.	W.	S.W.	14	14	18	F.	F.	F.	7	.03
Mean, the Week.	30.123	40.0	50.0	29.0				56.0											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 9, 1887, TO APRIL 15, 1887.

KANE, J. JNO., captain and assistant surgeon. Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

RICHARD, CHARLES, captain and assistant surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

WALKER, TRUMAN V., first lieutenant and assistant surgeon. Ordered from Fort McIntosh, Tex., to Post of San Antonio, Tex. S. O. 45, Department of Texas, April 11, 1887.

The Army Medical Board, New York City, New York, is dissolved. S. O. 82, A. G. O., April 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 16, 1887.

GRIFFITHS, S. H., passed assistant surgeon. Detached from the United States Steamship "Lancaster," and waiting orders.

HIBNETT, C. T., passed assistant surgeon. Detached from duty on Iron Clads, City Point, Va., and waiting orders.

MARSTELLER, F. H., passed assistant surgeon. Ordered to duty on Iron Clads, City Point, Va., the 20th instant.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, April 26, 1887, at 7.45, P.M. "The Rosindale Disaster," "Nature of the Injuries," Clement W. Sparhawk, M.D. "Head Injuries," Henry W. Broughton, M.D. "Appliances useful in such an Emergency," Harold C. Ernst, M.D. "Personal Experiences, and Lessons of the Disaster," Joseph Stedman, M.D. "Injuries to the Back, and Effect of Shock upon the Menstrual Function," E. Peabody Gerry, M.D. (To be announced), Charles R. Whitcombe, M.D. If time is insufficient for a satisfactory consideration of all the above subjects, the last one or two will be postponed to the meeting of May 10th. Members of other District Societies are cordially invited to be present.

S. ALLEN POTTER, M.D., Secretary.

ERRATUM.

In the article of Dr. Channing, published last week, for the statement (p. 251), that the Columbus, Ohio, Asylum was built fifty-eight years ago, read *forty-eight* years ago.

APPOINTMENT.

Prof. R. H. Fitz, M.D., has been appointed Visiting Physician to the Massachusetts General Hospital.

DEATHS.

Died in Providence, April 18th, E. T. Caswell, M.D., formerly President of the Rhode Island Medical Society and Surgeon to the Rhode Island Hospital, aged fifty-three years.

Died in Roxbury, Boston, April 16, 1887, John Sydenham Flint, M.D., M.M.S.S., aged sixty-three years.

Died in Melrose, Mass., April 18, 1887, Joshua Vincent Smith, M.D., M.M.S.S., aged forty-one years, seven months.

OBITUARY. ANANDABAI JOSHEE, M.D.

The news of the death of Dr. Anandabai Joshee, from phthisis, at Poona, India, February 25, 1887, has just reached us. Some notice of this remarkable woman was made in the JOURNAL last June, which its readers may remember. Dr. Joshee was a high caste Brahmin lady, the only one who has ever received a full medical education. Her life was a remarkable one. Born and brought up in a land where woman's social position is a degraded one, she was married at the age of ten. Her husband, unlike the majority of the Indian men, was a believer in the education of women, and devoted himself to instructing her not only in the ordinary branches but in many of the higher ones also. In the spring of 1883, at the age of nineteen, she started alone for America, and in the fall of that year began to attend lectures at the Woman's Medical College of Pennsylvania. She graduated in March, 1886, standing well in her class, and then came to Massachusetts to fulfil a short appointment at the New England Hospital. Her work there, however, was interrupted by ill health, which continued until she sailed for India. She had received previous to graduation an appointment as Resident Physician to the Woman's Wards of the Albert Edward Hospital, in Kollapur, India, and doubtless had before her a brilliant future, not only in the work she might do personally, but in the immense field which lay before her in ministering to the sick and suffering, and in opening the way to the elevation of her own people. She was a faithful student and a good worker, true to herself and to her religion, and we sincerely deplore her loss so early in her life of usefulness.

Original Articles.

CASE OF ANEURISM OF THE INNOMINATE.¹

TREATED FOR FOURTEEN MONTHS BY REST, DIET, PRESSURE. AND IODIDE OF POTASH, WITH SUBSEQUENT LIGATURE OF THE CAROTID AND SUB-CLAVIAN ARTERIES. DEATH AND AUTOPSY.

BY GEORGE H. LYMAN, M.D.,
Visiting Physician, Boston City Hospital.

JOHN HARRIGAN, a porter, age thirty-eight, and married, entered the City Hospital September 22, 1884. Says he was never sick until eighteen months ago when he was in the hospital for a short time with neuralgia of the head and shoulder. Never drinks to excess and there is no history of venereal disease. Not aware of any strain or injury from heavy lifting. Three weeks before entrance he first noticed a swelling near the right sterno-clavicular articulation which interfered somewhat with respiration and deglutition. Thinks it has increased within three or four days. Painful only on pressure. Right radial pulse very feeble. Has constant sharp pain in the head and shoulder extending down the arm, some dyspnoea noted.

October 9th. Complaints of vomiting and of numbness in the right arm, neuralgia less severe, no pulmonary nor laryngeal symptoms, no dysphagia and the pulse and temperature normal. The inner end of the clavicle is displaced forwards by a pulsating tumor extending from near the centre of the sternal notch to the inner third of the clavicle, and a large fingers' breadth above and below that bone, about the size of a hen's egg, with a soft bruit in the upper part. No thrill. The rise and fall of the inner end of the clavicle perfectly visible. Left pulse normal, right pulse absent. Operative interference having been declined, and the patient being intelligent and in good general physical condition, it was determined to give him the chance of pressure with absolute rest, diet, etc. The need of implicit compliance with instructions being explained, he assented at once, and it may here be said that he followed them without complaint or infringement for the ensuing fourteen months. He was directed to maintain absolute rest upon his back and with much diminished diet to begin with ten grains of iodide of potash in infusion of hops, three times daily. Upon a plaster cast of the tumor heavy sheet lead was moulded and the plates increased to one and one-half pounds.

October 19th. The patient adapts himself with little discomfort to the restraint and is much more comfortable. The iodide increased to twenty grains.

October 24th. Tumor less prominent. Weights increased one-half pound.

October 28th. Sphygmograph shows less tension. Iodide twenty-five grains.

November 7th. A small painful swelling on right of lower jaw due probably to contact with the weight, as it disappeared when they were readjusted.

November 17th. Tumor smaller. Pulsation unchanged. Diet now consists of ten ounces of steak daily and two or three pints of fluid, less than that causing restlessness and discomfort.

November 26th. Iodide increased to thirty grains.

January 1, 1885. Pulse and size of tumor less than at any time. General condition excellent. Iodide to forty grains.

January 14th. The weights have been renewed

from time to time over fresh casts of the tumor, to secure as close adaptation as possible. He is now wearing the fifth cast, weighing 3 and 3-16 pounds. Steak increased to twelve ounces.

January 17th. For the second time has had slight conjunctivitis in left eye with photophobia, for which mild collyria were ordered, and two days later the right eye was similarly affected and a superficial ulcer developed at the inner edge of the left cornea with pain and photophobia. In ten days, under a solution of atropine the eyes recovered so that he could dispense with the shade.

February 28th. A sixth cast to-day shows a manifest diminution in the prominence.

March 12th. General condition good. Has now twelve ounces steak and does not exceed two pints of liquids.

April 1st. A manifest diminution in projection of tumor. Complains the past week of neuralgic pains in the back of the head where the hair has been rubbed thin. These were relieved by a bed-rest slightly elevated. Complains of vertigo which is very annoying.

April 13th. The pains and vertigo are relieved. The six months of treatment have resulted in small but undoubted gain in pulsation, size and hardness.

May 1st. The diet increased to fourteen ounces of solid food. The lower part of the tumor is nearly solid, but the upper part has changed less. A consultation was had with Drs. Gay and Bradford, with reference to the propriety of distal ligation of the carotid, but as there was some apparent and continuous gain, operation was deferred.

June 1st. Below the clavicle the pulsation could hardly be felt, above the clavicle much less and the lateral expansion also. During the summer months he was under the care of my colleagues. At one time aconite was substituted for the iodide and the solid food increased to sixteen ounces. At the end of three weeks he had an attack of indigestion, nausea, vomiting and abdominal pain, the aconite was omitted and the indisposition yielded. On resuming service, October 10th, I found his general condition good, the pulsation below the clavicle entirely gone, and that portion of the tumor solid. Above the clavicle and at the sternal extremity, the pulsation greatly diminished and the clavicle itself was no longer moved by the pulsation.

November 12th. The calipers gave a transverse diameter of two and one-eighth inches; for the sternal end upwards two inches, and an inch to the right a vertical diameter of two and one-fourth inches. Parietes more dense and resisting. Pulsation less forcible and expansive. No bruit nor thrill.

November 20th. Seems strong and was permitted to sit up and move about a little.

November 27th. The experiment of sitting up was not encouraging, as a pulsation in the upper part of the tumor and a thrill in the carotid were developed.

As portions of the tumor had now for some time become quite solid and as no farther improvement could be reasonably expected, without surgical interference by distal ligation of the carotid or sub-clavian, one or both, and to which the patient and his friends willingly assented, he was transferred to Dr. G. W. Gay's service, from the records of which the remainder of this report is completed.

At the time of the patient's transfer to the surgical side, the aneurism extended about two inches above the clavicle, and about three inches towards its outer

¹ Reported at the Boston Society for Medical Improvement, March 28, 1887.

end. There was a bruit, and an expansile pulsation. No pain. Little, if any, hoarseness: no trouble in swallowing or breathing. General condition good. Pulsation in right radial very weak. No numbness or coldness of right hand.

After a careful consideration of the risks of secondary hemorrhage and of shock, it was decided to tie the carotid artery and leave the subclavian for a future operation. The disturbance from the following method of tying large vessels was so slight that in future it would undoubtedly be better to tie both vessels at the same time.

On December 11, 1885, the patient was carefully etherized, no difficulty occurring with his respiration. An incision three inches long was made by Dr. Gay, over the anterior edge of the right sterno-mastoid muscle, extending to the upper edge of the tumor. He then made a careful dissection in the superior carotid triangle, down to the common carotid artery. No ligatures used, thus far, except for a small superficial vein before it was divided. The common carotid artery was laid bare for about three-fourths of an inch just beneath the omo-hyoid muscle, which was partially divided for that purpose. The vessel having been carefully isolated, was surrounded by two braided-silk antiseptic ligatures, about three-fourths of an inch apart. These were tightly tied, and the ends cut off short. The vessels were then divided mid-way between the ligatures, with scissors. The ends of the divided artery immediately retracted, so that there was from half to three-quarters of an inch separation between them. The wound was washed with carbolic solution (1-20), dusted lightly with iodoform, and a small drainage-tube (extending through the deep cervical fascia) fastened in place. The wound was then closed with silk sutures, and a dressing of iodoform and corrosive gauze applied. Good recovery from ether. The only immediate symptoms from the operation were headache on the right side, slight hoarseness, and slight coldness of the right ear. The last-named symptom remained only one day: the headache lasted only two days. On the day following the operation, the radial pulse was found to be a little stronger than before.

The wound was dressed about every second day; the drainage-tube was removed on the third day after the operation, and the sutures on the fourth. No pus was seen at any time, and the wound (including site of drainage-tube) was wholly healed eleven days after operation. The temperature did not rise above 99.9°: the pulse increased from an average of 90 to an average of 110, and subsided in about a week to the former rate.

Examination five days after the operation, showed that the aneurism had shrunk very perceptibly above the clavicle, and that the pulsation was weaker.

The right radial pulse was the same as before the operation. Patient continued very comfortable, requiring no opiates; had no further cerebral or neurotic symptoms. About eight weeks after the operation, complained of a little pain about the right shoulder and arm; he thought arm was stiffer and more numb than previously. Had slight headache once or twice. Increase in size of aneurism very noticeable. Pulse in right radial has diminished in strength for ten days past.

After another consultation of the staff and desire expressed by the friends for further operative measures, it was decided to tie the subclavian artery.

February 9th (sixty days after ligation of the com-

mon carotid), ether was again given, and Dr. Gay made an incision about three inches long, just above and parallel with the clavicle. From the middle of this incision, a second one about an inch long, was carried perpendicularly upward. Considerable difficulty was experienced in finding the subclavian, in the course of which, a large vein, deep in the neck, was cut and ligatured. One branch of the cervical plexus was also divided. The artery was finally found, lying very deeply and about an inch higher than its usual position. The vessel was tied in two places with braided silk, and then cut across between the ligatures, the ends separating by retraction, about half an inch. A smaller artery anterior to the subclavian was also tied in like manner. The difficulty in finding the subclavian was largely due to the disturbed relations of the parts, caused by the pressure of the aneurism. A drainage-tube was inserted, the wound closed with sutures and dressed with iodoform and gauze.

After the operation, the right hand was numb, and somewhat painful: no radial or ulnar pulse on that side. Hot fomentations relieved most of the pain in hand and arm. The temperature did not rise above normal. Five days after the operation, the wound had healed by first intention, except at location of the drainage-tube. The aneurism was of about the same size, but the pulsation was somewhat less than before the operation. The hand was warm, and of good color. The tube and stitches were removed eleven days after the operation. A few drops of pus were then found about the tube: none seen previously. The wound was entirely healed eighteen days after the operation.

March 9th (one month after the operation) a plaster cast of the tumor was taken, and from this was made a lead weight weighing one and a half pounds, oval in shape and slightly larger than the tumor. This was evenly padded on its under surface and kept in place over the tumor by broad straps of adhesive plaster. Six days later, the weight was increased to two pounds, and eight days after that, to two pounds and ten ounces.

May 16th, the aneurism was less prominent than it had been two months before: there was apparently less pulsation. Patient had had unlimited diet and was growing fat.

July 17th, he sat up in bed: six days later he was up with clothes on for an hour.

Comparison of two casts of the tumor; one taken March 9th, and the other June 7th (period of using lead weight), shows quite a marked diminution in the prominence of the tumor.

The patient remained in the hospital at this time, until July 31st; at which time the width of the pulsating tumor on a line with upper border of clavicle was three inches. Vertical diameter was two and a half inches. Pulsation moderately strong; walls of sac apparently pretty thick. No pain. No affection of voice or head, and no dysphagia. One hand strong in grasp as the other.

December 22, 1886, Harrigan was again admitted to Dr. Lyman's service at the hospital. For two months after leaving, he reports that he was comfortable, but about October 1st, he began to be troubled with cough and dyspnea. Not paroxysmal — orthopnea. Expectoration thin and frothy, no blood. Complains of weakness, anorexia, and more or less constant headache. He continued to fail, suffering much from dyspnea and died apparently from exhaustion, December 30th.

Unfortunately only a partial autopsy was permitted. The following is a report of the examination :

Crucial incision made over the sterno-clavicular articulation, the inner end of the clavicle was disarticulated and raised up. The under surface, for the space of an inch and a half was worn away smooth, involving about two-thirds the thickness of the bone, cup-shaped. The inner edge of the first rib, for the space of an inch and a half, was roughened.

The aneurism extended from a point an inch and a half above the clavicle, downwards, backwards, and to the left of the vertebral column for a distance of about eight inches. The trachea and œsophagus were crowded to the left. The antero-posterior diameter of this cavity was about four inches. It was estimated that the sac, after the clot was removed, would hold between one and two pints. The clot was laminated, and was three and one-half inches thick from the top to the cavity, which was filled with black, soft, clotted blood. This cavity would hold about two ounces. The carotid artery was impervious for the space of an inch. The subclavian was pervious for three-fourths of an inch, which was all that was removed. The vertebræ were not eroded, and did not suffer from pressure. The trachea was not diminished in calibre. The carotid and subclavian arteries emerged from the sac on the posterior surface, separated, showing that the aneurism involved the innominate artery.

The above case seems worthy of record as an instance of great relief to painful symptoms, and a positive prolongation of life in a disease necessarily fatal. An aneurism of the innominate with a sac, estimated at the autopsy to be of the capacity of one or two pints, and filled by laminated fibrine to such a thickness as to have a cavity of two ounces only, is interesting in connection with the treatment of aneurismal affections in other localities. It can hardly be doubted that the treatment prolonged life and gave great relief to the sufferer—more than that could hardly be expected in such a locality, as no counter-pressure is available to prevent the expansion of the sac inwards and downwards. Whether galvanic puncture or electricity in any of its forms would have done better is problematical. On the whole, iodide of potassa, with rest, pressure, etc., seems to be as promising as anything. Its mode of action is very uncertain. One would suppose that an excess of alkalinity would be far from desirable, but the assertion of Balfour, that no internal remedy holds out such prospect of relief, is quite in accord with the opinion of many of the best observers. He attributes its effect to its sedative action on the heart, combined with some specific effect upon the fibrous tissues, “by which the contraction of the sac is aided and its walls strengthened and condensed.”²

OVER-DISTENSION OF THE RIGHT VENTRICLE, WITH A REPORT OF SIX CASES TREATED BY LEECHES.¹

BY F. C. SHATTUCK, M.D.,
Visiting Physician, Massachusetts General Hospital.

An indispensable factor in efficient cardiac action is that each chamber of the heart should be able to propel onward all the blood which is delivered to it from behind, a proper balance of the circulation thus being

maintained. The tendency of any block to the circulation of the blood, no matter what its cause, is to an over-accumulation of blood in the venous, a deficiency in the arterial system; and this tendency is, of course, more or less remote, according to the proximity of the block to the starting point of the systemic arterial circulation. Thus degenerative changes in the arterial walls, and lesions at the aortic orifice do not affect the lungs, the right heart, and the veins behind, as long as increased power in the left ventricle balances the increased work which it has to perform. If the left ventricle cannot respond to the heightened demands, or has lost the capacity for doing so which it possessed for a time, the mitral valve gives way, and we get, secondarily, much the same condition of things which we find, primarily, when the seat of the original block was at the mitral or tricuspid orifices, or in the lungs. The compensatory power of the left auricle is trifling; in the pulmonary circuit there is none, and the right ventricle is, therefore, the first and only chamber which can afford any real help. With primary and non-progressive lesions at the mitral orifice, the right ventricle is very often able fully to meet the extra demands upon it; and the individual may be quite unaware that he has any pathological anatomy about him for a few years, for many years, or for the course of his natural existence, death finally resulting from causes in no special way connected with his heart lesion or from old age.

Let us, however, suppose, as we see so often occur in practice, that the right ventricle fails in a case, let us say, of mitral stenosis: as a result, we have, first, pulmonary congestion, with, perhaps, œdema, and then increasing stasis in the whole venous circulation, systemic and portal alike. The urine diminishes in quantity, and acquires the other characteristics of passive congestion of the kidneys; the liver swells and extends below the ribs; the gastric and intestinal mucous membrane is congested, and digestion is impaired to a greater or less degree; serous transudation takes place into the subcutaneous cellular tissue, and into the great serous sacs of the pleura and peritoneum, more rarely into the pericardium; cyanosis shows the surcharge of the blood with carbonic acid and other excrementitious matters.

As the distension of the right ventricle increases, the tricuspid valve becomes incompetent from dilatation of its ring of insertion; and we then have, in addition to the other evidences of venous stasis before enumerated, they, at the same time, perhaps, reaching a higher degree, a systolic reflux of blood through the right auricle into the caval and tributary veins, as far as their valves. The liver then pulsates synchronously with the heart, and the jugulars are distended, their valves standing out prominently, or even pulsate, according to the seat of the valves, and whether they remain sufficient or not. To complete the picture of a high degree of over-distension and incompetency of the right ventricle, gradual in onset, we have only to allude to the dyspnoea, the lividity, the frequent somnolency from carbonic-acid poisoning, the coldness of the extremities, the nose and ears, and to the feebleness of the pulse, which is often also irregular and intermittent. One source of danger must also be alluded to, though its existence must usually be a matter of inference, rather than of direct observation: I refer to thrombosis of the auricles and their appendages, especially of the right, whence arterial emboli may be derived.

¹ Read before the Boston Society for Medical Improvement, March 28, 1887.

² Edinburgh Medical Journal, July, 1868.

The above-sketched state of things is not compatible with long or comfortable existence. In most cases it is impossible to remove the cause, and thus bring about permanent relief. The cause lies in structural changes, generally of the valves of the heart, which cannot be made good. Our efforts must, consequently, be directed toward establishing or restoring the compensation, that is to say, toward enabling the right ventricle to meet the demands upon it. This is to be done by either stimulating its power, or by lessening the demands, or by both at once. In the earlier and milder grades of muscular incompetency, when the congestion of the portal system is absent or slight and digestion remains good, stimulation by heart tonics, combined with some moderation in the demand for heart power — rest and diet, with, perhaps, purgation — work to a charm. A proper balance of the circulation is struck anew, and everything goes on well again for a longer or shorter time. In the higher grades of the condition, however, when portal congestion is great and the digestion much impaired, the usual means of stimulating the ventricular contractions fail us, partly by reason of impaired absorption, partly of sluggishness of the nervous centres, partly of feebleness of the muscular wall. Under these circumstances, mechanical relief is what is wanted, what is imperative. If a portion of the load can be lifted from the right ventricle, it may be able to recover itself; otherwise, not. The withdrawal of fluid from the pleura or peritoneum is an indirect means of lifting a portion of the load, too indirect for extreme cases. The serum is outside of the circulation, and its withdrawal aids the circulation only by permitting greater functional activity of the abdominal organs or of the lungs, or by allowing serous transudation anew, and thus diminishing the mass of the blood in the veins. Free catharsis is another means, less indirect than aspiration, as the serum is derived immediately from the blood in the portal system. But it may be difficult to produce catharsis, on account of the failure of the gastric mucous membrane to absorb. We may wish, moreover, to avoid the fatigue incident to copious intestinal discharges, even when well managed. Direct means of lifting a portion of the load remains to us: the withdrawal of blood itself, either by venesection or by leeches. Much has been said and written of late years about the advantages of blood-letting in certain cases, but I do not think that we have yet reached, though we are approaching, the proper mid-position between the indiscriminate bleeding of sixty years ago, and the horror of bleeding which naturally succeeded.

There can be no question that, since the practice fell into desuetude, lives have been lost, and suffering has been endured, which might have been spared had blood been drawn. In the class of cases which I am considering the amount does not need to be large, as a rule. It is surprising how much relief follows the abstraction of as little as eight ounces, the right ventricle immediately recognizing the lessened demand, and the heart, as a whole, then responding to the stimulus of a cardiac tonic. The relief to the right ventricle allows improved circulation, and the nervous centres are in better condition to react to the drug which the stomach will now absorb. Active purgation is also often now desirable.

The choice as between blood-letting by venesection or leeching may be, but is not generally, vital. The

former is quicker, and, if it is desired to take a considerable quantity, then much preferable. But if eight or ten ounces are sufficient, a dozen leeches and a little poulticing will do the work, and there is less prejudice to overcome on the part of the patient and the friends. During the past year, I have employed or advised leeching in six cases of over-distended right ventricle, five in hospital, and one in private practice. These cases I will now report as briefly as possible, neglecting all features which do not have a direct bearing on the matter in hand.

CASE I. D., twenty-one years of age entered the Massachusetts General Hospital June 1, 1886 for mitral stenosis and regurgitation with ruptured compensation. Under rest and digitalis he improved at first; but became worse again, and July 1st, when I first saw him, he was suffering from orthopnea, vomiting, extreme cyanosis, cough, pain in the chest, ascites and anasarca. Jugular pulsation was well marked, the pulse was very irregular and intermittent, the temperature was subnormal, and his condition was one of great gravity. The next day he was worse, and I ordered twelve leeches applied over the liver to be followed by tinct. *strophanthus* m.vi. t.i.d.

July 3d, the record states: The leeches took hold well and the bites bled for two hours after the animals fell off. Within two hours the patient was much relieved, the cyanosis was much less, the radial pulse and the heart-beat were synchronous, which they had not been before. The vomiting had ceased entirely, the temperature was normal.

July 4th. The *strophanthus* was omitted, as the pulse had fallen to 30. From this time on the improvement, though not uninterrupted, was marked. Before the end of the month he was in the yard daily, and August 6th he was sent to the Convalescent Home, after leaving which, he reported himself once at the hospital. He still had some cardiac symptoms, of course, but was up and about.

The daily amount of urine was, July 2d, 17 oz.; 3d, 19 oz.; 4th, 28 oz.; 5th, 112 oz.; 6th, 53 oz.

CASE II. M., eleven years of age, entered the House of the Good Samaritan, May 17, 1886, for mitral disease, the result of rheumatic endocarditis the previous winter. September 10th, she was sent to the Convalescent Home connected with the institution and stayed till November 20th, when she came back. Under absolute rest, careful feeding and digitalis, she improved for a time, but grew worse again.

January 31, 1887. She was vomiting everything she took; there was marked cyanosis and some ascites, anasarca, and hydrothorax; the jugulars and the liver were pulsating distinctly; the pulse was 120–130; the daily amount of urine had fallen to 5–8. Six leeches were ordered over the liver, and, with the subsequent bleeding, the amount of blood lost was estimated at 5viii. Immediate relief followed; the vomiting ceased, she had a good night, the next day the venous pulsation was scarcely to be seen, and she eat a good breakfast with relish. The amount of urine rose to 10 oz. on February 1st, to 9 oz. February 2d, 10½ oz. February 3d, 123 oz. February 4th, 60 oz. February 5th.

The pulse fell on the 3d to 90. It is only fair to state that on the 2d, she was ordered tincture of *strophanthus* m.ii. t.i.d. I do not doubt that this drug contributed to the diuresis and continued improvement, but from my experience with other cases I am per-

suaded that without the previous leeching it would have been useless. Since then I have pushed the strophanthus up to mvi, t.i.d., the pulse remaining at 108 all the time. There was an interval of a fortnight between the time the strophanthus was omitted and resumed.

The child is now up and dressed all day, and is steadily improving in weight and strength. I believe that her life was saved by the leeches.

CASE III. September 23, 1886, I had the pleasure of accompanying Dr. C. F. Folsom in his visit at the City Hospital, and there saw the following case, the records of which have been most kindly placed at my disposal by him. A woman, past middle age, had been for a fortnight in the hospital with mitral and aortic disease and a failing heart. She had orthopnoea, great cyanosis, œdema, jugular and hepatic pulsation. I suggested leeches as a palliative, and twelve were ordered. Their application, the record states, was followed by much relief to the patient, who said she could breathe deeper. The next day she was "very comfortable." The relief was, naturally speaking, in the light of the revelations of the autopsy, only temporary. It was, however, so real, that at her request she was again leeches thrice subsequently, October 4th, 22d, and December 8th. The animals themselves were very repugnant to her, as I am informed by the house-officer, but she craved the relief which they afforded her. Early in January, 1887, she died.

The pathological diagnosis was in part as follows: Aortic insufficiency, mitral insufficiency and stenosis, relative tricuspid insufficiency; hypertrophy and dilatation of the right ventricle and both auricles; chronic adhesive pericarditis with obliteration of the sac; double hydrothorax; embolic infarction of the lungs; venous engorgement of the lungs and abdominal organs, etc.

CASE IV. A well-nourished woman of about fifty entered the House of the Good Samaritan, December 23, 1886, with dyspnoea, cyanosis and dropsy, the result of mitral disease. There was also bloody expectoration which was attributed to embolic infarction of the lungs. There was great diminution in the quantity of the urine, and a feeble and very irregular pulse.

When I saw her the next day her condition was desperate, and I immediately ordered twelve leeches in the hepatic region with alcoholic stimulants. No noteworthy relief followed the leeching: the patient dying at eleven o'clock that night.

An autopsy was made sixteen hours after death by Dr. Fitz. Both ventricles, especially the right, were filled with soft clots; the right auricular appendage contained old thrombi; the heart was enlarged; the mitral valve admitted only one finger; the aortic orifice was somewhat diseased. The lungs contained several embolic infarctions of moderate size, old and recent, and were œdematous. The liver and kidneys showed chronic passive congestion. As I look back at this case I think I should have bled her from the arm. The symptoms had grown rapidly worse, and she could have well afforded twenty ounces or more of blood. The result might not have been different. The pulmonary infarction, though not very extensive, was an unfavorable factor in the case, and the auricular thrombosis was a potential source of fresh infarction. When I next meet with a case in which the symptoms are so urgent and have developed with comparative rapidity, the general nutrition of the patient

being good, I propose to bleed from the arm, on the spot, if allowed to do so.

CASE V. A gentleman, forty-five years of age, seen November 27, 1886, in consultation with Dr. A. H. Hodgdon, of Dedham, under whose care he had come that day. He had been in his room, mostly in bed, for weeks, with great dyspnoea and other symptoms dependent on cardiac failure. He had taken digitalis, but in what doses was not known, as he had been under homœopathic treatment. There was œdema of the lungs and right hydrothorax; the liver was distinctly felt two inches below the margin of the ribs; there was no anasarca or ascites. The amount and character of the urine had not yet been determined.

It was agreed that leeches should be applied, and that then elaterium and digitalis should be given.

I have not seen the patient since, but Dr. Hodgdon writes that the relief immediately following the leeches was slight, though the quantity of water increased. The day after the leeching, elaterium was given, acted well, and afforded marked relief. The patient has gained slowly but steadily ever since, but is still compelled to lead a very restricted life.

CASE VI. K., forty-seven years of age, entered the House of the Good Samaritan, November 7, 1885, with cardiac failure, dependent, apparently, on parietal, rather than valvular disease, and a urine indicating more than passive congestion. She was cyanotic and œdematous; there was some œdema of the lungs, and bloody expectoration, with pain in the chest, pointed to embolic infarction. From time to time she grew better, and then worse again.

February 6, 1886. The jugulars were pulsating; the dyspnoea and cyanosis were so great, and the pulse so feeble, that twelve leeches were applied, with great temporary relief. A hydropne cathartic and digitalis were then given with success, and the patient expressed much gratitude. Before long, however, the symptoms became grave, and March 16th she died.

The autopsy was made by Dr. Fitz, whose pathological diagnosis was as follows: Chronic interstitial myocarditis; dilatation and thrombosis of the heart; thrombosis of the pulmonary artery; chronic obliterating pleurisy; chronic passive congestion of the lungs, liver, spleen, kidneys, and uterus; chronic interstitial nephritis; chronic gastro-intestinal catarrh.

This is a complete list of the cases in which I have, as yet, used leeches as a means of rapidly diminishing the blood-mass, and thus acting directly on the right ventricle. Case IV received no benefit, but my only misgiving is that enough blood was not drawn. Cases III and VI were greatly relieved for a time, but succumbed to disease, which, post-mortem examination showed, admitted of nothing more than temporary palliation. Of the other three cases, two are known to be alive; the third (I) has been lost sight of. Of these three, two (I and II) would, in my opinion, not have lived more than a few days if I had not drawn blood. Some of the impressions which one receives at the bedside are difficult to convey to others in words. The change which I saw in some of these cases from one day to the next is deeply fixed in my mind, and, I think, also in the minds of the other gentlemen, and of the nurses who were watching the cases.

In short, when the right ventricle is gorged with blood, the leading indication is often to withdraw blood from behind, alcoholic stimulants being given simultaneously by the mouth, or under the skin, as

the features of each case demand. The way is thus prepared for purging and cardiac tonics, which, without the previous relief to the circulation, are quite ineffectual in many cases. In conclusion, I wish to express my obligation to Dr. Broadbent, of London, whose article on "Mitral Stenosis," in the *American Journal of the Medical Sciences* for January, 1886, led me to give more serious thought to the procedure which I have had the honor to lay before you.

REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. W. LOVETT, M.D.

LATERAL CURVATURE.

SIGFRED LEVY¹ holds that there are two distinct etiological factors in the production of habitual scoliosis: one, "an anomaly of nutrition," a purely organic matter; secondly, certain mechanical causes—faulty positions of standing and sitting. Neither one of the factors can cause it alone; both must be present at the same time. In support of this view, he speaks of a case which he saw, where a girl of three years had a resection of the knee, and grew up with one leg nine centimeters shorter than the other. The pelvis was always tilted, but there was no suspicion of scoliosis until she was twelve years old, when she began to have headache, pain in the side, malaise, etc., and in spite of all precautions, a typical lateral curvature rapidly developed. He has seen three other such cases; and in over a hundred cases of habitual scoliosis which he has observed, in every case symptoms of general disturbance (as in the case related above) accompanied the development of the deformity.

CONGENITAL DISLOCATION OF THE HIP.

Motta² advocates a simple method of treatment, which, he says, gives "an immediate correction, or, at least, a decided lessening of the limp." The patient is suspended, as if a plaster-jacket were to be applied. If it is a unilateral dislocation, the shortened leg is drawn forcibly downward, and a plaster-mould of the whole side is taken, reaching from the axilla to the knee. From that a poro-plastic felt splint is made, which laces up, and is worn during the day. At night, extension is continued by a gaiter and attached weight, and the felt splint is applied in the morning, before the weight is removed. The treatment for double dislocation is simply a repetition of the same process on the other side.

COLD ABSCESSES.

Garré³ searched very carefully for tubercle bacilli in the pus from thirty cold abscesses, from different patients, but he only found them in a very small proportion of these cases. From attempts at cultivation from the pus in the class of cases where bacilli were not present, he got negative results; but inoculations of this pus in animals gave a typical tuberculosis, with many bacilli, and led to the inference that tubercle spores must have been present in the original abscesses. From this, Garré concludes that the conditions necessary for the development of tubercle bacilli from their spores exist only in the living organism.

DEFORMITIES AND ARRESTED GROWTH.

Nicoladoni⁴ describes a case of manus vara and a case of manus valga, where the deformity was due to an injury of the epiphysis of the radius in one case, and of the ulna in the other, and a consequent arrest of growth. He then relates the case of a young man who received an injury of his knee-joint, and where, for nine years, the knee had been flexing more and more, by degrees. This thigh was ten centimeters shorter than the other, and his leg nine centimeters shorter. Two similar cases of Billroth's are related, and all are considered due to premature synostosis of the lower epiphysis of the femur, consequent upon injury. The reviewer of Nicoladoni's article, Roser, says that in all three cases there was a latent tuberculosis, and a consequent fixation in slight flexion, which was increased by walking about on the leg. Nicoladoni next considers the asymmetry of the head in torticollis. It affects only the upper jaw and base of the skull, while the lower jaw and vault of the skull are alike on the two sides, and he shows that it is a deformity due to the unequally disposed weight of the head. The scoliosis accompanying torticollis is purely the result of holding the head sidewise, a compensation entirely mechanical. He closes by giving an account of the examination of the vertebral column from a case of rachitic lateral curvature, where ossification had gone much further in the parts of the vertebræ on the convex side of the curve.

TRACTION IN CLUB-FOOT.

The most important article for some time on the subject is furnished by Shaffer,⁵ who writes of the use of traction, and describes the two shoes which he uses for this treatment. The two shoes are the outgrowth of the antero-posterior traction-shoe, and the simple, lateral pushing-shoe already described by him. The principle involved is as follows: The centre of motion in flexion and extension of the foot is not at the ankle-joint, but just below it. Therefore, in passing from extension to flexion of the foot, the heel rotates downward and forward, the toe upward and forward, and the astragalus upward. In short, the heel rotates downward, and the neck of the astragalus upward, around the transverse centre of antero-posterior motion at the ankle-joint. In criticism of the conventional forms of apparatus, he says: "The point at which the retaining force or counter-pressure is made (the neck of the astragalus) must also rotate around the pivotal point." When, therefore, motion is attempted with this apparatus under these conditions, the foot cannot follow the mechanical law of antero-posterior motion, and the heel cannot be carried downward and forward. The antero-posterior traction-shoe (for talipes equinus) consists of a calf band and two uprights, with a heel-cup and sole-plate. Antero-posterior motion of the shoe can be obtained at the ankle by an endless worm and screw moving the whole foot-piece, and controlled by a key. At a place corresponding to the medio tarsal joint, the sole-plate is divided transversely, and the two parts, anterior and posterior, are connected by a traction-rod, with ratchets, worked by a key under the heel-cup. Two webbing straps are applied to the foot: one over the astragalus, and one around the heel. They cross each other, and the ends of the former are fastened to the

¹ Sigfred Levy. Ugeskrift for Læger, October, 1886.

² Margary Motta. Estratto dal Giornale della R. Acad. di Med., t. 1886, numeri 7-8.

³ Deutsche Med. Wochenschrift, 1886, No. 4.

⁴ Centralblatt für Klin. Chir., No. 10, 1887, p. 181.

⁵ N. M. Shaffer. New York Medical Journal, March 5 and 12, 1887.

heel-cup, and the heel traction-straps are carried forward to the anterior end of the shoe, and buckled. The ankle-joint of the shoe is set to fit the deformity, and, by tightening the straps, the foot is pulled down on to the shoe. Then loosen the strap over the head of the astragalus, to allow it to rotate. By the key, the foot is brought to a right angle. Then the forward part of the sole-plate is separated from the other; it pulls on the heel traction-strap, and the heel is pulled irresistibly downward and forward. Shaffer states that a temporary gain of one-eighth to one-fourth of an inch in the length of the foot is not unusual after a single treatment of fifteen minutes.

The lateral traction-shoe is to be used for talipes varus and varo-equinus. The motion in the antero-posterior direction at the ankle is the same as in the other shoe, and there are two other entirely distinct motions: one an eversion of the whole foot-piece by a hinged lever and screw, just below the ankle; and the other a revolution outward of the anterior part of the sole-plate, with a point of motion for this revolution at the junction of the os calcis and cuboid. The foot is held by a raised inner border to the sole-plate. Any detailed description of the apparatus would be unintelligible without figures. The shoe is set to fit the deformity, and applied; and then, by the keys, the foot is brought into a more correct position. This shoe is worn, most of the time, with very gentle traction applied; and exaggerated traction is applied (as much as can be borne), at intervals of an hour. Shaffer states that certain cases do not yield readily, but, even after tenotomy, the shoes are very useful.

RESECTION OF THE TARSUS IN CLUB-FOOT.

Krauss⁶ formulates the objections against tarsal resection as a means of treatment for inveterate club-foot as follows: (1) The different methods of resection of the tarsus impair the form of the foot and the stability of its osseous arch, with a consequent impairment of mobility and usefulness. (2) Resection, as an operation, is not free from risk. (3) The extirpation of the astragalus is a more suitable operation for restoring the form of the foot than the removal of a wedge in the direction of the medio-tarsal joint; but it leaves an immovable ankle, or one partly so, a weak union between the os calcis and the second row of tarsal bones, and serious shortening of the foot. (4) Resection removes all chance of future restoration by orthopedic treatment. (5) "There is no conceivable form of club-foot in which tarsal resection is justifiable, except it be in the case of one that is persistently painful in an old subject, and in which there is no prospect of a good result from orthopedic treatment. In such a case resection may be fairly tried, instead of amputation."

CLUB-FOOT.

Churchill⁷ speaks of the necessity of early treatment, and describes a new form of retentive apparatus, which differs but little from the ordinary plaster-bandage, except in being somewhat more complicated. He manipulates the foot, and renders it as flexible as possible. Then a flannel bandage is wound on quite firmly, and carried up the leg. Some strips of broad webbing are then put around the forward part of the foot, to protect it, and a strip of perforated tin, bent at a right angle, is used on the outside of the leg as a

stirrup, to hold the foot in its corrected position. Plaster-of-Paris is then put on outside. It is difficult to see what advantage the method has over the ordinary plaster roller applied to the foot held in an approximately correct position. Mr. Churchill advocates the view that intra-uterine pressure is, in some way or other, the cause of the deformity. Of the bones, tendons, ligaments, and fascia, he says: "Each become subject to the contractile force of the involved muscles in their relative proportions"; and it is this that he means when he speaks of the "multiple causation of club-foot."

FLAT-FOOT.

Mr. Collier⁸ takes issue with the views expressed by Humphreys⁹ as to the causation of flat-foot. He says that the astragalus is not the keystone of the arch of the foot, for it does not transmit equally to both extremities of the arch the weight of the body in standing. Only a small part of the body-weight is transmitted through it, comparatively speaking, and most of the weight goes to the os calcis, and through it to the ground. The plantar fascia and ligaments, with tendons assisting, maintain the normal position of the os calcis. Ligaments will atrophy and stretch when they are overstrained; but they do not grow weak and then stretch, so that the cause cannot be want of tone in the ligaments. The flattening is due to an antecedent alteration in the position of the os calcis, which comes about in this way: As long as the foot rests on a horizontal surface, the os calcis is capable of supporting the astragalus and any reasonable weight without the intervention of any ligaments (as shown by some experiments mentioned). But if the heel is raised, the body-weight is not transmitted so directly through the os calcis, but the astragalus slides forward on the os calcis, and throws the weight of the body on to the calcaneo scaphoid, interosseous, and plantar ligaments. Atrophy and stretching of these ligaments follow. That the affection is more common in girls than in boys, and in the upper classes more than the lower, is due to the wearing of heels. The treatment is the removal of the heel of the shoe. As to a pad along the inside border of the foot, it is comfortable, because it helps support the anterior extremity of the os calcis; but it compresses the internal plantar nerve, and should never be used. As much rest as possible should be taken, and the front part of the sole should be raised. In fact, the heel should be worn in front, instead of behind.

To this Ellis¹⁰ replies in a short letter, objecting to the following points: That the astragalus does not move forward, when the heel is raised, so much as downward and inward. That the deformity is not diminished in the bare-footed patient by raising the toes, but that when the heels are raised, and the patient stands on tip-toe, that the deformity disappears. He therefore recommends that the patient be directed to perform this exercise of rising on the toes daily; that the feet be inverted during sleep by some simple appliance; and that a springy walk be cultivated, the patient keeping the heels off of the ground as much as possible.

A PAINFUL AFFECTION OF THE FOOT.

Morton¹¹ describes an affection characterized by in-

⁸ *Lancet*, 1886, II, 441.

⁹ *Lancet*, 1886, I, 329.

¹⁰ *Lancet*, 1886, II, 604.

¹¹ *Philadelphia Medical Times*, October 2, 1886.

⁶ Krauss. Fifteenth Congress of the German Surgical Society.

⁷ *British Medical Journal*, November 27, 1886, p. 1025.

tense pain, referable to the head of one of the metatarsals, usually the fourth, consequent on a strain or twist of the foot. It seems to be a neuralgia of one of the internal plantar nerves, which are liable to be compressed, and even pinched, by a sudden twist of the anterior part of the foot, by virtue of their position. The treatment should be local depletion, anodynes, rest, and a broad-soled shoe. A flannel bandage, tightly compressing and holding firm the anterior part of the foot, generally gives perfect relief, but sometimes the affection is so severe that excision is necessary.

CLUB-FOOT.

German surgeons do not look with very much favor upon Phelps's method of treating club-foot by a transverse incision to the bone across the sole. Philippon¹² discusses it at length; after speaking of the methods of Wolff, Lorenzo, and others in the treatment of inveterate talipes barus, he quotes Wolff as saying that the operation of Phelps is a rough and unjustifiable cutting through the moderately thick soft parts with all the contained muscles, nerves and vessels. Philippon, himself, regards it in the same light. In the first place, purely orthopaedic treatment will often suffice to effect a cure in such cases. Then the operation needs many assistants and cannot therefore become very popular. Moreover, it is not complete treatment, it is only preliminary and is succeeded by a most painful convalescence. Cutting the soft parts and roughly wrenching the foot into place also tends to dislocate the deformed bones, to destroy the existing tarsal joints. On these grounds he opposes the operation very strongly.

RESECTION OF THE ANKLE.¹³

The methods of Kocher, in use by him since 1883, is as follows: The foot is held at a right angle and a superficial incision is made along the outer border just below the external malleolus reaching from the tendo achilles to the extensor tendons. The peroneal tendons are dissected out, secured by sutures, and then cut by a second and deeper incision. The ankle-joint is opened very easily and the capsule along the anterior and posterior surfaces of the tibia is cut. The foot is then dislocated inward as far as is desired, and the joint can be inspected to any extent. After the diseased parts have been removed, the foot is reduced to its proper position, the peroneal tendons united and the wound closed. The operation differs from that of Reverdin in not cutting the tendo Achillis and in preserving the peroneal tendons. Five cases with very good results are related.

RESECTION OF THE KNEE.

Lucas Champonière¹⁴ speaks of the resection of the knee and advances rather radical views in certain points. Suppuration after operation, he considers an evidence of failure, and unless it is extremely limited, as an imperative indication for amputation. He reports a series of eleven cases, in adults, all of which recovered. All, except one, were for tubercular arthritis; nine got well without any suppuration; one had very slight pus formation, and the other had so much suppuration as to necessitate amputation. The patients walked one to two months after opera-

tion. He does not recommend the operation for children, as it interferes so much with the growth of the limb, nor does he consider tuberculosis of the lungs in a reasonably early stage as a necessary bar to operation.

PARALYTIC CLUB-FOOT.

Lesser¹⁵ reports the examination of a paralytic club-foot, operated on by him seven years before. The object aimed at was to secure after correction an ankylosis of the ankle joint (by operative means) with the foot in a corrected position, enabling the patient to walk without the use of appliances and without danger of relapse. This method was described¹⁶ and has been repeated by Rydygier, with satisfactory results in two cases.

Lesser's patient was able to walk about freely without apparatus or cane, and could stand, with slight help, some little time on the left foot alone. The ankle was ankylosed, but there was an increased amount of motion at the Chopart articulation. The patient walked well on the flat of the foot.

RESECTION OF THE KNEE IN CHILDREN.

Peterson¹⁷ reports the case of a young man who died five years after an excision of the knee, and whose skeleton was very carefully measured to ascertain the growth of the affected leg subsequent to operation. He was operated on by Esmarch in 1880, when he was eleven years old, and he had at that time three cm. shortening of the leg; an ordinary intra-epiphyseal operation was done. The wound healed, and in five weeks he was about again. Five years later his leg was still useless although the knee was ankylosed in good position. He had sixteen cm. shortening, and desired amputation, which was done, and he died of fatty degeneration of the liver. The bone shortening proved to be thirteen and one-half cm. The left femur was eight and one-half shorter than the right and the left tibia five cm. shorter. It was found that if the upper and lower halves of each tibia were measured separately that the difference in the length of the upper halves was two cm., while that of the lower was three cm. The nutritive foramen was taken as the dividing line. That is, the shortening was not due so much to destruction of the epiphysis as to an arrest of growth of the whole leg. The femur showed the same point.

He concludes that resection is far from preventing atrophy and very serious shortening; and in children he considers the advisability of the operation to be still an open question.

JOINT RESECTION AND GENERAL TUBERCULOSIS.

Wartinann¹⁸ has investigated the results in seventy-four cases of excision for tubercular arthritis in the Hospital at St. Gallen; eleven died, and of these, two died of "operative tubercular infection," as Wartinann calls it. In further statistics he found that of 857 resections (and secondary amputations) 225 died, of whom twenty-six had acute general miliary tuberculosis, whose outbreak came so soon after operation as to suggest very strongly a causal relation.

Pilcher,¹⁹ on the other hand, discussing more especially the effects of such resections on patients with

¹² Deutsch Zeitsch f. Chir., Bd. xxv., Hft. III.

¹³ Arch. für Klin. Chir., Bd. xxiv., Hft. 2, s. 318.

¹⁴ Revue de Chirurgie, January, 1887.

¹⁵ Centralblatt f. Chirurgie, No. 46, 1887, p. 797.

¹⁶ Centralblatt f. Chirurgie, 1879, No. 31, p. 497.

¹⁷ Arch. f. Klin. Chir., Bd. xxiv., 2, 445.

¹⁸ Cent. f. Chir. 4, 1887, p. 18.

¹⁹ New York Medical Journal, xlv, p. 671.

lung tuberculosis, concludes: that when a lung tuberculosis is present, and an operation for the relief of a coexistent bone or joint affection is indicated, as the result of such an operation, the lung affection, while in some cases uninfluenced, is more frequently checked in its progress, and sometimes is apparently entirely recovered from." That local relapse is conditional on incomplete operation; and that where doubt exists as to the possibility of the removal of all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would add weight in favor of doing amputation.

POTT'S DISEASE.

Neidert²⁰ has investigated the cause of death in patients with angular deformities of the spine, the result of Pott's disease which has been cured. Patients with severe deformities die of heart fatigue ordinarily, patients with medium-sized curvatures die oftenest of phthisis, and die young, while those with small deformities have nearly as good a prospect of long life as men with normal spines. These results were obtained from the investigation of thirty-one specimens in the Munich Pathological Institute. The average age of the patients at the time of death was forty-nine and one-half years. Twenty-four had hypertrophy, with or without dilatation, of the right side of the heart, four had muscular degeneration of the heart walls, and two had stenosis of the mitral valve, one showed acute miliary tuberculosis, eight died of phthisis, four of pneumonia, and one of carbuncle.

Lannelongue,²¹ speaking of narrowing of the aorta in Pott's disease, says that in his autopsies he has noted that a very marked narrowing of the calibre of the aorta was not uncommon. In one specimen the aorta only measured sixteen mm. before the origin of the brachio cephalic trunk; twelve mm. after the carotids had been given off, and only eight mm. in the region of the second lumbar vertebra. In another specimen the lumen of the aorta was reduced to a mere slit. These changes are consequent upon the abnormal curves given to the vessels, and their existence explains the production of certain rapid and peculiar paralyses which come on in spinal caries and which are not due to compression of the cord.

H. L. Taylor²² gives nine cases where recession of the deformity has taken place under treatment by the Taylor back-brace. He states, first, that "the average ultimate result in Dr. C. Fayette Taylor's private practice, using his antero-posterior leverage supporting and protective apparatus, thoroughly and for a sufficient length of time, has been, under favoring conditions of attendance and home attention, the definite arrest of the deformity at, or near the point it had reached before such protection was furnished." In certain cases, however, he notes that the deformity will increase in spite of all care.

The straightening of the curved back to which he refers, is not merely the obliteration of the compensatory curves, but a real diminution or disappearance of the angular projection. The cuts that accompany his article show that plainly enough.

Of the nine cases, one was dorsal disease, three were dorso-lumbar, five were lumbar entirely. In five, the knuckle completely disappeared, while in the others the improvement was very marked. The

time for disappearance ranged from three to ten years after the beginning of treatment. The case of dorsal disease recovered wholly. The cases are given in full in the article.

Noble Smith²³ calls attention to the frequency with which Pott's disease is overlooked by the medical man, and tells of some remarkable specimens to be found in the London Hospitals, where extensive destruction of the vertebrae had taken place, and yet when the symptoms during life had been most insignificant. Notably, that of Dean Buckland, whose symptoms were those of "melancholia" where after death there was found extensive caries of the first three cervical vertebrae. Mr. Smith mentions the affections for which spinal caries is commonly mistaken and gives the differential diagnosis.

OSTEOCLASIS.

Pousson²⁴ has written a very complete treatise on osteoclasia. After giving a history of the development of the operation he classifies present methods as follows:

By vertical pressure, manual or instrumental; by flexion, manual or instrumental; by traction in the axis of the limb, manual or instrumental; by torsion, manual.

Under these headings he classifies all osteoclasts and all methods, and describes especially the apparatus of Robin and the old and new osteoclasts of Collin. Aysagner's experiments in manual osteoclasia are summarized. In children two years old the fracture is generally incomplete, above four or five years there is ordinarily true fracture, always simple, and rupture of the periosteum. Di Santi experimented on subjects from eighteen to twenty-two years old; in twelve there was no epiphyseal separation, but nine times there was found rupture or detachment of the lateral ligaments, and twice a bit of condyle torn away with them, while once the whole condyle was torn away, making a fracture into the joint.

Pousson discusses osteotomy, which he treats most unfairly, and advocates osteoclasia very strongly for the correction of rachitic curves. So good is the apparatus of Collin that Delens and Demous, formerly advocates of osteotomy, have abandoned it for osteoclasia. He reports thirty-six osteoclasts for ankylosis of which eighteen were of the hip and fourteen of the knee. The results were classed as perfect in twenty-four, satisfactory in three, tolerably satisfactory in one, and bad in two; four were unclassified. In no case was there a relapse to the former condition.

BONE GRAFTING.

Poncet²⁵ has had a notably successful case of bone restoration in a child eleven years old, whose entire tibia for thirty cm. was lost by necrosis. Small pieces of bone were taken from the tibial epiphysis of a new-born child, and of eight grafts, five remained and grew. Nine other grafts were then taken from a young goat and of these, three remained. In six months after the operation of sequestrotomy the child had a tibia only three cm. shorter than the one on the other side, composed of hard, firm, healthy bone. Poncet lays down the following rules: the fragments to be used should not be larger than ten mm. long,

²³ British Medical Journal, December 11, 1886. p. 1150.

²⁴ Alfred Pousson. Osteoclasia, Paris, 1886. Review in *Annals of Surgery*, October, 1886.

²⁵ Poncet. *Cent. f. Chir.*, 1887, No. 4. Cf. McEwen. *Proc. Royal Soc.*, 1881, p. 213.

²⁰ Neidert. Dissertation, München. 1886.

²¹ Société de Chirurgie. *Revue de Chir.*, August 10, 1886, 671.

²² H. L. Taylor. *New York Med. Record*, January 8, 1887.

and four mm. thick. They should be taken from places where ossification is most active, and the best time for grafting is immediately after the removal of the sequestrum. Perfect rest and asepsis are of the greatest importance in the after-treatment.

RACHITIS.

Kassowitz²⁶ publishes very extended studies upon 5000 cases of rachitis observed by him. Genu valgum and flat-foot from standing, are so essentially rachitic that he would treat the latter at least by phosphorus from the start. As to the muscular weakness of rachitic children, he says that on account of having pain in the joints on movement such children learn to sit up and to walk very late, and that the muscular atrophy found is that of inactivity. He holds it very probable that most of the crooked thighs and tibiae are due to the tonic action of the muscles primarily, and that the body-weight only serves to increase the bend when the child begins to stand and walk. As to fractures in rachitic bones: when found they lie on the convex side of the bend almost always, and are deep, often involving half the circumference of the bone and showing a sharp angular nicking of the bone. If the bone is broken wholly across, the periosteum is apt to remain intact. Callus formation is slow, but pseudarthroses are rare. In these 5000 cases there were noted ninety-nine fractures, and in the long bones the crack seemed almost always to be in front or in front and outside. In conclusion, he says: "It appears surely established that the deformities of the joints, even those occasioned by standing, are not brought about by inequalities of growth, but solely and alone by compression and bending of the weakened bone and cartilage layers and by the consequent alterations in the position of the bones at the joints."

Toeplitz²⁷ does not agree with Kassowitz as to the time of beginning of rachitis. In his cases only about twenty-five per cent. of the cases showed traces of bone rachitis in the first three months. Toeplitz has treated 518 cases with phosphorus in the last two and three-quarters years. His dose is two-thirds of a milligramme to a milligramme morning and night. Treatment lasted from four weeks to ten months, but in very many cases improvement was clearly to be seen in two or three weeks, especially in the general condition of the patient. Craniotabes, laryngeal spasm, delayed dentition, all yielded readily to this treatment in a few weeks, and all the symptoms disappeared more readily than under other treatment. Bad effects from the treatment, such as dyspepsia and diarrhoea, were not seen in any cases.

RUPTURE OF THE SYNOVIAL MEMBRANE OF THE KNEE.

After a severe attack of articular rheumatism, of gonorrhoeal origin, the patient, reported by Ponvost,²⁸ presented a large effusion into the knee-joint, which improved somewhat under treatment, but which increased on the patient's attempt to walk. After a sudden movement in bed, the patient felt a severe pain in the knee and thigh, and on examination the swollen knee was found to be normal in size, and free from pain, but there was an increase in the circumference of the upper part of the thigh. Compression was applied and no return of the swelling took place. The

patient stated that a similar accident happened to the same knee eight years before.

RESECTION OF THE JOINTS FOR ANCHYLOSIS IN FAULTY POSITIONS.

Kölliker²⁹ reports several cases; among them were four operations on the hip and two on the knee. He modifies the typical operations to suit each case. For the common deformity of the hip, adduction and flexion, he uses Langenbeck's posterior incision, while in the knee he prefers the curved transverse incision below the patella. The after-treatment is the same as in typical resections. The results were good in all cases.

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²⁶ Cent. für Chir., 1887, No. 10, p. 179.

²⁷ Cent. für Chir., 1887, No. 10, p. 189.

²⁸ France Medicale, 1886, T. II, No. 85.

²⁹ Kölliker. Deutsch Zeitsch für Chir., Bd. xxiv, 591.

Clinical Memorandum.

MENTAL DISTURBANCES FOLLOWING THE CESSATION OR DIMINUTION OF EPILEPTIC ATTACKS UNDER TREATMENT.¹

BY L. W. BAKER, M.D., BALDWINVILLE, MASS.

OCCASIONALLY cases of epilepsy are met with in which the cessation of convulsive attacks is followed by more or less mental disturbance. When this event occurs it is generally regarded as due to the medicine taken, which is consequently discontinued with the result of the continuance of the attacks with their accustomed frequency. In those patients exhibiting this condition which have come under my observation, a different view has been taken, as illustrated by the following cases.

A young gentleman, eighteen years of age, having several severe convulsions daily, was sent to me with the request that I abstain from the use of the bromides in treating him, as previous attempts in the use of these remedies had caused insanity. After watching the case carefully for several days, I decided to resume the bromide in doses of about fifty grains daily, at least temporarily. The convulsions at once ceased and have not since returned for a period of nearly three years. Mental excitement, however, soon appeared, accompanied by sleeplessness, and by the most violent exhibitions of temper, and intolerance of any attempts of control, the slightest cause being sufficient to excite a paroxysm of noisy rage, although no delusions were present. Notwithstanding the mental disturbance the original plan of treatment was steadily followed, combined with treatment intended to allay the mental excitement. A few months' perseverance in this line accomplished the desired result and his mind gradually returned to its normal condition. He always has been and always will be, feeble-minded, but there has since been no tendency to any mental convulsion.

Another case was a young lady who was sent to me from New Jersey. On her arrival she was maniacal, had various delusions and was quite difficult to manage. She was then undoubtedly in a state of bromism, which for a time gradually grew worse. This patient has now been under my care for over a year and during this time the bromide treatment has once or twice been suspended for varying intervals of time with the immediate effect of increasing the frequency of the attacks, while the mental condition materially improved. A return to treatment intended to allay the convulsive tendency was always followed by a return of the mental disturbances, although with lessened severity, still, this latter plan has been patiently followed for several months in connection with nerve tonics, nourishing food, and out-door exercise, with the result of a great improvement in the mental condition and a lessened frequency of the convulsive seizures.

Another patient, a young lady of twenty-five, had for years a weekly convulsion, preceded for hours by an indescribable dreamy feeling. These attacks were at once almost entirely controlled by treatment, but considerable mental confusion soon supervened and she was unable to perform mental acts which had previously given her no trouble; she could not read with

comfort, could not write connectedly, and the peculiar aura instead of being paroxysmal was constantly present.

The anti-convulsive treatment was, however, continued, notwithstanding these symptoms, and she has completely regained her normal mental condition and is now better than she has been for years.

These examples, are, I think, sufficient to illustrate the statement, that anti-convulsive treatment should not be too readily abandoned when mental disturbances follow the cessation of convulsive seizures. In these cases the brain has become accustomed to excessive discharges of nerve force, which occasion muscular convulsions; when this tendency is controlled by treatment the equilibrium of the nervous centers is for a time destroyed, the discharge then becomes mental, rather than motor, and there ensues a convulsion of ideas instead of a convulsion of muscles. If the anti-epileptic treatment is combined with cod-liver oil, phosphorus, and other nerve tonics, the brain will, I think, gradually return to the condition in which it was before the attacks were controlled.

Of course, in these cases it is important to distinguish between this condition and that which is occasionally produced by large doses of bromide of potassium, but in the majority of instances, I think it will be found that the mental disturbance is due to the cessation of convulsive attacks rather than to the effects of the drug. In the cases above quoted only comparatively small doses of bromide were used, the average dose being about forty-five grains daily.

Many of these patients, however, will need to be removed from home and treated apart from other patients. They should not be sent to an insane asylum, if possible to avoid it.

New Instruments.

A NEW APPARATUS FOR PREPARING DRY GYPSUM BANDAGES.¹

BY H. AUGUSTUS WILSON, M.D.

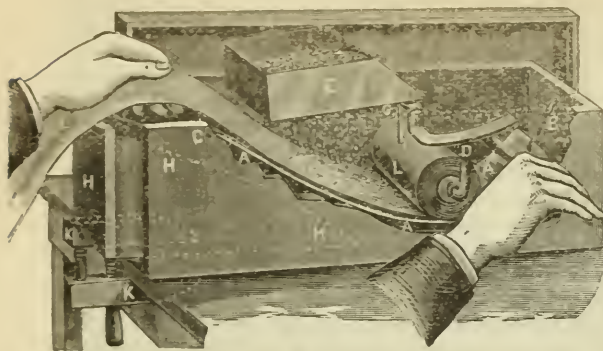
ROLLING the dry plaster-of-Paris bandages by hand, the method usually in use, is unsatisfactory, and under the most favorable circumstances a dirty process. It was to avoid the inconveniences and irregularities of that method that I devised this apparatus, which I have had made by A. G. Gefvert, the orthopaedic apparatus manufacturer.

It consists of an ordinary box-bandage roller, with the addition of the following: A movable bottom, A, A, A, held in contact with the outermost layer of the bandage, as it is rolled, by a rubber band, B, and at the other end by a hinge-joint C. Upon this movable bottom, and just in front of the crank, is a flood-gate or distributor, not shown in the illustration, which equalizes the distribution of the plaster and presses it into the bandage from above, while the movable bottom prevents the gypsum from passing through the meshes. The proper tension is applied by two rubber bands.

A hopper, E, is provided with an arm, F, bent in such a manner as to be raised by the crank at each half turn, and upon being released, it falls, throwing

¹ Extract from a paper on "Mental Epilepsy," read before the New York Medico-Legal Society, December 8, 1886.

¹ Read before the Philadelphia County Medical Society, Stated Meeting, February 9, 1887.



down a quantity of the powder upon the bandage in front of the distributor. A compartment, H, H, H, occupying the otherwise waste space under the movable bottom, is utilized as a receptacle in which may be kept the gypsum when the apparatus is not in use.

A scoop accompanies the apparatus with which to take gypsum from the compartment and fill the hopper. The entire affair can be securely held to a table by a clamp, K. Elastic bands are used for springs, because they are inexpensive and can be very readily replaced when worn out.

The method of using is, first to pass the end of the bandage to be rolled over the movable bottom, under the distributor, and attach to the crank. The hopper is now to be placed in position and, by means of the scoop, filled with a sufficient quantity of gypsum. While the crank is turned with the right hand the left guides the bandage, which may be watched, over the hopper, as it is being rolled.

The bent arm of the hopper is so arranged that the fall of the hopper may be sudden or gradual, and upon this depends the quantity of powder discharged. When the crank is turned very slowly the hopper is raised slowly and descends with the motion of the crank, and scarcely any gypsum is precipitated, and, of course, the converse follows. This being clearly understood, a very slight experience will enable any one to control the action of the hopper with the crank.

When a bandage is finished, the crank is withdrawn sufficiently to disengage it from the bent arm of the hopper, and while the left hand holds the bandage, a quick reverse turn of the crank enables it to be easily withdrawn. The gypsum remaining on the movable bottom is now discharged into the compartment by placing the hopper to one side, detaching the spring, B, and raising that end.

The apparatus is applicable to the rolling of the ordinary surgical bandage by detaching the rubber spring, B, thus allowing the movable bottom to drop out of the way. It prepares the dry gypsum bandages evenly and quickly. It is very simple in its construction and action. It cannot get out of order, except by the breaking of the rubber bands. It is inexpensive.

Possessing these advantages, I hope it will be of service and facilitate the preparation of the dry gypsum bandages in the hands of other physicians as it undoubtedly has in mine.

—The Medical Society of Athens celebrated its semi-centennial anniversary April 2d and 4th, by a congress of Greek physicians.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. M. BUCKINGHAM, M.D., SECRETARY.

MARCH 28, 1887, the President, Dr. O. F. WADSWORTH in the chair.

Dr. G. H. LYMAN reported a case of

ANEURISM OF THE INNOMINATE ARTERY.¹

Dr. G. W. GAY, who was unable to be present, sent the following, which was read by Dr. Lyman.

Dr. Gay wished to call particular attention to the method of tying the arteries in this case. It was suggested to him three or four years ago by the failure of a case of a single ligature applied to the femoral artery. By applying two ligatures to the vessel, and thus cutting it completely across, we follow one of Nature's most important laws; we thereby allow the divided ends of the artery to retract within the sheath, and thus remove all tension upon the vessel. This process is one of Nature's hæmostatics, and a very important one. Unless the vessel is divided in this way every motion of the part during convalescence is liable to destroy the adhesions, and give rise to secondary hæmorrhage.

While this method of tying arteries is an old one, yet it has received little attention in the text-books. When a large artery is wounded we are very properly told to apply a ligature above and below the wound. Having done that, why not divide the artery completely? It would seem to be the only sensible thing to do, and I would strongly urge this method of tying arteries in their continuity, upon the profession.

Dr. G. B. SHATTUCK, who had succeeded to the charge of the patient at the close of Dr. Lyman's term of service, said the case illustrates the great difference in patients. With many it would have been simply impossible to carry out the treatment as detailed. This must be irksome enough, even where the patient has the advantage of a window with a good outlook and with friends to amuse him with reading and conversation. In a hospital ward the tediousness must be increased. This was a man of intelligence and with self-control unusual in any walk of life. It was possible to keep him in absolute rest and on limited diet for a long period. Some patients are not susceptible of benefit from the treatment, but whether susceptible or not, it is simply impossible with many people.

The speaker did not know whether Dr. Lyman thought that the attack of eighteen months before was indicative of aneurism or not, probably it was, and it seems fair to assume that the lesion existed at least that long before entering the hospital. Adding to this, the part of his life subsequent to admission, gives a total duration of disease of nearly three years. Inasmuch as fifty per cent. of these cases die within a year and seventy-five per cent. within two years, it must therefore be assumed that his life was prolonged by treatment. Diet was not restricted entirely to the limits recommended by Tuffnell, of ten ounces of solids and eight ounces of liquid in the twenty-four hours.

Dr. LYMAN said that the use of iodide of potassium

¹ See page 393 of the Journal.

is supposed to further the deposit of fibrinous layers. It has been used in aneurism and offers some hope of success. Pressure offers a hope of relief, at least, if of not even better results. In this case no effects were seen of pressure upon the recurrent laryngeal until within the last forty-eight hours. Dr. Lyman further said that when Dr. Gay cut through the artery as described in his note, that it was very noticeable to what extent retraction took place.

DR. E. H. BRADFORD said that he remembered seeing the patient in the hospital, although not in his service. He knew that the question of tying the carotid and the subclavian at one operation had been considered at the time.

DR. C. B. PORTER said that not having heard the whole discussion, he should not wish to be considered as reflecting at all upon the treatment of this case, for which undoubtedly there was a good reason. Upon general surgical principles it would seem better to tie both the carotid and the subclavian at one operation, inasmuch as the aneurism included both, remembering also that collateral circulation may be established in a very short time.

[The reason for not tying both vessels at the first operation was that the shock would be very great; and that the operation of tying the subclavian would be prolonged from the fact that it could not be felt, and that the pulse was very much weaker than upon the opposite side, showing marked diminution in the calibre of the vessel. The slight amount of disturbance that followed the application of ligatures in the above method would lead me to tie both vessels at one time under similar circumstances in the future. G. W. G.]

DR. F. C. SHATTUCK read a paper entitled,

SIX CASES OF OVER-DISTENTION OF THE RIGHT VENTRICLE TREATED WITH LEECHES.²

DR. C. E. STEDMAN inquired if leeches were applied over the liver rather than over the heart for any reason other than convenience.

DR. SHATTUCK replied that it was only for convenience.

DR. STEDMAN asked if in case leeches did not bite well, would the reader bleed from the arm, rather than wait.

DR. SHATTUCK said that he would.

DR. STEDMAN said that that was his idea also.

DR. F. C. SHATTUCK reminded the Society that Dr. Westbrook, of New York, had under similar circumstances aspirated the right auricle with very speedy relief in two cases which had been published and in which resulted from the operation no bad symptoms. The same gentleman had, however, recently had a death from leakage at the point of puncture, so that he will probably not repeat the operation.

NECROSIS OF THE PETROUS BONE. REMOVAL OF A SEQUESTRUM CONTAINING THE VESTIBULE AND SEMI-CIRCULAR CANALS.

DR. J. ORNE GREEN showed the specimen, which consisted of a sequestrum five-eighths of an inch long and three-eighths of an inch wide, and which showed distinctly the osseous vestibule and remnants of the three semi-circular canals. The patient, a child aged two and a half years, ill-nourished and with caries of the dorsal vertebrae, had shown an otorrhœa on the

left side for some two years, to which no attention had been paid, and within a few months paralysis of the left facial had developed. The meatus was filled with a large polypoid growth, behind which bare bone could be felt over a surface at least half an inch long and a quarter of an inch wide, and palpation with a probe showed a sequestrum slightly moveable, but too large to be removed through the meatus, and too deep to be broken up.

Under ether the auricle and cartilaginous meatus were displaced forwards but the sequestrum was too firmly imbedded in the surrounding bone to be withdrawn. The mastoid tubercle was then exposed and almost the whole of this, together with whatever had formed of the osseous meatus, was removed with a chisel, and the sequestrum finally withdrawn in the condition shown: a few small fragments came away separately on syringing the cavity. The bleeding from the granulations surrounding the necrosis, was quite free but not alarming. For a few days the wound and cavity were dressed twice a day, by douching with carbolic solution 1-60, and then sprinkled thoroughly with powdered iodoform; after this the dressings were continued once a day, and now, about three weeks after the operation, the wound is healed and all discharge from the meatus has ceased. The facial paralysis still remains.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, March 21, 1887.

The President, DR. JOHN SHRADY, read a paper on

THE ANEURISMAL DIATHESIS,

in which he arrived at the following conclusions: The subject of aneurism, presenting, as it did in its various relations to mechanics, etiology and pathology, many points of interest, it was within the scope of the paper to discuss. It was sufficient to call attention to various forms of the human physique which were likely to indicate tendencies in this direction and which might, perhaps, start an impetus to further investigations. He was, indeed, not yet sufficiently settled in his own convictions to propose any law comprehensive enough to embrace all the cases observed or reported; but he thought he was warranted in the statement that a tendency to aneurism might be recognized to exist in the following instances:

(1) In individuals possessing a large, not necessarily hypertrophied, heart, the pulsations of which are quick—say over eighty-five to the minute—and forcible; this condition generally being present in the long-bodied and short-limbed. These individuals are necessarily muscular, to compensate for a relatively poorly developed osseous system.

(2) There are certain racial configurations in which fatty degenerations are prominent, as, for example, among the Teutons, and exceptionally among the Celts, in which the aneurismal tendency is a marked feature.

(3) There may be an induced or cultivated diathesis, as among those addicted to athletic sports who primarily overtax the heart, and secondarily the circulation.

(4) Obesity, as presenting an enfeebled resistance to forces which have been adjusted to a different condition of things.

² See page 395 of the Journal.

(5) The diathesis may be latent from lack of circumstances awakening it into existence, as in the case of those leading lives of luxury and ease.

(6) The absence or suppression of the emotional temperament may retard, or altogether avert, the final catastrophe.

REMOVAL OF THE UTERINE APPENDAGES.

DR. A. P. DUDLEY presented the ovaries and tubes of a patient, the wife of a physician, which he had removed that day for a chronic inflammatory condition. It was such a case, he said, as would formerly have been supposed to be due to pelvic cellulitis; but a year's continual and faithful treatment had entirely failed to remove the difficulty, and no pelvic cellulitis whatever was found when the abdomen had been opened. The left ovary, in addition to being in an inflamed state, was markedly prolapsed, while the Fallopian tube on that side, also greatly inflamed, was bent downwards, with its fimbriated extremity adherent to the ovary and the tissues adjacent. Dr. Dudley had hoped to be able to save the right ovary; but the condition of the ovaries and tubes on both sides was found to be one in which acute attacks of inflammation were continually liable to occur, and in which the removal of all the uterine appendages offered the only hope of permanent cure. During the past year he had indeed cured the patient of two such inflammatory attacks, and this process would have gone on indefinitely as long as the organs remained in the body.

VENTRAL HERNIA; INTERMITTENT DIABETES.

DR. J. W. S. GOULEY related the history of a case, the pathological specimens from which Dr. Frank Grauer, of the Carnegie Laboratory, was to have presented, with a report of his microscopical examination. Dr. Grauer, however, was unable to be present. The patient was a lady, seventy-two years of age, who suffered from ventral hernia for more than twenty years, and he said it was the longest ventral hernia that he had ever seen. She had also been diabetic for at least thirteen years, and the form of glycosuria with which she was affected was that which the French term intermittent diabetes. For considerable periods at a time the urine would be entirely free from sugar, and at these times it would be loaded with urates and uric acid. The urine, which was sometimes passed in the most enormous quantities, was exceedingly irritating, and the patient suffered greatly from an eczematous affection of the vulva, and also from abscesses of the vulva and perinæum. At one time she also had a very large carbuncle on one hip; but she made a good recovery from this. Six weeks before her death she had an acute attack of bronchitis, from which she also recovered. Shortly after her recovery from this, however, she exposed herself to the draught from an open window, and this brought on another attack of general bronchitis. Although her vitality was very great, she was unable to stand this second attack, and died in the midst of it from exhaustion.

At the autopsy the hernial sac was found to consist of nothing but skin, and that was very thin. Dr. Gouley had always opposed operative interference in her case, and the condition of affairs found after death showed how unavailing any operation would have been. The sac contained the entire intestinal canal with the exception of the duodenum, the caput coli, and the rectum, and therefore it could not possibly

have become any larger than it was. The diameter of the neck of the sac was no less than nine inches. The liver was apparently normal, except that a small portion of the anterior border of the right lobe was sclerosed. There was also marked sclerosis of the spleen and of both kidneys. During life, however, there was no evidence of this condition presented by the urine; which was several times examined with great care by Professor Flint. The pulmonary tissue was normal, but there were present the lesions of acute bronchitis, extending to the smallest ramifications of the bronchial tubes. The heart presented calcareous degeneration of some of the valves, together with old mitral stenosis. The sclerosis of the spleen and kidneys was therefore amply accounted for.

DR. FLINT remarked that this case, which he had seen in consultation with Dr. Gouley, presented some points of extreme interest to him. This intermittent diabetes was a variety of the disease which he had seldom observed, and in regard to which he had formerly been somewhat sceptical. There could be no doubt, however, that this was a truly intermittent case, and not one of those instances, of which he had seen quite a number, in which the sugar disappears from the urine for a time after the patient undergoes a moderate restriction of diet. The case was of great interest, again, as regards the matter of diabetic coma. The patient at no time exhibited the slightest tendency to coma, but retained consciousness perfectly up to the last. She was unable to dislodge the mucus accumulated in the bronchial tube; and died simply of exhaustion.

Dr. Flint then referred to another case of diabetes, which he had recently seen in consultation with Dr. Frederic Dennis. The patient was a lady, seventy years of age, who had had diabetes for seven or eight years, which was by no means of an intermittent character. It was, on the contrary, persistent, and was attended with nearly all the typical symptoms of the disease. The case had been under the care of Dr. Lusk for some time, but was consigned by him to Dr. Dennis, on account of the fact that one of her feet became affected with gangrene. She was placed by Drs. Dennis and Flint on a strict anti-diabetic diet, and as she had been taking a very large quantity of milk daily, this was stopped. In addition, she was ordered three drops of Clemens' solution of arsenic of bromine, three times a day; and, under this régime, the improvement in her condition became very marked. The quantity of urine passed *per diem* was reduced from 110 ounces to 50 ounces, and the sugar was eliminated from it. The condition of the foot also improved for a time, but the gangrene afterwards extended, and the patient finally died of exhaustion. In this case, also, the mind remained perfectly clear to the last, and there was not the slightest approach to anything like diabetic coma.

Dr. Flint went on to say that, during the last two or three years, he had accumulated records of about ninety cases of diabetes, and that he had taken unusual care in following them up. Some of the patients had died under his observation, but he had never yet met with a single instance of diabetic coma. He had, however, records of cases, seen by him at one time or another, who had died under the care of other physicians, and who were reported by them to have been the subjects of diabetic coma. In this connection, he related the case of a very wealthy lady, to whom the

restraint of the restricted diet ordered for her eventually became intolerable, and who, on leaving for the country, announced her intention of trying a moderate indulgence in a general diet for a time. He afterwards learned that she had died in diabetic coma. He also knew another case in which the patient died of diabetic coma, after indulging in a prolonged "sugar debauch." Still another had died in the same way, after going to Carlsbad. During the journey to that resort she had lived upon an unrestricted diet, and he had been informed by her physician that, when she arrived there, she was in a practically hopeless condition.

The idea had been expressed in certain quarters that the restriction to anti-diabetic diet tended to produce diabetic coma, but Dr. Flint's experience was directly to the contrary of this. So far from its leading to this condition, he was convinced that it was extremely rare for patients to die of diabetic coma while they were living on a strict anti-diabetic diet; and he believed that this restricted diet actually prevented, or tended to prevent, diabetic coma. This condition was apparently due to the presence in the blood of some poison, which the kidneys were unable to throw off; and it was noticeable that when the coma came on, the sugar disappeared from the urine. He was at present engaged in a series of investigations upon this important subject, and hoped, at no distant date, to be able to ascertain certain facts which might, perhaps, throw some light upon it. In conclusion, he made some remarks upon the neglect of patients to carry out the anti-diabetic diet. It was this which had brought the method into bad repute, and he thought that physicians, as a rule, did not pay sufficient personal attention to the regimen of their cases. It was very important that this should be made as pleasant as possible for the patient, and efforts should constantly be made to tempt his appetite.

DR. CHARLES A. LEALE presented samples of two

NEW ANTISEPTICS AND DISINFECTANTS,

which he had tested, with satisfactory results, in his own practice. The first of these was glycozone, which consists of chemically-pure glycerine, with four volumes of ozone. It was an entirely odorless fluid, and it effectually destroyed all bad odors. It was thus a very valuable application for cases of offensive cancer. The other agent exhibited was solution of peroxide of hydrogen, which, he said, constituted a most admirable substitute for Labarracque's solution of chloride of lime, which was very offensive to many individuals. Diluted with water, ten parts to one, it could be used in all cases for which the latter was employed; and, like the glycozone, it was entirely odorless and colorless.

Recent Literature.

Monthly Nursing. By ALFRED WORCESTER, A.M., M.D. 16mo. pp. 250. Boston: D. W. Mason, 1886.

This book is based on the instruction given to nurses at the Boston Lying-in Hospital, where the author was house-physician in 1883, and is the best manual on monthly nursing with which we are familiar. It is admirably written, the style is clear and crisp, and the teaching thoroughly sound. While the book will do much, we believe, to dignify her calling

in the estimation of every nurse who is fortunate enough to study its pages, it will not instil an exalted idea of her own importance: on the contrary, while the nurse is impressed with the responsible nature of her duties, she is taught to pursue her calling with becoming humility and with a spirit of loyalty to the medical attendant, whose lieutenant she is.

The first chapter, on Preliminaries, is replete with good advice concerning the nurse's health, dress, personal habits and conduct, and various minor, though important, matters in respect to her relations to the patient and the patient's family. Subsequent chapters impart such information concerning parturition as it is necessary for the nurse to know, and appropriate instruction as to her duties during labor and convalescence: the care of the baby also receives adequate attention. Chapter IX, on Emergencies, is a valuable one; and Chapter X, Odds and Ends, imparts much useful information, including clear instruction as to the proper records a nurse should keep for the use of the physician and her own improvement. The appendix contains a number of recipes for preparing various delicacies for the sick room, and a glossary of medical terms.

On page 124, footnote, in describing the double Y bandage for the support of the breasts, the author attributes the invention to Drs. Kingman, Otis and Hayward, former house-physicians of the Boston Lying-in Hospital: we understand, however, that the credit of this useful appliance, which is still used at the Hospital, is due entirely to Dr. Hayward. We regret that the author has failed to incorporate in his book more extended instructions concerning the use of antiseptics; but we have no doubt this defect will be remedied in subsequent editions, which we hope it will become the duty of Dr. Worcester to prepare.

Diseases of Women. A Handbook for Physicians and Students. By DR. F. WINCKEL, Munich. Translated by J. H. Williamson, M.D. Edited by Theophilus Parvin, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

We give a hearty welcome to this translation of "Winckel's Handbook of Diseases of Women." His reputation as an accurate observer, an indefatigable worker, a good pathologist, and a progressive yet conservative man are well sustained by this, his latest and most important work.

Its chief merits are the natural results of the characteristics of the man. As an acute and accurate observer he has let nothing that has come within the sphere of his activity escape him, and the result is a treatise on gynecology which is very complete. While giving in the main due prominence to the more important and commoner affections, he has not neglected to mention the very rare and even isolated cases of obscure diseases. Starting with diseases of the vulva in the opening chapter, he successively treats of diseases of the vagina, uterus, tubes, ovaries, ligaments, peritoneum, pelvic connective tissue and breasts, thus rounding out and completing the whole subject. To condense so much in a work the size of this one, has necessitated careful pruning, and a great deal of unnecessary matter has been left out. Descriptions of instruments and different forms of pessaries, histories of cases, and long descriptions of operative procedures which differ only in unessential points, are conspicuous by their absence.

A larger part is devoted to the pathology of the subject than is usually the case. This constitutes its chief value, for it meets a decided want. No other book to our knowledge presents so full an account of the results of recent pathological research in this department.

Winckel is eminently conservative, especially in the matter of operative treatment. At the same time he is free from prejudices, and holds himself open to conviction. Such an attitude on the part of one who is writing a book for "physicians and students," is certainly a wise one.

It would be impossible to read so comprehensive a work, and not find some ground for criticism. There is much less than usual in this book, however. His acquaintance with current literature on the subject of gynecology is very extensive. It is, naturally of course, mainly German, yet it seems as if he scarcely gave American gynecologists credit for their share in the progress that has been made. It would add value to the work if more complete references were given to authors and works cited. His descriptions of plastic operations on the vagina are brief, and in the absence of plates, not very clear. He has very little to say about the treatment of displacements with pessaries, and dismisses Emmet's operation for laceration of the cervix with a single short paragraph under the head of endometritis.

For so large a work, the number of plates is rather small; but it is a pleasure to see so many original ones, many of them drawn from actual pathological specimens.

The book will be a valuable one to physicians, and a safe and satisfactory one to put into the hands of students. It is issued in a neat and attractive form, and at a very reasonable price (three dollars).

Drug Eruptions. A Clinical Study of the Irritant Effects of Drugs upon the Skin. By PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology in the University of the City of New York, etc. New York: William Wood & Co. 1887.

This is a most useful book, one long needed. It is only within a few years that attention has been called to the subject of dermatitis medicamentosa, and although there have been many observations published concerning the irritating effects of individual drugs upon the skin, some of them of great value, there has been no general and exhaustive treatise before this. Indeed, it may be said that observers of sufficient dermatological skill to recognize the nature of such cutaneous disturbances were lacking until recently. As the author well puts it: "When the enormously large number of cases of drug eruptions which have been recently reported is contrasted with the comparatively few formerly recorded, it is evident that a prolific cause of cutaneous disorders long escaped recognition."

Disorders of the skin produced by the internal administration of drugs, are now designated by the title dermatitis medicamentosa, while the term dermatitis venenata signifies such disturbances as are caused by the action of external irritants. The title adopted by Dr. Morrow is a more general one, and includes, as employed by him, all inflammatory affections of the cutaneous tissues, which result from the internal and

external use of "drugs." Eruptions produced by the first of these causes he divides into two classes: (1) the ordinary forms, which he regards as an expression of the specific, physiological action of a drug upon the cutaneous tissues, and (2) anomalous forms, which he considers to be observations of the drug's normal action. Dr. Morrow is a disbeliever in the commonly accepted theory that the inflammation in dermatitis medicamentosa is due to the direct local action of the drug upon the cutaneous tissues during the process of elimination through the glands of the skin. He discards the results of some observers who have reported the discovery of irritating substances in the cutaneous glands, iodine for example, after their internal use, chiefly upon the failure of other investigators who fail to find them. In view of the conflicting character of such positive and negative results, this factor can hardly be excluded from the etiological possibilities. It is in the sphere of the nervous system that he looks for the explanation of these phenomena, a part of which he attributes to the irritating effects of the drug in the blood upon the vaso-motor centres, and a part to its direct action upon the peripheral nerves.

After introductory chapters on general characteristics, etiology, pathogenesis, diagnosis, and treatment, the author proceeds to describe, following an alphabetical arrangement, the inflammatory effects of all drugs upon the skin, which have fallen under his own observation, or of which an exhaustive search through medical literature of recent years, receives mention. In connection with the careful analysis of the varied effects of these agents upon the cutaneous tissues there is also given in most instances an elaborate account of the tests for their presence, or that of their modified forms, in the urine, of great value in a diagnostic point of view. The number of drugs capable of producing such irritation upon the skin by internal use or external contact thus treated of, is sixty. The action of some of them in this direction is of course very trivial and of infrequent occurrence, but others from their enormous use in medicine and the great frequency and variety of their mischievous effects demand the serious consideration of the practitioner. This they have received in due measure from the author, and his treatment of the most important subjects, as the action upon the skin of arsenic, bromine, chloral, cinchona, iodine, etc., is exhaustive and admirable. Inasmuch as the tissue changes produced by such irritants range from the most fugitive expressions of simple hyperæmia to grave forms of destruction and hypertrophy even, and closely simulate many well-characterized cutaneous affections, it is evident that it requires the skilled dermatologist to present the subject in a proper form for the practical needs of the general physician. Nor should the latter fail to take advantage of such special studies, for errors are constantly arising for lack of such knowledge on the part of the latter, who often fails to recognize that a dermatosis occurring in the course of some disease under his care is the direct result of his own remedies.

The book presents a general good appearance, and is illustrated by a well-executed colored frontispiece of a remarkable case of dermatitis produced by iodide of potash. It is furnished also with a very complete and valuable bibliography.

— A physician, Dr. Baxter, has been elected speaker of the Ontario Legislature.

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THE CAUSES OF MALIGNANCY IN SYPHILIS.

LIKE other diseases, syphilis presents a great variety in the severity of different cases. Some cases are benign: their manifestations are superficial and of short duration, and their tertiary lesions, if they appear at all, come on after many years of perfect health. Other cases are malignant: the cutaneous manifestations ulcerate, they succeed each other in a fashion almost continuous, and the general condition of the patient is profoundly altered; the late manifestations occur at an early period, and are of a severe, and perhaps fatal, character.

The malignancy of certain cases may be explained, either by a special germ which bears in itself the principle of special gravity, or the character of the individual disease is determined by the soil upon which the germ is developed. The doctrine which refers the gravity or benignity of the disease to the source of contagion explains all easily; but the generality of pathologists believe, to-day, that if a syphilis is severe, it is so by virtue of circumstances personal to the patient. Syphilis is syphilis, exactly as small-pox is small-pox. Cases vary in gravity in the same epidemics, and in the same family. Confrontations show that the transmitted syphilis may vary very greatly in gravity from the original. Cases of husband and wife, who must in all human probability have received their disease from the same stock, differ very greatly in the experience of most physicians. The doctrine of different viruses was strongly upheld by the *Revue Médicale* of March 27, 1886. In the view of that journal, there are *attenuated* viruses. Syphilis always resembles the parent stock, and there are certainly stocks so attenuated, that, even in old men and the tuberculous, they produce only very benign cases. Such it believes to be the history of all virus, and, in this way, it explains the gravity of the syphilis of seaports, and of certain countries. "Is it not evident," it inquires, "that the diathesis has become attenuated since the commencement of the century? Why, if not because that, transmitting itself from subjects

treated, to other subjects who are also treated, before communicating it themselves, its principle becomes less and less active? In prognosis, then, it is necessary to take into account the form of disease communicated." The gravity of syphilis in seaports, if one may judge other ports by Boston, remains to be established. The diseased may be divided into two categories: the seafaring population, and the land abiding. The sailors present a noticeable number of grave cases of syphilis, as compared with the dwellers on the land. Such a gravity would be explained by the importation of an unusually grave form of disease, and such an explanation would be accepted by the sailors themselves. They believe the Chinese pox, for instance, to be much more severe than other forms, but the character of the soil is to be considered. As a whole, the merchant seamen of the present day, though an exceedingly interesting, are not a thrifty and care-taking class, but rather rum-loving, improvident, and careless, exposed to all sorts of vicissitudes of weather, presenting, in fact, just the characteristics which, in others, we believe, lead to a malignant type. If the germ differs here, the soil differs also. In a clinical lecture during the past year, by M. Fournier, he pronounces himself strongly in favor of the invariability of the virus, and he mentions six different causes of malignancy,¹ whose existence he believes to be well determined: (1) Certain conditions of age. (2) Scrofulo-tuberculosis. (3) Alcoholism. (4) Malaria, which counts for much, probably, in the gravity of syphilis contracted in the colonies. (5) Hereditary or acquired predisposition. (6) One of the most important—the absence or the insufficiency of treatment at the origin of the disease.

One may say that syphilis is particularly grave at the two extremes of life: in the very young and the very old. This rule would apply, in the young, quite as much to the acquired as to the congenital form; so vaccinal syphilis in very young children results almost always in very grave, often fatal, accidents. After six months or one year, the prognosis of syphilis so contracted is entirely different. Acquired beyond fifty, the prognosis of syphilis is grave; beyond sixty, it is yet more grave, and the disease is characterized by, first, a tendency of the primary lesion to phagedæna; second, of the eruptions to be profuse and general; third, early appearance of the tertiary accidents, like gummata and cerebral lesions; and fourth, and lastly, the tendency to a very marked reaction upon the general condition, a loss of appetite and of strength, a languor and enfeeblement, and prostration, followed by actual cachexia.

Scrofulo-tuberculosis has, according to Fournier, such an influence upon syphilis, that its action has never been disputed. In the scrofulous, syphilis has a tendency to take on the suppurative, ecthymatous, impetiginous, rupial forms. It is among them that one sees the precocious, malignant syphilide and the massive adenopathies, with multiple ganglions con-

¹ *Annales de Dermatologie et de Syphilographie*, 25 Mars, 1887, p. 204.

nected together, and becoming fistulous. These adenopathies may produce themselves at the time of the chancre, and differ decidedly from the pléiade of Ricord. They constitute the syphilo-strumous bubo. In place of the posterior cervical ganglion, for example, one finds a ganglionic chaplet, extending from the mastoid to the clavicle. Ocular accidents are also frequent; in the articulations, pseudo-white-swellings produce themselves; finally, it seems that the scrofula directs the syphilitic lesions towards the mucons membranes of the larynx, pharynx, and nasal fossa.

It must be added, too, that in these conditions, syphilis often occasions grave troubles of health, ending rapidly in cachexia. In addition, the association of scrofula and syphilis ends in creating singular hybrid types, which recall, by the ensemble of their characteristics, the two maladies. Syphilis reacts upon scrofulo-tuberculosis by aggravating it. It is certain that, in subjects predisposed to tuberculosis, syphilis provokes the development of that disease in the same way as other causes, like fatigue, grief, or poverty.

Alcoholism has a very marked, though not a constant, influence upon the gravity of syphilis, and it acts in four different modes: First, it predisposes to grave and precocious forms of the syphilides, which do not usually appear until after the lapse of many years. Alcohol has an influence upon all the dermatoses, and it is not astonishing to find that influence in syphilis, and it is often so marked, that one can diagnose alcoholism by the aspect alone of the lesion. Alcoholism also favors the production of those forms in which the syphilitic manifestations succeed each other in a fashion almost continuous. It favors again, those cases which act upon the general health, and can, in little time, cause a veritable cachexia. Alcohol, at last, predisposes to cerebral syphilis. It figures largely in the antecedents of those thus afflicted, and it is to its influence that are due the precocious cerebral cases that appear in the secondary period, and even in the first year of the disease.

But of all the causes of gravity in syphilis, the most common, and, at the same time, the most active, is poverty. The syphilis of the poor is often fruitful in immediate accidents, more or less severe, such as ulcerating, confluent syphilides, intense alopecia, pains, ophthalmias, and, above all, accidents of a general order — asthenia, anæmia.

Syphilis is infinitely less grave in the easy classes. M. Fournier makes an exception for the syphilis in those whom one calls the *viveurs* — men of the world — the inactive, the idlers, the useless. They are exhausted by the dissipations, the nights turned into day, and the fatigues of a worldly life; and this exhaustion brings the same consequences as actual want. In gamblers, cerebral syphilis is particularly common, as also among the men of the stock exchange, financiers, and actors. Nervous overwork constitutes one factor of gravity for syphilis, in directing its localizations upon the brain and the cord.

As to the absence or insufficiency of treatment as a cause of gravity in syphilis, M. Fournier remarks that the enormous majority of cases of grave tertiary syphilis (nineteen out of twenty) occur in those who have not been treated, or who have been only insufficiently treated. It is not with a treatment of some weeks that syphilis is cured in a definite fashion. It needs a treatment prolonged and methodic, and few persons submit to it. Moreover, many cases of syphilis are unrecognized until some tertiary accident sends the sufferer to the doctor.

THE TREATMENT OF ANEURISMS.

A CASE of aneurism of the innominate, reported in this issue of the JOURNAL, in which various recognized methods of treatment—rest, diet, pressure, the internal exhibition of iodide of potash in increasing doses for a long time, and subsequent successive ligature of the carotid and subclavian arteries—were all faithfully resorted to without averting a fatal issue, notwithstanding the fact that the patient was in many accounts an unusually favorable subject, suggests a brief consideration of the treatment of aneurisms as practised at the present time.

Dr. I. Burney Yeo, in his recent lectures on Clinical Therapeutics, affirms that one of the most remarkable gains in the treatment of disease in recent years has been the employment of large doses of iodide of potassium in the treatment of internal aneurisms. When he began the use of this remedy in these affections, his results were disappointing, and he found many of his colleagues equally sceptical as to its utility, which is scarcely to be wondered at from the size of the dose given. But in the year 1877, on the occasion of the meeting of the British Medical Association at Manchester, he was fortunate enough to see in the Infirmary of that city a number of cases of thoracic aneurism, which had been collected together by Dr. Simpson, for the purpose of showing members of the Association the value of the iodide of potassium treatment of such cases. It was a remarkable series of cases, and the results were excellent, but instead of giving these patients such small doses—five grains three times a day—as Dr. Yeo had been in the habit of prescribing, the Manchester physician was giving twenty to forty grain doses three times a day. As soon as Dr. Yeo began using these larger doses, he saw admirable results follow. On inquiring into the *modus operandi* of the curative action of iodide of potash in internal aneurisms, he found that only a small proportion could be regarded as syphilitic, and even in these cases it was difficult to understand how the iodide did good. Another suggestion was that the iodide increased the coagulability of the blood; but post-mortem examinations seemed to show that the process of cure was obtained chiefly by “some peculiar action on the fibrous tissue, causing thickening and contraction of the walls of the sac.”

It had been noticed clinically that in some cases under the influence of the iodide, the pulsations in the aneurismal sac and throughout the arterial system, were much diminished in force, and this was referred to a reduction in the intra-arterial blood-pressure, brought about by the action of the drug.

Balfour was the first to bring iodide of potassium prominently to notice as a remedy for aneurisms. His doses were large: thirty grains three times a day for months. The effect of iodide of potassium is, he thinks, to produce diminution of the cardiac force and of the blood-pressure, and secondarily, diminution of the size of the sac, and thickening of its walls. Any coagulum present, Dr. Balfour thinks, is accidental, or at least not dependent on the action of the iodide.

Notwithstanding these favorable endorsements and the numerous reports of good results and improvement under the iodide, we are inclined to the opinion expressed by Strümpell, that but little action of lasting character can be expected on an aneurism from the use of internal remedies, although we are ready to accept Flint's injunction that the iodide should be faithfully tried in cases of thoracic aneurism. The influence of the drug may be increased if accompanied by a strict application of Tufnell's method of absolute rest in the recumbent position and a strict limitation of food and drink — ten ounces of solid food and eight of liquid being recommended as the limit to be aimed at. The patients possessed of the philosophy and self-control to submit honestly and persistently to such a regime are, however, rarely encountered.

Blood-letting as advocated by Valsalva is no longer practised, and it is also recognized that the withdrawal of food and drink beyond a certain point, which should be ascertained in each individual case, causes anæmia, weakness, irritability of the heart, impaired nutrition of the arterial walls; all of which certainly do not favor the formation of coagula.

Turning now to the operative processes, we have, in addition to pressure and the ligature — two well-established methods where the situation is favorable — galvano-puncture, and the introduction of foreign bodies such as fine wire, horse-hair, catgut, silk, etc.; the last two methods are still on trial, and have been practised in too small a number of cases to allow of very definite conclusions as to modes of application or as to probable results. The introduction of foreign bodies in particular has been practised, hitherto, we believe without exception, in rather desperate cases.¹ Galvano-puncture has occasionally been followed by cure in suitable cases, more often by disappointment and sometimes by inflammation of the sac and speedier rupture. It has also been accused of giving rise to emboli and regarded as dangerous for that reason. Both of these methods are well presented in a report of two cases by Dr. Robert Abbe, before the New York Surgical Society, incorporated in a paper² on aneurisms treated by the introduction of catgut, or

of wire, with electricity. He considers the introduction of foreign bodies as only indicated in the class of aneurisms springing from the aorta or its greater branches, not amenable to ligature and irresponsible to medicine, diet, or rest. Fifteen cases of the use of wire, silver, iron or steel, have been reported, two of which have been followed by recovery; in only two of the cases was there any trouble from emboli, and in one of these the origin was doubtful; eight of the cases gave autopsies, all except one showing coagulation. Barwell, Roosevelt, and Abbe have applied electrolysis after inserting the fine sterilized wire through a small insulated canula. All of these fifteen cases were regarded as desperate, and the fact that obliteration of the sac was produced in two large aneurisms of the abdominal aorta — in neither of which electrolysis was used — shows that the method is, at least, worthy of further trial and attention.

With regard to distal ligature in aneurism of the innominate, Barwell's position, that simultaneous ligature of the subclavian and carotid, when not contra-indicated, is preferable to consecutive ligature, is now generally accepted. A recent successful case, in which the operation was performed by Dr. John Ashhurst, was reported by Wharton.³ He finds that consecutive double distal ligation has been practised and reported in eight cases of supposed innominate aneurism, with three recoveries and five deaths, there being temporary improvement in one of the fatal cases. Of thirty-two cases of simultaneous ligation recovery followed in twelve, death in sixteen, temporary improvement in four. The ratio of recoveries is about equal, but the number of reported simultaneous ligations is considerably larger.

MUSCULAR ATROPHY CONSEQUENTIVE TO LESIONS OF THE JOINTS.

THE wasting of muscles in consequence of injury of joints in the vicinity has long been known, and was first remarked by John Hunter, who calls attention to it, under the head of sprains and dislocations.

Bonnet, in 1845, indicated muscular atrophy among the complications of sprain; and Roux, in the same year, mentions atrophy of the deltoid as following puncture in cases of scapulo-humeral hydrarthrosis. Gosselin also, in 1859, described the muscular atrophy consecutive to fractures of the long bones. Duchenne, of Boulogne, reports a case of sprain of the knee, with considerable swelling of the joint, which was followed by wasting of the thigh muscles, so that extension of the leg on the thigh became impossible.

Valtat, who has written a very complete treatise on the subject, has produced inflammation of the joints in animals, and has seen notable atrophy follow in the muscles above and below the joint affected. The atrophy comes on in less than a week after the injury, whether the lesion be experimental or accidental,

¹ An account of previous cases may be found in this Journal, Vol. cxii., p. 354.

² Medical News, April 9th, p. 397.

³ Proceedings College of Physicians, Philadelphia, March 2, 1887.

and is more apt to follow arthritis in young than in old subjects. It disappears rapidly when the joint-inflammation subsides.

Vulpian, who discusses the subject exhaustively in his recent work on "Nervous Diseases," attributes the pathogeny of this atrophy to "a special modification of the cells of the anterior gray horns of the spinal cord—a modification brought about by irritations emanating from the peripheral parts that are the seat of the injury, and whose final result is an enfeeblement of the trophic influence of those motor cells."

The same explanation applies to the muscular atrophy sometimes accompanying neuralgias, burns, wounds of nerves, etc.; and thus it will be seen that the pathogeny is essentially the same in these cases, as in atrophic spinal paralysis of infant and adult life, a diminution or impairment of trophic influence being the cause, although (it must be remarked) the spinal affection in the atrophy of arthritis, neuralgia, etc., is functional, rather than organic.

MEDICAL NOTES.

—It is stated by the *Medical Press*, on the authority of Dr. Grawitz, an assistant of Professor Virchow's, that in as many as one-third of the cases of so-called muscular rheumatism which have been examined *post-mortem*, the presence of the *trichina spiralis* has been demonstrated. In many of these cases, the parasites must have been present in the muscles for many years.

—Surgeon-Major Moore, of the English Army, the originator of the present ambulance system, has become blind and has been obliged to retire on the lowest rate of pension. The secretary for war, while admitting that the case was deserving of sympathy, declined to accede to any request that might be made a precedent for an increase of pension. It is not alone republics that are ungrateful.

—Quarantine has been established, except at Alexandria, by countries along the Mediterranean for ships arriving from Sicily. At Malta a stringent quarantine has been established against Sicily. Passengers arriving from other Mediterranean ports are obliged to produce a consular certificate that they have not been in Sicily for twenty-one days, before being allowed to land.

—The consular reports published by the Marine Hospital Service, April 21st, show that up to March 6th, there had been no appearance of cholera in Peru. Some cases had been reported on the eastern interior frontier of Bolivia, doubtless proceeding from the Argentine Republic, and energetic measures were being taken to prevent the spreading of the disease. Cholera, in Chili, was rapidly diminishing at last reports, early in March; a report of its appearance in Mexico has been officially denied by telegraph.

—The report comes from a Russian source, of a curious case of self-castration: A tall, powerfully-built, married peasant, twenty-nine years of age, who

had been subject to epileptic attacks, and had become morose, silent, and fond of religious literature, while reading one of his favorite books, suddenly, with a single pull, and without a cry, tore away his scrotum, together with the testes. Then, rising from the bank where he was sitting, he quietly handed the avulsed parts to his mother, who was near, with the words: "Take that; I do not want it any more." On admission to the hospital on the following day, there was found a lacerated wound as large as a man's hand, with an uneven base and irregular edges. The general condition was good; there was neither pain nor constitutional disturbance. The wound healed rapidly and well. A similar case had been previously reported by the same physician, the patient mutilating himself in this way while suffering from delirium tremens.

—The French developers of hypnotism seem to have carried their science to a point of supersession of the decalogue, and to have set their subjects on a plane exempt, even, from the civil law. Thus the Paris correspondent of the *Lancet* describes the history of a patient under the care of M. Mesnet, as related by him at a recent meeting of the Academy of Medicine: A young man, nineteen years old, whose mother was the subject of hysteria, had had fits of somnambulism from the age of fourteen. These became so frequent, by day as well as by night, that he was discharged by his employers. Besides the fits of sleep, he has general anæsthesia and analgesia, together with complete loss of taste and smell. At the end of last year he was admitted to the hospital. As a matter of course, he was at once utilized for experiment in hypnotism, and was found to be easily induced into the state of "hypnotic fascination" by the magnetic stare, and as easily awakened by being blown upon the face. It was interesting, says M. Mesnet, to ascertain whether this young man was accessible to post-hypnotic suggestion. Having been sent to sleep as usual, he was imperiously ordered to take the watch of one of the students on the following day, and then to endeavor to make his escape. At the appointed time, which was the usual visiting hour, he was seen to look contemplatively at the student's chain; he soon became fascinated by the shining links, and, after several struggles against the suggestion, he could resist no longer, and, detaching the chain, made an attempt to escape. When awakened, and the watch taken from his pocket, he was unable to account for its possession, but protested his innocence and burst into tears. This shows, says M. Mesnet, that a thief or assassin who cannot explain his acts, and declares he has no recollection of them, may be an unconscious agent. Although a magistrate will not believe his negation, he may have no knowledge of what he has done. Prosaic persons may hesitate to accept M. Mesnet's conclusions, but the fascinating action of watch-chains is now placed beyond doubt; and those who are affected with this variety of hypnotism in its chronic form will appreciate his soundness of observation.

NEW YORK.

—An anonymous gift of \$10,000 has been made, through Mr. George I. Seney, to the Methodist Episcopal Hospital, of Brooklyn. This is an institution which was founded by Mr. Seney, but, on account of his failure in business a few years ago, he was unable to carry out his plans in its behalf.

—The office furniture and fixtures of the Homœopathic Mutual Life Insurance Company have been attached by the sheriff, on the suit of certain policyholders, who claim that the company is insolvent. In the spring of 1886, the Superintendent of Insurance of Massachusetts discovered that its capital was impaired, and peremptorily ordered it to withdraw from business in the State.

—Much complaint having been made of the discomfort and injury to health resulting from the dusty condition of the streets during the past spring, the Mayor has commenced an enforcement of the ordinance prohibiting the sweeping of dirt from stores and dwellings into the street; and, at six o'clock one morning last week, no less than 283 arrests were made by policemen in citizens' clothes, the defendants being fined \$1 and \$2 each at the police courts.

Miscellany.

CATARACT INDUCED BY THE VIBRATIONS OF TUNING-FORKS.

DR. S. TH. STEIN, in order to examine the functions of the cochlea, as reported by the *Lancet*, acted on the eyes of very young porpoises, both in the un mutilated state and after the ears had been destroyed, by means of the vibrations of tuning-forks of different pitches. Cataract was produced in both classes of experiments. In the entire animals, continuous subjection to the action of a high-pitched tuning-fork induced cataract in from eighteen to twenty-four hours, while a tuning-fork vibrating 100 in the minute produced the same effect in twelve hours. In animals whose ears were destroyed, the cataract was much more quickly induced by the tuning-fork, some two or three hours being then sufficient. Dr. Stein's theory is that the condition of the lens is affected by the giving off of heat from the body, and that this is altered by the vibrations, the perception of sound again tending to retard the development of cataract. The members of the Moscow Medical Congress, before whom Dr. Stein related his experiments, did not appear inclined to accept his theories, and Professor Khodin remarked that it was not an uncommon thing for young porpoises to be born with cataract. To this, however, Dr. Stein replied that the cataract produced by his tuning-forks passed off after a time, and could then be re-induced by the same method.

DISTANCE-SUTURE OF NERVES AND TENDONS AND SOME APPLICATIONS OF ANIMAL GRAFTS.

GEORGE ASSAKY (Lille), reported to the French Congress of Surgery, the result of certain experiments made by himself and M. Fargin on the above

subjects, which are thus given in the *Annals of Surgery*, April, 1887. This suture consists in connecting by long suture threads the two ends of parts, the apposition of which is unobtainable. The first suture of this kind was made by Benjamin Anger for the tendon of the extensor minimi digiti; the two ends were nine cm. apart, but traction reduced the distance to two cm., and he connected them by a silver suture with a satisfactory result. Gluck substituted catgut in two cases with satisfaction. With M. Fargin, the author has applied distance sutures; the tendons regenerated along the threads are always stronger than those spontaneously regenerated; the number of tendinous fasciculi is greater. This operation is clearly indicated when apposition is impossible; it is more particularly applicable to tendons without a sheath.

They also made experiments upon the application of distance sutures to nerves. They interposed between the two ends of the divided nerves fragments of tendon, muscle and spinal cord. The mechanical conditions had great influence in the regeneration of nerve tissues; catgut gave the best result; silk threads remained indefinitely in place without taking part in the nerve regeneration. In every case examined microscopically, the cicatrix contained connective tissue, but also a great quantity of nerve fibres. This operation then seems to be indicated when the apposition of the two ends of the divided nerve is impossible, and also after certain surgical operations, the ablation of a neuroma, for example.

It was shown by their experiments that tendon may be grafted to animals of the same species and of different classes. These facts have already been applied to man twice. M. Peyrot has obtained in one case the transplantation of a dog's tendon and in another a cat's tendon. All attempts at nerve grafting completely failed; in certain cases there was no elimination, but it could be ascertained that the transplanted nerve-tissue did not enter into the regeneration.

THE PREVENTIVE INOCULATION FOR YELLOW FEVER.

THE United States Marine Hospital Service published, in its weekly abstract of sanitary reports, under date of April 14th, 1887, a despatch from the United States consul at Maricaoibo, dated March 7th, in relation to the subject of inoculation as a preventive of yellow fever, with enclosed copies of letters from the Venezuelan consul at Cucuta, Colombia, and from Dr. Bustamante, of the same city, from which it is learned that "Dr. Urricoechea, surgeon of the frontier battalion, inoculated, by way of experiment, and with good results, five of his soldiers. Twenty minutes after the operation the temperature gradually ascended to 40 C., accompanied with all the symptoms of yellow fever. This lasted forty hours, at the expiration of which the fever and all attendant symptoms had disappeared. This operation was effected in a place called Moras, three leagues from Cucuta, and where a body of troops is stationed, who have not come to this city for fear of the fever. At present, the inoculated soldiers are here, exposed to the action of the focus of infection. As in Moras, no case of the epidemic has as yet presented itself." Dr. Bustamante, in his letter, says, "as yet my labors in the field of inoculation as a preventive of yellow fever are only, it

may be said, mere experiments, which, although they may satisfy me with a well-founded hope of successful and complete result, cannot be of genuine utility until the best and most efficacious method is decided upon. I am thinking, however, of making an abstract of my observations, together with the method pursued, the results obtained, and everything that may be useful in the premises. For the present, I will confine myself to the statement that, in more than forty persons whom I have inoculated, a fever, with many of the characteristic symptoms of yellow fever, has presented itself; this fever, developed by inoculation, varying several tenths of a degree, and, in some cases, ascending to 41°C ., but never presenting the most grave symptoms of yellow fever. The result of my observations permits me to state positively that the fever produced by inoculation is attended with no danger; and it is safe to inoculate, as I have already done, from children of two years of age to the oldest individuals. Many of the persons inoculated have come to this city, and in no case has the yellow fever attacked them, which gives me hope of a final result completely satisfactory. The municipality, assisted by the merchants, sent to Mexico, January 10th, a commission composed of two physicians, in order to study the inoculation of the fever."

THE METRIC SYSTEM.

PROF. OLBORG publishes in the "Pharmacist," a long and interesting article, assigning grave reasons why the present — which he calls "Anglo Saxon" system should be preferred to the metric system.

A writer in the *Scientific American*, gives his preference for the old system, and says:

"I have gone, this summer through the workshops of almost all the great countries on this side of the water, and have seen the practical use of the system that I have for so long a time condemned."

I have frequently asked engineers if they liked the system, and I will give the answer of one in Berlin. "We use it because we have to, and it is better to have some uniform system than the many measurements that formerly prevailed in the German States. We do not like the metric system because it has too small a unit, and the metre is too large and involves the use of too many decimals. When we consider the interests involved, it will be seen that the population now making practical use of the English standard is greatly in excess of that using by force, the French system. I am more confirmed in my opposition to the enforced adoption of the metric system in my country, and firmly believe that those countries that have adopted it are at a disadvantage (as compared with even the most imperfect of our systems)."

To show the opinion of doctors and druggists of the United States, Dr. A. C. Matchett tells the *Medical Brief*, "that a year since he asked for an expression of approval or otherwise of the metric system of weights and measures, from the medical profession and the druggists of the United States and found seventeen physicians and thirty-one druggists in favor of the system, and 3611 physicians and 2764 druggists opposed to it. The forty-eight wise men who wish for it have, however, made more noise than all the 6405 who do not want it. Leaving aside all argu-

ments, the majority, as it seems from the above statistics (and the majority always rule), say stick to the old system. Why try a system that was only made compulsory and used in a country that had such a multiplicity of measures, almost one to each province, that a general system had to be adopted in order to remedy the evil of varying local standards. Just as well to have adopted our system, for Sir John Herschel has pointed out that the polar axis of the earth is almost exactly 500,500,000 inches, and that the inch may therefore be considered quite as properly a national standard as the metre, and that the desirable correlation between volume and weight may be found in the fact that a cubic foot of distilled water weighs nearly a thousand ounces. By slight changes of the units this relation might be made exact, and the inch become equal to 1,500,000.000 part of the earth's polar axis; twenty-five of such inches making a cubic equal to the 1.10,000,000 part of the polar radius.

Correspondence.

TEN YEARS OF METRIC PRESCRIPTIONS.

($10 \times 0.1 = 1.0$)

SALEM, April 13, 1887.

MR. EDITOR,— Would it not be of interest if the enthusiastic pioneers of the metric movement, who advocated its adoption so cogently in the columns of the *JOURNAL*, a decade or so ago, should now report through the same medium to what extent the seed then sown has borne fruit? It will be remembered that at that time, or soon after, the *JOURNAL*, with the view of familiarizing and helping forward the cause, presented an epitome of the metric system in medicine, on the last page of each number, for a period covering several months, but the practice finally fell into desuetude, and for some years, or since the exposure of the *c.c.* fallacy, but little has appeared in print concerning the system.

In the following few lines, is embodied the writer's uneventful experience in writing metric prescriptions *exclusively*, for the past ten years (with the solitary exception of a receipt once given to a friend when in London).

His first one (April 23, 1877) was thus written:

Zinci sulph.	:	:	:	:	gr. 1	0.06
M. Aq. rosæ.	:	:	:	:	3 1	31.0

With a view to educate the apothecary up to the decimal point, this double method was continued for over a year on every prescription that was written.

This modification was then made — most of the reputable druggists of Salem and vicinity having, in the meantime, provided themselves with metric weights:

Zinci sulph.	:	:	:	:	0.05	5 centig.
Aq. rosæ.	:	:	:	:	30.0	30 grams.

But after the lapse of a few months the translation on the right was omitted, and the plan that prevails in Germany was adopted and continued to the present time. (In France, where the paternal oversight is so fully developed, the quantities of the ingredients of *les ordonnances* are ordinarily written instead of being expressed in decimals.)

Some thousands of prescriptions I have been written in the last ten years by the undersigned, and it is rather remarkable that none have ever been returned by a perplexed dispenser (excepting once or twice, when the quantities were inadvertently omitted) — a fact that speaks volumes for the progressive tendency of the American apothecary, or else for the ingenuity with which he adapts himself to unknown ways.

It must be confessed, that one conscientious but irascible

apothecary made a most violent onslaught on the writer, by letter. In it, he said, he should positively refuse to have anything to do with a system that was in direct violation with the laws of the land, and the general adoption of which would surely give rise to fatal accidents and much woe.

As a matter of fact, so far as is known, no mistakes or accidents have ever been traced to the writer's lawless method of ordering medicines.

The compilers of the last "United States Pharmacopœia" (edition 1882), indecreeing that measures of capacity should be expressed in parts by weight, doubtless did much towards familiarizing both physicians and pharmacists with the metric idea.

Not infrequently, patients on glancing at the prescription have recognized it as a decimal one and have ex-

pressed themselves favorably of the system. But not long ago, a bucolic female, after attentively examining a prescription, appended to the several ingredients of which were 1.0, 0.50, etc., asked if the figures indicated the cost of each article, for, if so, she could hardly afford to have the receipt prepared.

It is scarcely necessary to say that after a trial of ten years, in writing metric prescriptions and in recording cases of refraction after the decimal system, the writer is not inclined to return to cabalistic symbols, or to the inconveniences of vulgar fractions.

Allowing that the lineal standard is not exactly all that is claimed for it, perhaps the metre rests on a better scientific basis than does the old English inch, which represents the length of three barley-corns.

Very truly yours, D. COGGIN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 16, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	825	306	15.12	20.40	1.92	7.12	2.16
Philadelphia	993,801	450	166	11.22	12.98	.88	3.30	5.08
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	148	57	14.28	15.64	1.36	3.40	1.36
Boston	400,000	188	65	9.54	15.37	1.16	3.71	1.59
New Orleans	242,750	114	34	18.48	15.84	10.56	2.64	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	76	31	14.52	2.64	2.64	1.32	1.32
Pittsburgh	210,000	93	52	17.28	23.76	—	2.16	6.48
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	60	35	14.76	11.48	—	3.28	8.20
Providence	121,000	49	16	18.36	14.28	—	4.08	10.20
Richmond	100,000	30	12	13.33	16.66	—	3.33	3.33
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	—	—	—	—	—	—	—
Charleston	60,145	34	7	8.82	17.64	—	—	8.82
Portland	40,000	9	0	—	—	—	—	—
Worcester	68,383	27	9	10.20	13.60	—	10.20	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	25	11	20.00	30.00	—	5.00	15.00
Fall River	56,863	26	7	3.85	7.70	—	—	—
Lynn	45,861	17	3	—	23.52	—	—	—
Lawrence	38,825	23	9	13.05	8.70	—	—	—
Springfield	37,577	10	3	20.00	20.00	—	10.00	10.00
New Bedford	33,393	16	3	6.25	18.75	—	—	—
Somerville	29,992	6	—	—	32.33	—	—	—
Salem	28,084	10	3	20.00	10.00	20.00	—	—
Holyoke	27,894	9	3	—	33.33	—	—	—
Chelsea	25,709	13	1	7.69	15.38	7.69	—	—
Taunton	23,674	10	—	—	10.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	—	14.28	14.28	—	—	—
Brockton	20,783	8	2	—	25.00	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	5	—	—	40.00	—	—	—
Fitchburg	15,375	5	—	—	20.00	—	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Newburyport	13,716	5	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,295; under five years of age 839; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 309, acute lung diseases 387, consumption 364, diphtheria and croup 110, measles 57, diarrhœal diseases 41, scarlet fever 27, typhoid fever 21, whooping-cough 15, cerebro-spinal meningitis 10, erysipelas five, malarial fever nine, puerperal fever nine. From scarlet fever, New York 13, Pittsburgh four, Philadelphia and Boston, three each, Baltimore two, District of Columbia and Milwaukee one each. From typhoid fever, Philadelphia eight, Baltimore four, Boston, District of Columbia and Lawrence, two each, Pittsburgh, Fall River and Gloucester one each. From whooping-cough, Baltimore four, New York and Philadelphia, three each, Milwaukee two, Pittsburgh, Providence and Lawrence one each. From cerebro-spinal meningitis, New York five, Milwaukee two, Richmond, Baltimore, and Springfield, one each. From malarial fevers, New Orleans six, District of Columbia three. From puerperal fever, Philadelphia and Pittsburgh, two each, Boston, Baltimore, Cambridge, New Bedford and Newton, one each. From erysipelas, Philadelphia two,

Richmond, District of Columbia and Providence one each. From small-pox New York five. Pittsburgh one case of small-pox.

Cases reported in Boston: measles 60, diphtheria 25, scarlet fever 22, and typhoid fever 15.

In the 19 cities and greater towns of Massachusetts, with a population of 949,534 (population of the State 1,941,465) the total death-rate for the week was 22.18 against 21.95 and 22.22 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 2d, the death-rate was 21.6. Deaths reported 3,831: infants under one year of age 807; acute diseases of the respiratory organs (London) 417; measles 239, whooping-cough 105, scarlet fever 37, diphtheria 32, diarrhœa 32, fever 25.

The death-rates ranged from 14.6 in Brighton to 33.1 in Blackburn; Birmingham 18.8; Bradford 17.2; Hull 22.0; Leeds 23.1; Leicester 20.0; Liverpool 26.5; London 19.7; Manchester 28.7; Newcastle-on-Tyne 25.2; Nottingham 20.7; Sheffield 23.1. In Edinburgh 21.6; Glasgow 25.4; Dublin 31.3.

The meteorological record for the week ending April 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, Apr. 16, 1887.																				
Sunday,...10	29.942	65.0	80.0	52.0	55.0	32.0	55.0	47.0	W.	W.	W.	14	14	12	F.	C.	C.	—	—	
Monday, ...11	29.966	59.0	75.0	46.0	49.0	44.0	61.0	51.0	W.	W.	N.	8	29	16	O.	F.	C.	—	—	
Tuesday,...12	30.309	40.0	47.0	37.0	54.0	56.0	70.0	60.0	N.	E.	E.	8	12	1	O.	O.	O.	—	—	
Wednesday,...13	30.364	37.0	42.0	33.0	52.0	54.0	45.0	50.0	N.E.	S.E.	N.	14	8	12	O.	C.	C.	—	—	
Thursday, 14	30.205	40.0	46.0	30.0	35.0	43.0	39.0	39.0	N.	E.	S.E.	8	12	6	C.	C.	C.	—	—	
Friday, ...15	30.012	41.0	45.0	23.0	51.0	57.0	47.0	52.0	N.E.	E.	S.	4	8	7	C.	F.	R.	3	—	
Saturday, 16	29.623	39.0	43.0	36.0	99.0	94.0	87.0	93.0	E.	N.E.	N.	14	13	12	R.	C.	C.	14	.46	
Mean, the Week.	30.060	46.0	54.0	38.0				56.0										17½	.46	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; St., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 16, 1887, TO APRIL 22, 1887.

MOSELEY, EDWARD B., captain and assistant surgeon. Ordered for duty at Whipple Barracks, Ariz. S. O. 89, A. G. O., April 18, 1887.

APPOINTMENTS.

CHARLES E. WOODRUFF and JULIAN M. CABELL, to be assistant surgeons with the rank of first lieutenant, to date from April 14, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 23, 1887.

RUSSELL, A. C. H., passed assistant surgeon. Ordered to duty at Naval Laboratory, New York, May 2, 1887.

HEFFENGER, A. C., passed assistant surgeon. Ordered to Widow's Island, Me., to superintend building a naval hospital, wharf, and other improvements under instructions of the surgeon general of the Navy.

WOODRUFF, CHAS. E., assistant surgeon. Resignation accepted to take effect April 8, 1887.

SOCIETY NOTICES.

BOSTON MEDICAL ASSOCIATION.—The Annual Meeting will be held at 19 Boylston Place, on Monday, May 2, at 4 p.m. Election of officers.

WILLIAM D. HODGES, M.D., *Secretary*.
220 Clarendon St., April 25, 1887.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, on Tuesday evening, May 3d, at 8 o'clock. Dr. S. J. Mixer will report a "Case of Tumor of the Breast." Dr. E. G. Brackett will make a communication on the "Experimental Value of Dow's Splint." Dr. E. O. Otis will read a paper on "Injuries of and Operations upon the Kidney."

G. H. MONKS, M.D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday evening, May 2d, at eight o'clock. Readers: Dr. A. F. Holt, "A Case of Acute Red Atrophy of the Liver." Dr. O. F. Wadsworth, "A Case of Recurrent Paralysis of the Third Nerve."

CHARLES P. STRONG, M.D., *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at 19 Boylston place, on Saturday, April 30, 1887, at 7.45 p.m. Papers: Dr. E. G. Cutler, "Three Cases of Dyspepsia." Incidental business: Action on the proposed Amendment to By-Law XV by the addition of the following clause: "The nominating committee is requested to report annually the names of one-fifth of the candidates for members of the Council from Fellows who have not held the office of Councilor during the three preceding years." Reports of the Treasurer, Librarian, and the Committee on Social Meetings. Election of officers. Supper after the meeting.

HERBERT L. BURRELL, M.D., *Secretary*

ASSOCIATION OF GENITO-URINARY SURGEONS.—The first annual meeting of this Association will be held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887.

R. W. TAYLOR, M.D., New York, *Temporary Secretary*.

ERRATUM.

The name of the author of the article on "The Circulation of the Blood in the Orbit, Studied by means of the Plethysmograph," page 369 of the last issue of the JOURNAL, should have read F. W., and not W. F. Ellis.

APPOINTMENT.

Dr. J. Orne Green has been appointed Aural Surgeon to the Massachusetts General Hospital.

OBITUARY. JOHN SYDENHAM FLINT, M.D.

Dr. John S. Flint, of Roxbury, Mass., died on Saturday, April 16th, at the age of sixty-three, from double pneumonia, after an illness of four or five days. He was born in Leicester, Mass., and graduated from Harvard College in 1843, and from the Harvard Medical School in 1846. He was of a medical family, his father having been a physician; he was also related to the late Dr. Austin Flint, of New York. The greater part of his professional career was passed in Roxbury, where he enjoyed an excellent practice.

BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Board of Health of the City of Brockton. 1886.

On Cataract Extraction without Iridectomy. By H. Knapp. 1887. (Reprint.)

Notes on Minor Surgery. Edward O. Otis, A.B., M.D., Boston, 1887. (Reprint.)

The Second Annual Report of the Board of Health of the City of Hartford, Conn. 1887.

Report of the Special Committee on the Disinfection of Rags. American Public Health Association. 1886.

Announcement of the Twenty-Ninth Annual Session of the Long Island College Hospital, Brooklyn, N. Y. 1887.

Seventy-Third Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum. 1886.

Hystérie et Traumatisme. Paraly-sies, Contractures, Arthralgies, Hystéro-traumatiques. Par le Dr. Paul Berbez. Paris, 1887.

Ninth Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital, No. 1007 East Baltimore Street, Baltimore. 1886.

Anatomy, Descriptive and Typographical in 625 Illustrations. By Carl Heitzmann, M.D. English Edition by Louis Heitzmann, M.D. Vienna: W. Braumüller. New York: J. H. Vail & Co. London: Dulan & Co. 1887.

A Text-Book of Pathological Anatomy and Pathogenesis. By Ernst Zeigler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students, by Donald Macalister, M.A., M.D. Three parts complete in one volume. New York: Wm. Wood & Co. 1887.

Original Articles.

DEATHS FROM GONORRHOEA.

BY ABNER POST, M.D.

IN looking over the literature of gonorrhœa I have been particularly impressed by the many fatal cases recorded, and the variety of ways in which the fatal termination may be brought about. Every surgeon realizes the immense death-rate from strictures which owe their origin to a gonorrhœa of many years previous, but the fact that death occurs from the acute disease is seldom realized and may even be novel to many. I have taken pains to bring together a series of cases to illustrate the possibility of such an accident and the various means by which it occurs. To judge the disease from such a collection as is here presented would be entirely unfair, but it is not unfair to represent the disease in its most serious aspect as an offset to the trivial way in which it is so often regarded.

Some of the following cases illustrate improprieties in the conduct of the disease, but they serve my purpose well, for some at least, of the severest cases owe their severity to improper conduct on the part of either physician or patient. It cannot be far from the truth, to say that a very large proportion of the severe complications of the disease are directly brought about by some impropriety.

As confined to the anterior urethra, that is, the urethra anterior to the compressor urethræ muscle, the disease is ordinarily harmless, so far as immediate danger goes; yet even here fatalities occur. Voillemier¹ reports a case:

A man with a urethritis and a very painful chordee "broke" the chordee in true French fashion and died of purulent infection. At four and one-half centimetres from the meatus was a complete rupture of the canal, and the cavernous bodies were almost completely destroyed by suppuration.

Another case occurred in the practice of Villeneuve.² The patient was suffering from "intense chordee and continual erection, to relieve which twenty leeches were applied. Two days after a scab formed on the most prominent part of the curve; when it fell off the corpora cavernosa were exposed for a length of three or four centimetres. Rigors, pains in the joints of the upper extremities, purulent effusion into the left elbow joint and delirium followed, with arterial hæmorrhage from the slough on the penis, which caused the patient's death. Phlebitis of the prostatic plexus, metastatic abscesses in the left lung and liver, and pus in the elbow-joint were found after death." Pyæmia is one of the most frequent of the fatal terminations, and follows prolonged suppuration due primarily to gonorrhœa in other portions of the genito-urinary tract, as we shall have abundant opportunity to see later.

When the disease extends beyond the mid-urethral sphincter, as it so often does, it opens up a field of greater danger. In the prostate the gonorrhœal inflammation may be follicular when it is one of the causes of obstinate gleet; or parenchymatous abscesses may form, which may open externally, into the rectum, or the urethra, or in any two of these three

directions. When the pus is discharged through the urethra the symptoms usually vanish with great rapidity. Not unfrequently, however, according to Fournier, the suppuration from a prostatic cavity continues indefinitely and proves fatal after a long period of suffering and cachexia. Dr. Pitman, of St. George's Hospital, reports a case in which the death was rapid.

John E., aged twenty-five, a baker, was admitted April 25th to St. George's Hospital. He had had gonorrhœa for a fortnight, with pain across the loins. Four days before admission the pain increased in severity, and extended down the legs so that he had to discontinue work. He never had any chills. On admission he had much the aspect of a fever patient. He was unable to pass urine except with the aid of a catheter. May 1st, he was delirious with involuntary evacuations. Eight days after admission he died.

Post-mortem. The body was in good condition; there was profuse purulent discharge from the urethra which had collected about the glans penis. The right kidney was healthy, in the left the pelvis and ureter were rather more vascular than usual. Peritoneum healthy. The mucous membrane of the urethra seemed slightly injected in parts, but this appearance was so slight that little reliance could be placed upon it. The muscular fibres of the bladder seemed rather thicker than natural, but showed no trace of inflammation. Between the bladder and the rectum was a large abscess which at the time of the examination communicated with the floor of the prostatic urethra by two ragged orifices. The tissue of the prostate gland was extensively destroyed and eroded by the abscess, and on squeezing the abscess, pus could be made to exude by the prostatic ducts; but in parts near the abscess the tissue of the prostate seemed healthy. The cellular tissue in the neighborhood of the abscess was condensed; in other parts of the pelvis it was healthy.

The account allows us to wonder whether the abscess might not have been due to punctures from the catheter. Be that as it may, the dependence of death upon the gonorrhœa would be undisputed.

In these cases the suppuration itself seems to have been directly the cause of the fatality. It is more often the cause which sets in action some secondary cause. In the *Annales des Maladies des Organes Génito-Urinaires*, (Volume II, No. 9,) is a case in which the abscess of the prostate was followed by pyæmia. A man had had four years previous his first gonorrhœa which lasted six or seven weeks. Two months previous to the date of narration he contracted a second which was nearly well when retention of urine appeared. Catheterism was performed with the effect of causing marked bleeding which continued at intervals for three or four days, until his entrance to the Hospital Necker, under the care of Guyon, where he died shortly, with partial suppression, albuminuria, and uræmia. Autopsy showed the prostate to be the seat of a parenchymatous abscess, which was the cause of the retention, and the posterior urethra was torn by the point of the catheter. The bladder showed in the vicinity of the neck and the trigone very marked inflammatory alterations, the right ureter was dilated and corresponding kidney was intensely congested. There were metastatic abscesses in the lungs, the liver and other organs.

Lallemand gives a case of a man who had frequent

¹ Voillemier, p. 9, Case 8.

² Gazette Hebdom., 1873, p. 210. Quoted in Milton on Gonorrhœa, p. 215.

attacks of gonorrhœa, and died with an abscess of the prostate, and pyelo-nephritis.

Occasionally, gonorrhœal cystitis is succeeded by pyelitis, the inflammation creeping up one or both of the ureters to involve the kidneys. This process is recognized more frequently since infection from external sources has come to play so great a rôle in surgical pathology.

Dr. Murchison reports the following cases: Stephen H., aged twenty-eight, a grocer's assistant, was admitted to the London Fever Hospital on June 4, 1885, in a state of profound coma, with low muttering delirium and dry brown tongue. Three hours after admission he died, having had several attacks of general convulsions. The symptoms obtained were of little value. After his death it was ascertained that he had been suffering for some time from gonorrhœa, for which he had been taking copaiba, and that the cerebral symptoms had come on suddenly only thirty hours before admission. In fact, he had gone to his employment on the morning of the day before admission into hospital.

After death the entire length of the urinary passage from the anterior end of the urethra to the pelves of the kidneys, was found to be in a state of intense inflammation, the mucus membrane being tightly injected and its surface bathed with pus. Both ureters were full of thick, yellow pus. The kidneys were much enlarged, but their outer surface was quite smooth; they were of a deep purple almost black hue and a quantity of dark blood dripped from their cut surface.

Marie D., lady's maid in a nobleman's family, was admitted into the London Fever Hospital on January 31, 1866, quite unconscious; her breathing became stertorous, the stupor more profound, and she died February 2d.

After death it was ascertained that she had appeared well during the day before admission, having travelled on that day from Paris with the cook, who served in the same family. On reaching London in the evening she ate a good meal, but during the night she wandered a good deal, and on the morning of January 31st, she had a convulsive fit followed by unconsciousness.

At the post-mortem the membranes and substance of the brain were found to be intensely hyperæmic, but there was no exudation of lymph and no sign of tubercle within the cranium or lungs.

Both kidneys were in the early stages of acute nephritis, large, smooth and almost black from intense congestion. The ureters and the pelves of the kidneys were full of thick yellow pus, the bladder also contained pus. The lining membrane of the vagina, the urethra, bladder, ureters and pelves was intensely red.³

Delafield has seen one similar case. The patient was a prostitute who came into the hospital with specific (that is, gonorrhœal) vaginitis. After a few days she developed symptoms of an acute cystitis; after a few more days she was attacked with rigors and a febrile movement, passed rapidly into the typhoid condition and died. At the autopsy there were found acute cystitis, pyelitis, and numerous small abscesses in both kidneys.

At the discussion on Dr. Murchison's cases, Dr. Greenhow mentioned a similar case which he saw when he was a student at Edinburgh. A man died in

a state of coma of thirty-six hours' duration. He was supposed to have been poisoned, but was the subject of gonorrhœa, for which he had been taking copaiba, and using injections. Sir William Newbiggin attributed the death to cerebral metastasis from gonorrhœa checked by treatment.

In the summer of 1885 I was asked to examine for stone, the bladder of a young boy suffering from cystitis; he denied gonorrhœal antecedents and his history as given warranted a suspicion of calculus. The examination was made. It was followed by an exacerbation of symptoms, and a pyelitis became evident.

After some months of suffering the boy died, evidently of pyelitis, though no autopsy was obtained. During his sickness a more rigid cross-examination elicited the fact that the cystitis was gonorrhœal. Of course the examination ought not to have been made, the history of gonorrhœa ought to have been learned at first. I am not sure that the disease had not already extended up the ureters when the examination was made, but the increase in severity of symptoms followed very closely on the examination, and the case may well stand as an illustration of the impropriety of meddling recklessly with an inflamed bladder. The ease with which such an error may occur, was illustrated within a very few days. A little boy of thirteen was referred to me at the City Hospital for examination for stone, by a gentleman whose diagnostic ability in urinary cases is well recognized. The boy complained of pain at the end of micturition and the occasional passage of blood in small amounts. He was undersized and looked much less than his years. The house-surgeons recognized him as a recent victim of gonorrhœa, and a more careful review of the case established the diagnosis of gonorrhœal cystitis.

Peritonitis and subperitoneal phlegmon ought to be joined to the number of the possible complications of gonorrhœa.⁴ These accidents are the remote effects of gonorrhœal inflammation propagated from the urethra to the peritoneum or to the subperitoneal cellular tissue through the intervention of the deferent canal, the vesiculæ seminales, the prostate, perhaps from the bladder, the ureters, or the kidneys and from the cellular atmosphere which surrounds them, so that gonorrhœal peritonitis may begin at various points in the pelvic region, at the recto-vesical cul-de-sac, at other times from the internal orifice of the inguinal canal and will always be preceded by more ordinary complications. Peritonitis after inflammation of the cord was observed by Hunter, and Ricord is said by Fournier⁵ to have observed it many times. Ricord is also reported by the same authority to have seen two cases in which gonorrhœal inflammation of the prostate was propagated to the peritoneum, causing at first a pelvic peritonitis which became general and terminated fatally.⁶

The following case is interesting as bearing upon the subject under consideration and also from the distinguished names attached to it.

L. L., aged sixteen, entered the Hospital la Charité June 4, 1856, in the service of M. Velpeau, for a left blennorrhagic epididymitis. The gonorrhœa had lasted fifteen days and the epididymitis five days. The epididymitis proceeded rapidly towards resolution and the discharge had ceased when the patient was taken

⁴ Faucon. De la péritonite et du phlegmon sous-péritonéal, d'origine blennorrhagique. Arch. Gen. de Méd., 1887, vol. ii, page 345 et 386.

⁵ Nou. Dict. V. p. 214.

⁶ Nou. Dict. V. p. 203.

with chills and general malaise and vomiting. On the 17th the patient was transferred to the medical service of M. Craveilhier, and on the 21st he died of peritonitis. The autopsy showed a generalized peritonitis. Pus exuded from the prostate. The left vesicula seminalis contained a small quantity of purulent liquid. That vesicula was larger than the right, and the cellular tissue which surrounded it was very injected and thickened. The deferent canal was greatly injected as well as the surrounding cellular tissue, and it adhered closely to the peritoneum which covered it. The peritonitis had started from the recto-vesical cul-de-sac.

It does not seem very hazardous to say that some, at least, of the cases of peritonitis in the male, of unknown or supposed idiopathic origin may have arisen from gonorrhœa, in one of the many ways mentioned.

Gonorrhœal rheumatism opens up a long list of serious cases, though fatal cases are uncommon. But a short time ago the comparative table of the symptoms of gonorrhœal and ordinary acute rheumatism, which is almost inseparable from an account of gonorrhœal rheumatism, used to specify that gonorrhœal rheumatism did not attack the heart. That is no longer considered a characteristic of the gonorrhœal disease. In 1854, Brandes, of Copenhagen, reported a case of endocarditis, and at least sixteen cases had been reported up to 1883, the date of Mr. Milton's book, in which the cases are collated. Of these, two were fatal. One is given by M. Tixier from the practice of M. Lorain. "There was cardiac complication with bellows sound; also disturbance of circulation, succeeded by signs of mitral insufficiency, with considerable hypertrophy, all following upon blennorrhagia with rheumatic pain. Later on came asystolism succeeded by death from cardiac disease."⁷

In 1833, Mr. Stanley published the paper on "Irritation of the Spinal Cord and its Nerves, in Connection with Disease of the Kidneys," on which was founded the theory of a reflex urinary paralysis. In that paper were narrated two cases in which complete motor paralysis involving the lower extremities and the sphincter, together with loss of sensation, ensued upon gonorrhœa; one was fatal in sixteen hours, the other in about a fortnight with sloughing.

Many other instances of supposed reflex paraplegia following upon gonorrhœa, some of which have ended fatally and some in recovery, are scattered through medical literature. Sir W. Gull has shown that these cases of supposed reflex paralysis from gonorrhœa really depend upon distinct inflammatory changes in the cord, appreciable with the microscope, and that these changes are produced by means of an infection whether purulent or specific. Two of Gull's cases are as follows.⁸

The patient contracted gonorrhœa eight months previous. On January 18, 1855, he thinks he slept in a damp bed and three days afterwards began to have pain and weakness in the legs, and about the neck and occiput. On the 26th, he had a rigor and the weakness of the legs was rather suddenly increased with loss of sensation about the ankles and formication. Incontinence of urine came on at the same time with bed-sores, frequent involuntary spasms of both legs, etc. He died rather suddenly May 16th, four months from the beginning of his symptoms. To the

naked eye the cord showed no changes, but extensive disorganization was evident, was shown by the microscope.

Henry F., aged twenty-one, had gonorrhœa many times and a permanent gleet. He was quite well on Tuesday morning, March 1, 1853. In the afternoon he began to have pain between the shoulders, and diarrhœa. Pain in the back increased during the night and spasmodic tremblings in the legs. On March 4th, at Guy's Hospital under Mr. Bransby Cooper, the following condition was found: complete loss of motion below the sixth dorsal vertebra; the muscles of the seventh intercostal space did not act in respiration; sensation was perfect above the line indicated, but on the abdomen pricking the skin gave no pain and only the faintest sensation; in the legs there was complete anæsthesia. A fortnight later he died, exhausted by irritative fever and sloughing. The cord was generally softened as high as the middle of the dorsal region. Between the bladder and rectum there was an irregular abscess, with sloughing walls, communicating with the bladder by a large perforation of its coats. Near the bulb was a more recent abscess filled with healthy pus.

If these two cases of Gull's stood alone, the association between gonorrhœa, and the changes in the cord and death might be regarded as accidental, but they belong to a series of cases sufficiently long to be quite convincing.

We have seen pyæmia as a frequent cause of death in various complications. Sometimes, however, purulent infection takes place without other appreciable lesion than the gonorrhœa itself. Mr. Milton makes an especial heading of gonorrhœal pyæmia under which he relates two cases, one from Dr. Charteris,⁹ a boy of seventeen with his third case of gonorrhœa with retention of urine for which no cause is given. He died with the usual symptoms of pyæmia and with purulent collections in both shoulder-joints. The second was a man of thirty whose gonorrhœa had already lasted two years.

No attempt has been made to include every published case of fatal gonorrhœa in this list. These are rather some of the cases that have fallen under my notice, and which have been selected to represent the many ways in which the disease may prove fatal. The list might have been very materially — I am tempted to say indefinitely — increased. The results of stricture have been purposely omitted, as well as those numerous cases peculiar to women, in which pelvic inflammation consequent on gonorrhœa wears out the patient with months of suffering.

In these cases the ages are rarely given, but the number of times in which the victim is said to have been a boy under twenty is noticeable. I am inclined to believe that the disease is often exceedingly severe in the precocious youths who acquire it while yet in their early teens. Some of these boys are rather wanting in physical development, and some, at least, would be described as scrofulous — a class exceedingly prone to a severe type of urethral inflammation.

Extended travelling, as in the case of the lady's maid of Murchison's case of pyelitis, is to be feared during the acute disease. It hardly seems possible that the rapid death of that young woman could be attributed solely to her journey from Paris to London; but serious difficulties, short of death, occur often enough

⁷ Milton on Gonorrhœa, p. 316.

⁸ Medico-Chirurg. Trans. t. xxxix, p. 200. 1856.

⁹ Brit. Med. Journal, 1876. Vol. ii, p. 712.

under similar circumstances to make a journey of any length particularly undesirable. Some of the more active occupations entail similar unpleasant consequences.

Finally, these cases serve to emphasize the fact that gonorrhœa may be an exceedingly grave disease, which does not exhaust itself in the urethra, and that its possibilities render it an object worthy of study by the conscientious student, and of honest care by the attending physician.

A CASE OF HODGKINS' DISEASE.¹

BY HAROLD WILLIAMS, M.D.

I was called, July 10, 1886, to see Mr. D., a young gentleman, twenty-seven years of age, a chemist by profession, and married. He had been ill since May, 1886, and had come to Nantucket in June, 1886, with the hope that a change of climate might prove beneficial. The history of his illness was nearly as follows: In May, 1885, while out walking, Mr. D. suddenly felt dizzy, and his vision became defective. He walked home with difficulty, his difficulty in locomotion being due, he thought, to an inability to hold himself erect. Previous to this he had been perfectly well. There was no history of malaria nor syphilis. A few days later Mr. D. became totally deaf, and, at this time, a swelling made its appearance over the inner maleolus of the left leg. This swelling increased in size; was intensely painful, and was of a bluish color, but subsided at the expiration of ten days. There was no injury. As the swelling at the ankle began to subside, several smaller swellings appeared in both legs and thighs. These smaller tumors also disappeared, and were, in their turn, followed by a swelling as large as an orange in the right buttock. At this time there was paralysis of the left leg and thigh. This swelling in the buttock slowly diminished in size for three weeks, when it again increased, and again diminished. His physician told him that his spleen was enormously enlarged; and one oculist who was consulted said that his impaired vision was due to hemorrhage, while a second oculist assured him that there had been no hemorrhage. This takes us up to Christmas, 1885, on which day the patient went out-doors. After this there was gradual improvement, though it is probable that the swelling in the buttock never totally disappeared, and the deafness still persisted, though slightly improved.

On July 10th, when I first saw the patient, he was in bed. He complained of much pain, and was so deaf that I could scarcely make him understand me. His body was well nourished; the lips were red, the finger-nails pink, and there was no appearance of leucæmia. Pulse 89, temperature 102°. There were three tumors: one on the left side of the thorax, bounded by the sternum, the third rib, the posterior axillary line, and the eighth rib. This was the largest, and I considered it the forward extension of enlarged axillary glands. The second was in the neck, extending downward beneath the left clavicle, and upward to a point two inches above it. I could not estimate its lower boundary, because of the pain caused by percussion. The third tumor was in the right buttock, and seemed to lie above the gluteus maximus. It was as large as

a very large orange. These tumors were very hard to the touch, and the skin over them was of a reddish-blue color, hot and painful, but movable. There was enlargement of the spleen, huskiness of speech, slight difficulty in swallowing, and defective vision. The patient was taking iodide of potassium and small doses of morphia, to relieve pain. This treatment I continued.

On the following day the patient was much worse, and in the afternoon I found him in a semi-comatose condition, from which it was difficult to rouse him. He had vomited at different intervals throughout the day, and there was much difficulty in swallowing and articulation. Pulse 150, and very feeble; respirations 40. The condition of the tumors seemed, outwardly, the same.

The vomiting, feeble and rapid pulse and respiration, and the disturbance of the functions of the larynx, seemed to me to denote pressure by the tumor in the neck on the deep-lying nerves of the trachea, and I warned the family that I considered the case nearly hopeless. Brandy and coffee were given by the rectum.

Instead of dying, as I expected, the patient rallied, and for three days there was slight amelioration of the symptoms, though the tumors seemed outwardly the same. At this time I prescribed Fowler's solution in \mathfrak{xx} doses, three times a day, to be increased up to \mathfrak{xxx} . After this there was constant improvement, although, as the glands subsided, a condition of extreme leucæmia, with furuncles and a carbuncle, supervened. The patient was of a waxen hue, his lips were colorless, and the nails white. To the naked eye, the blood seemed barely tinged with red, and, under the microscope, showed a marked change in the proportion between the red and white corpuscles. As no proper apparatus was at hand, I could merely estimate by what Osler calls "the rough and ready method," that the white corpuscles seemed nearly as numerous as the red.

In October the patient considered himself perfectly well, and there were no symptoms or signs of his illness, with the exception of the deafness, which, though much diminished, was still a cause of serious annoyance.

This case I consider to have been one of Hodgkins' disease, or pseudo-leucæmia lymphatica, followed by leucæmia.² The diagnosis would seem to lie between lymphatic leucæmia and pseudo-lymphatic leucæmia, and is based upon the pathological condition of the blood, and upon clinical differences. In lymphatic leucæmia there is an increase of the white corpuscles, and in pseudo-lymphatic leucæmia there is little or no such increase. In the present case no such analysis was made, but nothing in the aspect of the patient suggested such an increase until the swelling of the glands began to subside. But, on the other hand, the absence of the external appearances of leucæmia; the absence of hemorrhages and diarrhœa; and the enormous swelling of the glands, would seem to indicate Hodgkins' disease. In either case the prognosis is unfavorable, and doubly so in a case of such long duration as the present.

I have ventured to report this case, in spite of the imperfection of my notes, because it seems to me to demonstrate the decided advantage following the administration of large doses of arsenic, prescribed as it was in this instance, to a patient who had been ill for a period extending over fourteen months. The idea

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 9, 1887.

² Vide case of Fleischer and Ponzoklt, quoted by Osler in *Pepper's Syst. Med.*, Vol. III, p. 893.

was suggested to me by an article by Karnvski,⁸ who, in 1884, reported three recoveries under this treatment. The arsenic was given in gradually-increasing doses, until the dose of mxx t.i.d. was reached, in which quantity it was continued until there was puffing of the eyelids and nausea. Then it was replaced by quinia and iron for a week, when it was again resumed in the same manner.

This treatment has been continued in gradually-decreasing doses up to the present time, the patient now taking miii of the Fowler's solution, t.i.d., every other week. I have not seen him since October, 1886, but in a letter I received from him last week, he reports: "I am perfectly well, with the exception of my deafness, and weigh 170 pounds — not a bad weight for a man of my size."

Primary Cytogenic Anæmia	Leucocytic	{ Splenic Lymphatic Medullary }	Leucæmia.
	Non-Leucocytic	{ Splenic Lymphatic Medullary }	Hodgkins' Disease, Lymphatic Anæmia.

Clinical Memoranda.

A CASE OF ALEXANDER'S OPERATION.¹

BY JOHN B. SWIFT, M.D., OF BOSTON.

Mrs. B. came under my care at the Carney Hospital, March 18, 1886, with the following history: She was thirty-seven years old, born in Canada, and had had one child. The labor was a severe one, and she had been torn. Since then she had suffered from "falling of the womb," the organ coming outside. By various means she had kept it up, so that she could work, until the friction caused by the bandages had rendered the parts sore, and she would be obliged to stop work until the abrasions had healed. Lately, she had been wearing a cup-shaped pessary, but with no better success.

An examination showed rupture of the perineum to the sphincter ani, bilateral laceration of the cervix, a small recto-vaginal fistula, and complete procidentia of the uterus. The cervix was hypertrophied, excoriated, and there was a deep ulceration of the tissues, caused by the rim of the pessary which she had been wearing.

The uterus was replaced and held in position by cotton tampons, wet with glycerine and tannin, and the patient kept in bed until the excoriated mucous membrane had healed. Attempts were then made to keep the uterus in place by various pessaries, but without success, and finally, it was decided to perform the Alexander operation of shortening the round ligaments. The operation was explained to the patient, and she readily consented. Owing to the extensive laceration of the cervix, and the hypertrophy of the uterus, it measuring almost four inches, it was thought best to first repair the cervix, hoping, by this means, to reduce the hyperplasia, and thus lessen the weight, so as to give a better chance for success in the succeeding operation. This was done April 17th, and resulted successfully.

Three weeks later, with the assistance and advice of Dr. F. B. Harrington, the Alexander operation was performed.

I will not enter into the details of the operation, as they probably are familiar to you all, but will only say that the ligaments were easily found, and shortened about two inches. By drawing on the ligaments, the uterus readily ascended in the pelvis, and was held in position by Dr. Harrington while the ligaments were being secured. They were not cut, but were folded and tucked into the wound, being fastened by silk sutures passed through the pillars of the ring and the tissues at the bottom of the wound. The incisions through the skin were closed by catgut sutures, and the wounds dusted with iodoform and dressed with sublimate gauze.

As there was no perineum, it was feared that a pessary would not stay in place, so the vagina was packed with cotton pledgets, and a T-bandage adjusted. The catamenia, which had never been regular, came on the second day after the operation, and the packing had to be removed, a pessary being substituted, which proved, in the end, to work successfully.

For three days the patient was nauseated continuously, and vomited everything taken by the mouth. She was nourished by enemata. Hyperdermic injections of morphia and atropia over the stomach were given for the nausea, but whether or not they did any good, I cannot say. At any rate, on the fourth day she could retain food, and from that time on had no further trouble.

The temperature was never above the normal, and, aside from the vomiting, the convalescence was uninterrupted. She was kept in bed for three weeks, and then allowed to sit up, but she did not walk any for another week. At the end of that time the pessary was removed, and she was allowed to go about and do light work. On my visit, the next day, I was told that the uterus had again descended; but an examination showed that what was considered the uterus, was the anterior vaginal wall, which was prolapsed. The uterus was in good position, and held firmly in place.

It was decided not to repair the perineum at that time, but to wait and see if the uterus would remain in place without this additional support. This was explained to the patient, and she was told to return at once, should there be any indication of the old trouble. She came to the hospital last September, about four months after the operation, saying that she was all right, and had been doing house-work. An examination showed the uterus just as it was on her discharge from the hospital, well up in the pelvis, slightly anteverted. The prolapse of the anterior wall, of course, was the same, but she declined the perineal operation, saying that she was well enough as she was.

— Hartmann describes in the *Berliner Klin. Wochenschrift*, 1886, p. 612, the results of some experiments in the self-induction of œdema and albuminuria, by the exclusive use of certain forms of nourishment for a given time; for instance, he ate chestnuts, lentils, peas, cheese, etc., each for a series of days, and with no other ingestum but water. He twice produced general œdema, once with and once without albuminuria; the former, under an exclusive diet of sausages, the latter with bread only, (1,000 grams in twenty-four hours). The uncomfortable symptoms which the enthusiastic experimenter induced all passed away with a return to ordinary methods of living.

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, February 16, 1887.

⁸ Berl. Klin. Wochen., 1884.

A CASE OF PERINEPHRITIC ABSCESS FOLLOWING TYPHOID FEVER; OPERATION; RECOVERY.

BY WILLIAM H. DEVINE, M.D.

E. F., a boy, six years of age, was the second case of typhoid fever in the same family, and was first seen by me November 9, 1886. There was nothing remarkable in the course of the fever, and convalescence began in three weeks. His mother permitted him to sit up before, and contrary to my orders, but said that he was feeling so well, she was unable to restrain him.

December 16th. I was called again to see my patient. His mother said that since my last visit, about two weeks previous, Eddie had been around the house, and seemed apparently as well as usual for about a week; then she noticed that he seemed languid and disinclined to exert himself. Later, she noticed a peculiar kind of lameness in the left leg, and that he kept it flexed when lying down, and that an attempt to straighten it, on her part, caused him great pain. She also thought that he was feverish at night, and said his urine was very scanty. On examination, I found extreme flexion, and any attempt to straighten it caused excessive pain. I also found marked tenderness and flatness in the left lumbar region. The urine was much diminished, only four ounces in twenty-four hours, but an examination of it revealed nothing especially abnormal.

On December 19th, I found the tenderness in the left lumbar region increased, and noticed some fullness. I decided to aspirate, and, doing so, I obtained about four ounces of thick, creamy pus. Having established the diagnosis, I determined to make a free opening, which I did on December 21st, with the assistance of Dr. E. O. Otis and Dr. F. Stuart. I made an incision about three inches long in the lumbar region, parallel with the vertebral column, and about two inches to one side of it, between the last rib and the superior crest of the ilium. After careful dissection I came upon the abscess-sac, and, on incising which, I evacuated about twelve or more ounces of pus. The cavity was thoroughly washed out with a solution of 1-60 carbolic acid, two drainage-tubes were inserted, one extending to upper, and the other to lower limit, and an antiseptic dressing of bichloride gauze applied, which was prepared, in the house, by soaking cheese-cloth in a solution of corrosive sublimate, of about one to two thousand strength, and drying it. On the day of the operation, the temperature was 103.5°. The next day it dropped to 101° in the afternoon, and 100° on the third day. After this it was normal, and continued so. The discharge of pus was profuse for the first week, and after that, gradually diminished. The cavity was washed out every day with an antiseptic solution, and an antiseptic dressing applied.

In two weeks from the date of the operation, the upper drainage-tube was removed, and about a week later, the lower one, when the wound quickly healed. Thus the boy was practically well in three weeks from the date of the operation. There was no evidence at any time of any renal trouble, in this case, to account for the abscess. The exciting cause, so far as one can fix upon any, might have been exposure during convalescence, for it is known that the boy was removed from the room in which he had been sick to one of a much lower temperature. It is known, also, that a sudden chill is an exciting cause, and further, that

perinephritis occurs during the course of, or as a sequel to, the continued and exanthematous fevers.¹

This case well illustrates what can be accomplished by a timely and free exit of pus and proper antiseptic precautions, under very adverse circumstances, for the patient was in an extremely debilitated condition from his previous illness, and his surroundings were poor and unhygienic. Indeed, after I had determined on the condition and treatment required, I recommended the removal of the boy to the hospital, that he might have a more promising environment; but his parents refused, saying that he would die any way, and they preferred to have him die at home.

"When suppuration occurs," says Mr. Morris, "the prognosis depends chiefly upon two things: the early and free evacuation of the pus, and the cause of the disease. Incisions not only save life, but also hasten recovery, and in uncomplicated cases the recovery is complete." To the truth of this, the above case can testify.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MARCH 9, 1887. The meeting was opened at 8 o'clock, by Dr. F. I. KNIGHT, Chairman. On motion, the reading of the records of the last meeting was omitted.

PHYSICAL CULTURE.

A communication, in the form of a resolution from the Norfolk District Medical Society, upon the importance of the physical training of the young, was read by the Secretary, who called attention to the fact that this Society also had appointed a committee to act in concert with similar committees appointed by the sister medical societies, but that the committee from this District had as yet made no report, and it was not known whether anything had been attempted in the way of progress by the members of this Society.

Dr. HENRY I. BOWDITCH said that he considered this subject to be of the greatest importance, and one which should claim the earnest attention of all who are interested in the welfare of the rising generation. He had long been convinced that the State is not doing its duty toward the youth of both sexes in requiring an increasing amount of intellectual labor in the schools, without providing for the development of the physical constitution of the pupils. He moved the appointment of a committee of three, who should take the matter into consideration, and report at the next meeting. The Chairman stated that a committee had been appointed at a former meeting of the Section, and that it might be advisable to urge that committee to prepare a report, rather than to appoint a new committee. Dr. Bowditch then withdrew his motion.

Dr. KNIGHT said that, in his opinion, the Suffolk District Medical Society is the body which should take action upon the matter.

MILK SUPPLY.

The Secretary read a communication from one of

¹ Henry Morris. "Surgical Diseases of Kidney," p. 207.

the members of the Section, who was not able to be present, stating that the milk now supplied to the citizens of Boston is received by the consumer at a time when it is from forty-eight to seventy-two hours old, and presenting a resolution that, after the first of September next, the physicians of Boston should use every endeavor to secure the delivery of milk directly to the consumer on arrival of the milk at the milk depots in the city, instead of allowing it to be taken to the stables of the milkmen, as is now done, where it is exposed to deleterious influences, as well as to the dangers of adulteration.

DR. E. W. CUSHING thought that no action which could be taken by this Society would have the desired effect, as the whole matter is outside of the control or the influence of the physicians. A committee was, on one occasion, appointed from this Society, but no tangible results had accrued from the labors of that committee. He has little faith in the efforts of any committee from this Society in accomplishing the desired reform in the distribution of the milk-supply of this city.

DR. B. F. DAVENPORT said that the facts contained in the resolution just presented are true. It is in the limits of his personal knowledge that the milk of our city is often unnecessarily detained in the stables of the milkmen, and is more or less adulterated and diluted before it is at length delivered to the consumer. There is no reason why the requirements of the resolution should not be easily met by the dealers, and he is of the opinion that many of the milkmen would gladly dispense with the extra handling of the milk, and thus prevent a certain amount of change in its character.

On motion of DR. E. W. CUSHING, the resolution was laid on the table until the next meeting of the Section in order to afford an opportunity for the mover of the resolution to be present and more fully explain the matter.

The Secretary read a letter recently received by him from the Secretary of the Chicago Medical Society, asking for the list of officers of this Society, and for a copy of its By-laws. On motion, it was voted that the letter be transmitted to the Secretary of the Suffolk District Medical Society, for the consideration of the parent society.

The Secretary stated that he had been requested by the Secretary of the Suffolk District Society to call the attention of the members of the Section to the Articles contained in the By-laws of the General Society in relation to the distribution of the lists of nominations for the offices of the Society, and stated that, in accordance with the requirements of the By-laws, the report of the nominating committee would be distributed at this meeting. This was done, with the aid of Dr. F. C. Shattuck. The regular business of the meeting was then taken up.

The first paper of the evening was entitled

A CASE OF CHRONIC ARSENICAL POISONING OF SUPPOSED CRIMINAL NATURE, WITH ESPECIAL REFERENCE TO THE MEDICO-LEGAL ASPECT,

by **DRS. E. W. CUSHING and MORTON PRINCE.**

Dr. Cushing stated that the circumstances of the patient made the case specially interesting, from the evident motive which could be traced. The patient was a young man, supposed to be in possession of property to the extent of about four million dollars, and

was alone in Boston. He was found at the house of a friend of his, not of his family, on Beacon Street, and this "friend," with the assistance of his wife, took the sole direction of the nursing of the sick man. The medical treatment was in the hands of a so-called physician, really an apothecary and chemist. A large amount of the patient's money had been invested in the manufacture of a patent medicine, in which the "friend" at whose house the patient was staying was also interested.

Dr. Cushing remarked that it might be useful to members of the medical profession to know how difficult it is to bring a case before the courts, even when the evidence is apparently plain and convincing.

PROF. E. S. WOOD stated that he was in a position to add somewhat to the report of the case, in the presentation of some of the results of the quantitative analysis of the vomitus and the excretions from this patient. The quantitative analysis was made, in this case, only for the personal satisfaction of Professor Wood, as the case had not advanced sufficiently far in the way of a prosecution to call for the analysis in behalf of the courts. A complete analysis is not usually made at so early a stage in the investigation of similar cases.

The vomitus, which was placed in his hands on May 1st, contained one-fourth of a grain of arsenic. That of May 8th contained one-third of a grain. The urine of May 1st and 2d contained 5.4 mg. It was thought that this amount of arsenic might have been contained, as an impurity, in the medicines prescribed by the person attending the patient. These were examined, and were found to be free from arsenic. The intermediate urine, until June 1st, was not examined, but that passed on June 1st was examined, and was found to be free from arsenic. The date when the arsenic disappeared from the urine is, therefore, not yet definitely known. The only other case in which analysis was carried out in this way was that of a patient who, by mistake, took, during a considerable period, a poisonous dose of Fowler's solution, and the symptoms of arsenical poisoning were rapidly induced. In this case, analysis at the end of six and one-half weeks showed arsenic, but the urine, when examined at the end of seven and one-half weeks, did not contain arsenic. The occurrence of paralysis is not confined to chronic forms of arsenical poisoning, but may follow acute poisoning from this cause. Seligmüller quotes several such cases.

DR. PRINCE said that he had made, by request, an examination of the nerves and muscles in this case. At that time the patient was almost completely paralyzed from head to foot, only a few movements being left, and these difficult and painful. Even moving the limbs passively caused great pain.

There was more or less complete loss of sense of touch over all four extremities. Sense of pain was increased over some parts, but perception of it was retarded three seconds by the watch. Perception of Faradic current also diminished.

Loss of Faradic excitability of all muscles of legs, forearms and hands. Triceps of right arm responds feebly, but biceps of both well. Faradic excitability of ulna and median nerves of both sides lost, also of nerves of legs.

To the galvanic current there was a most exquisitely developed reaction of degeneration in all the

muscles of the right forearm and hand (including loss of reaction in the nerves).

The same was found true of the extensors of the left forearm. The examination was not continued further on account of pain caused the patient by movement of the limbs. The same condition of affairs probably existed in all the paralyzed muscles.

The interest in this case, as indicated by the title of the paper, centered in the question of the nature of the paralysis, and the other allied symptoms. Were they due to arsenic or to alcohol? In the first place there is no question but that arsenic was given to the man, and that, too, in poisonous doses. But on the other hand, the man was a hard drinker, was in the habit of going on constant spees, lasting many days at a time, and had just been on a hard spree, when the attempt was made on his life. Now the *paralytic* picture presented was just that of alcoholic paralysis in its most severe form. Alcoholic paralysis has only recently been thoroughly studied and understood; in fact, the best observations have been made during the last two years, and since the above case occurred. The *clinical* picture is just such a one, in almost every detail, as that which we are discussing. There is the extreme and general paralysis, the loss of sensation with hyperæsthesia, the pain and the atrophy with the reactions of degeneration. The resemblance can even be extended to the mental condition. According to Dreschfeldt² and Buzzard³ there is a peculiar and characteristic delirium observed in alcoholic paralysis. A similar mental condition was present in their case.

On the other hand, the clinical picture is also like that observed in many of the cases reported of arsenical poisoning. In the severe cases there seems to have always been present the main and salient symptoms, namely, paralysis with atrophy and reaction of degeneration, loss of sensation, pain, and hyperæsthesia.

Clinically and ætiologically, then, it must have been difficult especially, as a medico-legal question, to eliminate either the arsenic or the alcohol as a factor in causing the paralysis and allied symptoms.

Pathologically considered, the difficulty is as great.

The pathological condition present in alcoholic paralysis is generally admitted to be a peripheral multiple neuritis. The cord is not diseased. Our knowledge, on the other hand, of the pathological condition present in arsenical paralysis is very imperfect. About the only information we have is derived from the experiments of Popow,⁴ of St. Petersburg, on rabbits. According to these experiments, in acute cases, when death ensued in the course of a few hours or at the end of from three to six days, the effect of arsenic is limited to the anterior gray matter of the spinal cord. There is found a polio-myelitis. The white matter and the peripheral nerves are unaffected. In chronic cases, wherein death ensues in the course of three months, the inflammation is more diffuse, affecting the white as well as the gray matter, especially the postero-lateral columns. The spinal nerves were entirely unaffected even in these cases.

Freyssig on the other hand claims that he has found all these changes in the spinal cords of healthy rabbits, while in six rabbits which had been poisoned by

arsenic he found no pathological changes whatever in the cord. Dana, in the January number of *Brain*, states that according to Pistorius, the nervous system of rabbits and guinea pigs is very sensitive to arsenic, while that of cats and dogs is less so. Jaeschke, too, found only a few small hæmorrhages in the spinal meninges⁵ of a dog which developed paralytic symptoms after a fatal dose of arsenic. Very little can consequently be inferred from experiments on animals, and we do not find that any examinations have been made on man after death to determine this point.

As has been said, the symptoms are very similar to those from alcoholic paralysis, which is known to be due to multiple neuritis. On the other hand, a diffuse inflammation of the cord would also explain the symptoms.

It may be, as is most probable, that both cord and nerves are affected in severe cases. At any rate, if the case we are discussing had ended fatally, and had come before a jury, whatever any one's individual opinion may have been, it would have been very difficult to convince the jury, that, notwithstanding the known ingestion of arsenic, a certain portion of the victim's condition was not due to alcohol, and even that this might not have been the exciting cause of his death. There is reason to believe that there were experts ready to take the stand and testify to this opinion.

This complication is likely to arise again in other cases. A decision under such circumstances can only be arrived at by extending our knowledge of the action of arsenic on the spinal cord. It is to be hoped that pathologists and medical examiners in the future will at the first opportunity make investigation into this matter and thus increase our knowledge.

DR. E. N. WHITTIER said that the position in which he appeared in this Society to speak upon the case presented at this time, is vastly different from that which he feared for many months he would be called to occupy in the courts. He said that he was waited upon, at his office, by a gentleman of most prepossessing appearance and pleasing address, who requested that he should accompany him to the house in which the patient was at that time staying, and give his opinion upon the condition from which the patient was suffering. The account of the case, as given by the messenger on this occasion, was full of conflicting elements, and calculated to mislead one as to the cause of the illness. Four causative possibilities were mentioned, namely, alcohol, syphilis, diarrhœa, and malaria. By these means the judgment of Dr. Whittier was handicapped, and, under these conditions, he saw the patient. He had no difficulty in recognizing the paresis; the enlargement of the liver was also sufficiently evident, but the reported irregular increase and decrease in size of this organ was not compatible with any of the recognized views in the pathology of either of the conditions mentioned as possible causes of the patient's condition. Dr. Whittier then inadvertently committed himself to an opinion that it would be exceedingly difficult to obtain sufficient evidence to secure a conviction in the case.

DR. P. C. KNAPP asked the condition of the mental faculties, and the location of the paralysis in the patient.

DR. CUSHING replied that the mental condition of the patient was unimpaired, and his faculties were

² Further Observations on Alcoholic Paralysis. *Brain*. January, 1886.

³ On some Forms of Paralysis from Peripheral Neuritis.

⁴ Ueber die Veränderungen im Rückenmarke nach Vergiftung mit Arsen und Blei. *St. Petersburg Med. Wochenschrift*, 1881, No. 36.

⁵ Virchow's Archiv. Bd., 102, 1885.

clear. He could remember the main events in his past life, confessed to the abuse of alcohol, remembered the jelly which had caused the relapses in his illness, and could state who had given him that delicacy. For a time he was kept in a house of ill fame on Hudson Street, and from this quiet retreat he was brought, on several occasions, to the residence of his "friend," on Beacon Street, to dine, and was then afterward restored to the caresses of his fair entertainers at the before-mentioned brothel.

DR. BOWDITCH asked if it were possible that the arsenic could have been absorbed into the system of the patient from the papers on the walls of the rooms he had occupied in the house in which he was stopping.

PROFESSOR WOOD stated that the papers were examined, and were found to contain no arsenic. The amounts obtained from the vomitus and from the urine of the patient were much greater than would be obtained from chronic poisoning by absorption from the wall-papers, the quantity ranging from one-fourth to one-third of a grain on the different occasions when the examinations were made, thus showing that the arsenic must have been administered at varying times, and in relatively large amounts.

DR. BOWDITCH asked what is the process by which the attention of the grand jury is attracted to a case of criminal nature, and how a physician should proceed in a case in which there is reason to suspect a criminal attempt upon the health or the life of another.

PROFESSOR WOOD stated that criminal proceedings are instituted by calling the attention of the district attorney to the facts in the case, which are then carefully considered by him; and if the evidence, as presented, seems to him sufficient to secure the conviction of the person complained of, the case is submitted to the grand jury. All the experts in the case are called, and after the deliberations of the grand jury, the district attorney is at liberty to prosecute the case, if, in his judgment, it is advisable to do so. The objection to commencing proceedings of a criminal nature upon insufficient evidence is that the case first goes before what is called the petit jury, and if there should not be sufficient evidence to hold the person accused at that time, the case is at once dismissed, and cannot be again called up, as a man cannot be tried twice upon the same charge. It is, therefore, considered wiser to delay proceedings in a doubtful case, in the hope that additional evidence may be procured, which can then be used in the trial, which may be commenced at any time after the commission of the deed. This way seems better than to summarily dispose of every case by the form of a trial by jury, which would effectually prevent the admission of any new evidence after the prisoner had once been acquitted.

DR. FITZ asked if any attempts were made to suppress the publication of the facts of the case in the newspapers.

DR. CUSHING replied that the matter was almost entirely suppressed. Most of, if not all, the newspapers had a detailed account of the case in type, and, perhaps, have it still; but the matter was kept from the columns of the press by means of threats of prosecution, so that the public never obtained the facts in the case in any degree of fulness or detail.

The next paper was by DR. HAROLD WILLIAMS, entitled,

A CASE OF HODGKINS' DISEASE.¹

DR. C. P. PUTNAM presented the notes of a case recently under his care: The patient was about thirty years old; lawyer. He was unusually muscular, and could paddle a canoe for twenty miles without difficulty. He had had no illnesses of importance hitherto, except eczema, from which he had suffered throughout his whole childhood, and which had been finally cured at Hebra's Hospital, in Vienna. The only remains were an irritability of the scalp and face, and he was very little disturbed by this. He first came on the 11th of January, 1886, with one enlarged gland under the occiput, and one under the left jaw. These he had noticed about the first of January; at any rate, he was sure that, on Christmas day, he was perfectly well. Iodine was applied to these enlarged glands, and in a week they were smaller. But, meanwhile, others had appeared in the same neighborhood, which, in their turn, were treated with tincture of iodine. Ten days later he returned, with the second set of glands also smaller, but with a larger crop in various places in the neck, and also in front of the ear. Then it was found that the axillary and inguinal glands were enlarged and hard. Iodide of potassium had been given, five grains, increasing to ten, three times a day. During the next two weeks he was very much better, and considered that he was getting well. All the glands diminished in size. Meanwhile, however, the whole neck had been growing gradually, but perceptibly larger, so that his collar could not be buttoned. About the middle of February, this apparent improvement ceased. The glands began to enlarge again, and the skin became more red and tender. This time, a slight enlargement of the spleen and liver, and general fulness of the abdomen, was found. Arsenic was substituted for iodide of potassium, and with apparent good effect. He again seemed to improve, and was satisfied with his condition; voice husky. In March, however, he complained of want of appetite, and difficulty of retaining food; had to keep a pail near him, as he would vomit suddenly and violently. Was weak, and lay on the lounge much of the time; ceased to take an interest in books, although he was an active and intelligent reader. Up to this time the pulse had been normal or slightly accelerated, and there was no rise of temperature. The vomiting was supposed, by the patient, to be caused by the arsenic, which was omitted, and then given again, and again omitted.

About the 18th of March he began to lose strength rapidly; lay on the lounge all day too ill to talk, taking little food and vomiting frequently, and yet feeling hungry from time to time. Became less inclined to get up, and from about the 20th kept his bed. His mind became less and less interested in his surroundings and occasionally it would wander. On one occasion he had a hæmorrhage from the bowels which was, however, easily stopped. During this period the action of the heart became more rapid, varying from 100 to 120. Respiration was superficial but not labored. He died on the 29th, one month and eighteen days after I first saw him, and almost exactly three months from the time when he noticed the first symptoms. Autopsy by Dr. Gannett.

DR. W. W. GANNETT described the appearances found at the autopsy, made March 29, 1886. The front and lateral regions of the neck were occupied by

¹ See page 420 of the Journal.

numerous packets of gray, rounded nodules, varying in size from a filbert meat to a walnut; showing on section a homogeneous, and somewhat translucent appearance, like that of a lymph-gland.

Similar nodules were found in the mediastinum and about the roots of the bronchi.

The spleen was much enlarged, and contained numerous secondary nodules of lymph-sarcoma.

The kidneys and liver showed the presence of very numerous secondary nodules.

In the mucosa of the stomach and intestine were numerous, elevated nodules, varying in diameter from one to two centimeters, with depressed centres. Microscopically these showed the structure of a lymphoma.

Dr. Gannett stated that when he made the autopsy he was so struck with the similarity of the course of this case to the acute infectious diseases, the severe symptoms having lasted only three weeks, that he placed at once portions of the new-growth in alcohol for examination for microorganisms. Thin sections, made after hardening, of the gastric and intestinal nodules, stained with methyl-blue and examined with a Zeiss 1-12, showed the presence of well-marked micrococci, in colonies, in the new-growing tissue and no other microorganisms.

Of course, such a result does not prove that the micrococci found were the specific cause of the disease; since to prove this, isolation, pure cultivation and successful inoculation experiments are necessary; but it may serve as a finger-point to call attention to the possibility of lympho-sarcoma being an infective disease, and to suggest the advisability of further investigation in regard to this point.

Dr. HOWARD M. BUCK asked if there exist any known relation between the eczematous diathesis and the development of pseudo-leukæmia?

Dr. FITZ asked if Dr. Williams had compared the symptoms noticed in his case with those associated with Hodgkins' disease in the literature of that subject?

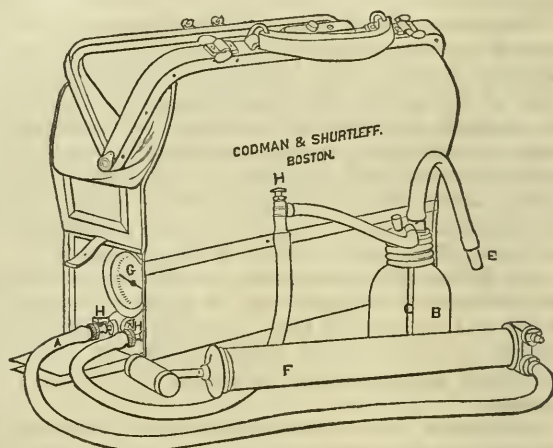
Dr. FITZ remarked that in the account presented by Dr. Williams, there is a much greater similarity to the clinical appearances of multiple sarcoma, than to those of Hodgkins' disease.

Dr. KNIGHT asked if the patient began to improve before the administration of arsenic was commenced.

Dr. WILLIAMS replied that there was improvement, but that the urgent symptoms then consisted of appearances simulating paralysis of the legs, which was considered to be due to the existence of large masses of indurated glands within the abdominal cavity, which were pressing upon the ganglia or nerve-trunks distributed to the lower limbs.

Dr. F. C. SHATTUCK said that the remarks of Dr. Fitz put him in mind of a case which he had reported a year or two ago, and which certainly was somewhat similar to that of Dr. Williams. The case was published in the *Boston Medical and Surgical Journal*, under the heading of multiple sarcoma of the skin. Recovery under arsenic hypodermically. The patient is at present quite well. The tumors were to be numbered by hundreds, had in places coalesced into great patches, and the skin over many of them was discolored in the way described by Dr. Williams. The only glands which were distinctly enlarged were those at the angles of the jaw. In reply to a question of Dr. Shattuck, Drs. Putnam and Williams answered that no tenderness over the sternum or the shafts of the long bones had been noted in this case.

Dr. E. W. CUSHING recognized the similarity of the cases of Hodgkins' disease to some cases recorded in literature as multiple sarcoma, and stated that micrococci, and also bacilli were found in the tumors and also in the organs in a case of Hodgkins' disease by Italian observers as published in 1886, in the *Gazetta int. delle Scien. Mediche*. From the presence of these organisms in the tissues is it not possible that there may be an error in the conception of the nature and origin of multiple sarcoma. Certainly in no other known form of sarcoma is recovery thought to be possible. May there not be an error also in the diagnosis of many cases of the so-called sarcomata in other portions of the body?



LARYNGOLOGICAL HAND-BAG.

Dr. T. A. DEBLOIS exhibited a new form of physician's hand-bag, which he had recently had made. It consists of an ordinary leather bag, of medium size, but is about one-third deeper than the ordinary bags. At one end of the bag is an opening near the bottom, which can be closed by a flap which buckles tightly. This opening displays the end of an air-condenser, with two cocks, and a pressure-gauge. In the bag can be carried a small pump, by which the air can be forced into the condenser. In the space of two minutes Dr. DeBlois was able to obtain a pressure of thirty-five pounds to the inch without great exertion. The apparatus is then ready for use as a spray for the throat, the use of the Evans' inhaler, or for any other purpose to which this treatment is applicable. The bag is sufficiently capacious to accommodate all the articles usually required. The weight is not materially increased by the addition of the condenser, and the whole apparatus is not too heavy to be easily taken in the hand when walking. It is manufactured by Messrs. Codman & Shurtleff.

FINANCE.

Dr. V. Y. BOWDITCH submitted a report for the Committee on Finance for this Section. He stated that the Committee had secured the necessary amount of money for the reimbursement of the Secretary for the money spent during two years on account of the Section, and added that it was the opinion of some of the members of the Section that any further expense for the purposes of entertainment after the meetings was not expedient. He hoped that the Section would express its sense upon the subject.

DR. H. I. BOWDITCH stated that he knew something of the difficulty of collecting funds for social entertainment. The entertainments of the Medical Society were inaugurated some years ago, when the Suffolk District Medical Society first began to hold its meetings. There was a disposition on the part of the other Societies to sneer at the Suffolk District, and to ridicule the idea of such gatherings for medical improvement. Dr. Bowditch proposed that if the Society could not come together for medical improvement, it could at least come together in a social way, and thus obtain some benefit from the better opportunity afforded for acquaintance and intercourse. The collation was introduced for that purpose, but the Society has long outgrown the need for any such artificial aid in the prosecution of its legitimate work; its meetings are well attended, by those who are not attracted by the prospect of a collation, and this element is no longer essential to the successful working of the Section. Dr. Bowditch moved that any collation at the close of the meetings be abandoned.

DR. CUSHING said that he could not agree with those who would dispense with all forms of entertainment after the meetings. He said that he could hear as good papers in other places as in these meetings, and we have the opportunity to read them in the medical journals, afterward. It is not that alone which makes a meeting useful; it is to fully as great an extent the mutual opportunity for meeting all together, and interchanging ideas and opinions in the social way of conversation after the regular exercises are concluded. Too great weight cannot be laid upon the advantages accruing to the physician from a better acquaintance with and a higher appreciation of his professional brethren. Most if not all of the dissensions which exist between medical men to the disgrace of their profession would be avoided if the men only came more freely together, and thus understood each other better. Dr. Cushing expressed the hope that the members of the Section might still have the opportunity to occasionally pass a few minutes together after the meetings, a privilege which he highly valued, and one from which he had derived both pleasure and profit.

DR. HAROLD WILLIAMS moved that the Section apply to the General Society for the necessary funds to provide a simple entertainment at the close of the meetings. The Secretary stated that the Section has appealed to the General Society for aid, but the appeal was always in vain. The General Society would not contribute toward these expenses of the Section.

NASAL POLYPUS.

DR. J. W. FARLOW showed a large nasal polypus, which he had recently removed. The growth filled the nasal space almost completely, and protruded into the pharynx, where it was plainly visible. It was removed entire by means of a sling.

DR. BLODGETT asked the histological structure of the growth, if it was a simple hyperplasia, or if it partook of the nature of a heterologous formation? He wished to ask the reader if these larger polypoid growths are ever the seat of origin of the sarcomata which are occasionally met in the interior of the face, in the antrum, in the orbital region, and elsewhere about this region. Dr. Farlow said that these growths are usually of benign character, and do not occasion

any suspicion of malignancy. They consist of hypertrophied mucous tissues, and are removed more from the disturbance in articulation, and from their tendency to invade other parts than from any fear of malignancy.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

FEBRUARY 16, 1887, DR. JAMES R. CHADWICK, in the chair.

DR. J. B. SWIFT reported,

A CASE OF ALEXANDER'S OPERATION.¹

DR. FARLOW asked why Alexander's operation was performed before restoring the perineum. He thought that in cases where there was a cystocele or rectocele of any extent, the want of the supporting perineum would allow a still further descent of the vagina, tending to pull with it the uterus and to stretch the round ligaments. For this reason, operation on the perineum might prevent the necessity for an Alexander's operation, whereas, if the latter operation were done first, the operation on the perineum might subsequently be necessary.

DR. SWIFT said that so far as he knew, in cases of prolapse, the operation of narrowing the vagina had not been very successful, the uterus descending again after a while. He thought the operation of shortening the round ligaments was a less severe one, and so far, the cases reported had been more successful in the result, though he had seen no reports of cases later than two years after the operation.

DR. SINCLAIR expressed the opinion that these uterine ligaments might elongate again after Alexander's operation, even when for some time the results have been beneficial. He said that there are many operations, which are highly praised for a time, but are soon given up because they do not do the good claimed for them.

DR. VICKERY asked how much shortening of the ligaments was necessary.

DR. SWIFT replied that the amount of shortening was not accurately measured. He drew on the ligaments until the uterus was in good position and then secured them. For some reason there seemed to be considerable opposition to the operation in Boston. He only knew of four cases having been done here. Dr. Polk, of New York, had probably had more cases than any one else in this country. He had reported fourteen cases, all of which had been successful, and in speaking of those operators who had failed to find the ligaments, he thought the reason of their failure was that they had not found the ring.

DR. JOHN HOMANS, 2d, showed a

FIBROID TUMOR OF THE UTERUS, REMOVED BY DR. JOHN HOMANS, FEBRUARY 12TH, BY HYSTERECTOMY.

The patient, who was kindly referred to Dr. Homans by Dr. W. H. Baker, is fifty-one years old, and dates all her trouble from an accident which happened twenty-seven years ago, while she was pregnant. A difficult labor (non-instrumental) and slow recovery followed. Since then her history has been in brief, that of excessive flowing and constant pain during the

¹ See page 421 of this number of the Journal.

periods. During past four years catamenia once a fortnight lasting three or four days; seventy or eighty napkins used. In 1882, Dr. Baker found a fibroid size of cocoanut to which he made one application of electrolysis. Masses of fibrous tissue were passed per vaginam, the patient was relieved and the tumor disappeared, only to reappear within a year larger than before, with former symptoms much aggravated.

The patient—now very anæmic from frequent hæmorrhages, with a feeble pulse, mitral regurgitant murmur, one-eighth per cent. albumen in urine, and considerable œdema—requesting operation, hysterectomy was accordingly done. The tumor was lifted out of the abdominal cavity, Koeberlé's serre-neud passed round it, and after amputation the stump was treated extra-peritoneally, the wire remaining *in situ*. Weight of tumor removed, seven pounds. Length of uterine cavity removed, five and one-half inches. Patient was very weak for a day or two, with pulse of 140, but soon improved. Wire and clamp came away on February 16th, and patient is now on sure path to recovery.

DR. MARCY, in the discussion of the treatment of the pedicle after hysterectomy, or the removal of uterine myoma, gave a brief account of the method which he had pursued for a number of years.

A pure gum-rubber sheet with a central opening reinforced, to prevent the slipping of the ligature, as well as tearing, is carried down over the growth upon the pedicle and constricted by two or more turns of rubber cord. Then the tumor is cut away without loss of blood, except the emptying of the divided veins, or defilement of the abdominal cavity and contents, thus protected by the rubber. Dr. Marcy was led to the use of rubber from the observation of the dentist's use of the so-called "rubber dam."

In order that the hæmorrhage might be held in control and yet not constrict, to cause sloughing, Dr. Marcy devised the use of the so-called "shoemaker's stitch." The suturing is effected with a needle set in a handle, the eye near the end, which is without a cutting point, and which carries a chromicized tendon threaded from opposite ends back and forth through the same puncture. Thus the stump is divided by as many stitches as may be preferred and the ends secured by only one knot.

It is important not to constrict too tightly, and it is noteworthy how easily all hæmorrhage may be controlled by suturing in this way; since there is no possible escape from an even and uniform compression of all the tissues. In the use of animal ligature an important point gained, is to reduce to the minimum the number of knots, and this is secured by any form of continuous suturing.

It is important to cut the stump above the line of constriction, in flaps which will readily coapt and, if the uterine canal is involved, to curette away the mucous membrane as a farther safety from infection.

The peritoneal surfaces are then brought together carefully, and retained by a fine over-and-over animal suture. By this method the operation can be safely done under irrigation with mercuric-bichl. solution, to say the least, usually ill-advised in laparotomy without the protection of the abdomen and its contents by the rubber sheet.

The advantages gained by this method are:

I. The reducing to the minimum the loss of blood and easy and safe control from hæmorrhage.

II. A thoroughly aseptic operation, with protection of the abdominal cavity and its contents.

III. The intra-peritoneal treatment of the stump and complete closure of the abdominal wound without drainage.

In Dr. Marcy's judgment the importance of the last cannot be overestimated. Hand in hand with the perfection of antiseptic measures came the intra-peritoneal treatment of the pedicle of ovarian tumors, and few would now for a moment advocate returning to the use of the clamp. Much more important is the intra-peritoneal treatment of the stump after hysterectomy. This is constricted so as to control hæmorrhage, but not necrosed, is covered with peritoneum, and leaves no open surface for absorption.

DR. JOHN HOMANS, 2d, said that Dr. John Homans usually uses the needle for the stump of fibroids. Then aseptic gauze is used and the stump is kept covered with liquor ferri persulphatis, and thus there is no suppurative process, but a sort of dry gangrene, and the stump comes away shrivelled and dry in four or five days. If death is to occur, it is generally from exhaustion or shock within thirty-six hours, instead of septicæmia.

DR. CHADWICK said that Tait used two needles, thrust through the stump, on either end of which were affixed a flat plate which rested upon the abdominal walls and prevented the end of the stump from sinking within the abdominal cavity. The end of the stump was charred by the hot iron or perchloride of iron so as to be perfectly dry. The abdominal wound was sewed tightly round the stump so that agglutination took place long before there was any suppuration or exudation from the stump. This agglutination seemed to be effectual in preventing the entrance of any fluid into the peritoneal cavity, and would thus render Dr. Marcy's ingenious rubber dam superfluous.

Dr. Chadwick said that the operation of anterior colporrhaphy, as described by Dr. Cushing, was well known in Boston; he had often seen it done in the Massachusetts General Hospital, where he was House Surgeon in 1871. Dr. Chadwick had never done any other operation himself; he, however, dispensed with the multiplicity of details and instruments recounted by Dr. Cushing. Dr. Chadwick's operation was simply to cut a hole in the vaginal wall behind the urinary meatus, through which blunt-pointed scissors were thrust between the vesical and vaginal walls, opened widely and withdrawn several times, by which manœuvre the adjacent walls were dissected apart without the use of a cutting edge. The minimum of bleeding was thus secured, and the only danger of the operations—wounding of the bladder, absolutely avoided. When the dissection is completed, the vaginal wall is slit longitudinally from the original opening nearly to the vaginal portion, and consecutive slices cut from either side of the incision until an oval opening in the vaginal wall is left. The denuded surface is then thoroughly disinfected, and the edge of the wound approximated by interrupted silk sutures; these are introduced very near together and very superficially, so when suppuration sets in on the sixth to eighth day, very little traction upon the free ends of the sutures, protruding from the vulva, will cause the sutures to cut through and come away. Dr. Chadwick has been in the habit of operating upon the lacerated cervix, the anterior vaginal wall, and the posterior

vaginal and perineum at one sitting, with perfectly satisfactory results.

Dr. Chadwick said that when he was studying in Breslau in 1873, Professor W. A. Freund had conceived the idea of Alexander's operation, and they had together made several experiments upon the cadaver, to determinate its practicability. They had never failed to find the ends of the cords, but after dissecting them up and drawing upon them; they had never been able to draw them down more than two inches, which had not been found sufficient to raise the retroverted fundus; moreover, the peritoneum investing the cord was drawn down into the canal of Nuck in such a way as to suggest liability to inflammation of that membrane. These considerations had caused them to abandon the operation. Recent experiences have made evident that the agglutination of the peritoneum to the cords is a post-mortem change, and not an obstacle to the operation upon the living. Dr. Chadwick went abroad last summer with the intention of seeing some of Alexander's operations, but found the leading gynecologists of England so opposed to the operation that he renounced his intention. The objections raised were: (1) the occasional impossibility of finding the end of the cords; (2) the serious results and even deaths that had followed the operation, and more important than all, (3) the fact, as alleged, that the relief to the displacement was but temporary. Dr. Swift's result was certainly very good, and would encourage him to try the operation.

DR. HENRY O. MARCY read a paper entitled
THE PERINEUM, ITS ANATOMY, ITS LESIONS AND
THEIR RESTORATION.

It was illustrated by a large collection of photographic pictures projected upon the screen, a considerable number of photographs of patients, showing different degrees of injury, and in varying stages of operation for restoration.

As shown by a number of actual dissections, the anatomy of the perineum is quite different from the teachings of the ordinary text-book, and this is the more remarkable since, as shown by photographs from the celebrated drawings of Wm. Hunter, this master clearly taught some of the important relations of the muscles going to make up the floor of the pelvis.

In rupture, not involving the sphincter ani, the divided ends of the transversalis retract, and this pulls apart, or allows the separation of the lateral closure of the vulva and permits the eversion of the antero-posterior folding of the vaginal muscle. Thus weakened, the usually closed, elastic, vaginal column of support to the uterus, fails of its normal function and the entire train of evils, dependent upon misplacements and disordered pelvic circulation and nutrition, may follow.

A long continuance of these factors may so change the floor of the pelvis as to render its complete restoration impossible, and it is important to recognize and restore the injured parts as early as possible. This should be done at once after the injury, but for manifest reasons a large number of cases will escape the obstetrician.

Dr. Marcy's method of restoration is too well known to require a detailed description. The patient, in lithotomy position, he dissects carefully, with two fingers in the rectum, the posterior vaginal wall on a plane with the sphincter ani and rectum, by introduc-

ing midway a sharp-pointed double-edged knife. The dissection is carried laterally as far forward as the cicatricial marks show the injury extended, and above to a point determined by the conditions of rectal dilatation even, if desired, to the extent of a posterior colporaphy. The vaginal flap is then lifted anteriorly, the divided ends of the retracted transversalis are felt for and coapted by a deep tendon suture, which is repeated as a deep-buried continuous stitch, as may be thought needful.

Dr. Marcy considers the use of the interrupted stitch for the closure of the perineum, even of wire, although almost universal, as very defective, and attributes to it a large share of the failures which so commonly follow. No matter how inserted, or how much tissue enclosed, it is a loop and must act equally upon the part enclosed. In order to prevent traction from above downward, and secure a lateral coaptation, with rest and retention, Dr. Marcy has devised a double pin, the halves of which are nearly alike. It is made of German-silver wire, gauge No. 20 or 22, because this material does not irritate the tissues and possesses stiffness and elasticity, qualities which are essential. The end is bent in a small loop and turned one-fourth of an inch therefrom, at a right angle, and the shaft is two or two-and-a-half inches in length, and sharpened like the point of a subcutaneous syringe. The one-half is introduced from within the vagina outwards, chiefly laterally, the direction being determined by the finger in the rectum, to which the pin should be parallel.

The other half of the pin, similarly constructed, is introduced upon the opposite side, from without inwards, the point of which is caught in the loop of the first part and adjusted without. Thus a kind of "safety-pin" is constructed and when fitted to retain properly the enclosed parts, the loops are clamped down by compression forceps and the ends cut square. Perforated shot are sometimes used to protect and strengthen. If properly adjusted the elasticity of the wire allows for the lateral oedema and does not impede the circulation in the enclosed parts, while complete approximation is obtained and no force is exercised in the direction of the long axis of the triangle.

The wound, thus closed, may be rendered and retained aseptic. It is protected from vaginal secretions, as the vaginal surface is not injured and the open wound is reduced to the short side of the triangle, which is carefully closed by an over-and-over animal suture. Usually two pins are sufficient. The bowels are kept open. The eighth or tenth day, each pin is gently pushed upwards, and the vaginal end exposed. Each side is then cut off near its juncture and withdrawn. The animal sutures are not disturbed.

In cases of complete laceration, involving the sphincter ani, the method of dissection is much the same. It is carried laterally, on each side, as far as deemed necessary. The rectal surfaces are first refreshed and coapted by animal suture, the vaginal next, and the triangle is then not unlike the conditions where the lesion is only partial. Greater care must be taken to avoid rectal accumulation. Dr. Marcy has now operated in this manner over fifty times and with such excellent results, that, in many instances, it would be difficult to determine if a lesion ever existed.¹

¹ The pins are kept in stock by Codman & Shurtleff, of Boston, and Tiemann & Co., of New York.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting. April 5, 1887. The President, C. L. DANA, M.D., in the chair.

REPORT OF A CASE OF SARCOMA OF THE BRAIN: OCCIPITAL LOBE, CAUSING HEMIANOPIA. REMOVED BY OPERATION,

by DR. W. R. BIRDSALL and DR. R. F. WEIR.

DR. BIRDSALL gave the history of the case, of which the following is an abstract. The patient, a Hebrew, aged forty-two, first came under his observation October 16, 1886. He had always been healthy until the summer of 1885. He denied injury to the head, or venereal disease. In August, 1885, he observed, for the first time, unsteadiness of gait, and had a severe attack of vomiting. Soon after diplopia for distance and increased awkwardness in walking was observed; also a disagreeable sensation, akin to numbness, in the right leg, hand and shoulder, but not in the face. This and the diplopia were transitory. Headache, usually frontal, was present occasionally, but never severe. October 7, 1885, he consulted Dr. E. C. Seguin, who found the eye muscles normal; no diplopia with red glass. Left pupil a trifle wider than right, both active, fundus normal. Left lateral hemianopsia, vertical line passing little to left of fixation point. No paresis of tongue, face, or limbs; no anæsthesia; patella reflex normal; walk somewhat staggering, with decided tendency to the right. October 20th, diplopia had recurred; left externus weak; hemianopsia the same; no hemiopic pupillary reaction. Grasp of right 42°, left 30°. November 7th, beginning neuro-retinitis. Drowsiness during the day. Difficulty in rising from chair.

Diagnosis. Tumor of mesal aspect of right occipital lobe, involving primarily the cuneus, extending downward toward the tentorium cerebelli, and perhaps also upward toward the para-central lobule leg centre.

Treatment. Large increasing doses of potassium iodide.

From January to July, 1886, patient under care of late Dr. McBride. During the early months of this period his diplopia disappeared and never returned; his gait improved somewhat, but he had two attacks on street, feeling he could proceed no further, and staggered toward the left. From September on his difficulty in rising, standing, and walking, together with drowsiness rapidly increased. In October, 1886, Dr. Birdsall found double optic neuritis, most marked in left eye; left pupil somewhat larger than right, no diplopia, no ocular paresis evident. His movements were clumsy rather than ataxic, at times being accurate, at others wide of the mark, especially in left extremities; gait slow and uncertain. There was frequent expectoration of a viscid saliva. Left hemianopsia, Dr. Birdsall thought, could be accounted for only by a destructive lesion in the neighborhood of the gyrus cuneus of the right occipital lobe. The locomotory disturbances appeared to him to be due to pressure effects of a tumor on structures below the tentorium; thus implying a growth of considerable size. His disturbance of equilibrium continued to increase in a very irregular manner. His intellect was not impaired. His family observed no change in his character or disposition. He was extremely uncomfortable mentally. An operation was proposed in February, 1887.

The operation was performed by Dr. Weir. Regarding the tumor Dr. Birdsall said it was of so large size, so much of the occipital lobe was compressed by it that the case was of little value for determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, producing destruction of the cerebral tissues by pressure alone. Absence of severe headache should be noted, as it is usually a prominent symptom of tumors involving the meninges. One of the most important lessons that the study of cerebral tumors taught was that growths remaining limited to the meninges may attain a large size before disturbing the function of neighboring parts of the brain. In these cases regions away from the tumor may give signs of importance before those in contact with the tumor. The extreme fatality of intracranial neoplasms was high warrant for taking an extreme surgical risk. The coöperation of neurological science and surgical art in the present state of each could hardly fail to build up an experience which would in some cases save life that would otherwise be lost.

DR. WEIR described the operation which was performed March 9, 1887. Special antiseptic precautions prior to and during the operation were taken. The periosteum was raised, two openings were made with the trephine, the first one inch above the occipital protuberance, and the same distance from the median line; the other immediately above. The openings were joined, and enlarged by the Rongeur forceps to two and three-fourths, by two and one-fourth inches. The dura mater was divided two-thirds the extent of the bone opening. Its retained attachment being toward the median line. The tumor was at once recognized and enucleated. It was necessary on account of its large size to incise it and press out some of its substance before it could be completely detached and removed through the opening. A great deal of venous bleeding took place, and sponges were stuffed in for temporary pressure, the cavity was inspected by the electric light, and showed that great amount of pressure had been exerted upon the brain; the falx was crowded to the left of the median line; the tentorium was depressed to a horizontal line. The tumor weighed five and a fourth ounces. It measured three and a fourth by two and three-fourths by two and one-half inches. One of the bleeding points was found to be in the region of the straight sinus, not free enough to be from that vein, but probably from the pedicle of the tumor; the other, apparently arterial, probably from a terminal branch of the posterior cerebral artery. The flow from each was readily checked by direct pressure, and it was determined to control them by packing the cavity with iodoform gauze. The dura mater was partly united over the gauze by loose sutures. The operation was well borne until the final enucleation of the tumor, when the pulse fell, apparently from loss of blood. Some hours afterward slight diverging strabismus of the left eye was noticed; blood stain appeared through the dressings; the pulse was weak; stimulants were given; the patient was restless. At night transfusion of a saline solution was made with temporary improvement, and the dressings were removed to control hemorrhage, which was seen to be taking place in a small stream, but the pulse again gave out, and nothing further could be done than re-apply pressure in the supposed direction of hemorrhage. Death occurred at 2 A. M.

An autopsy was not allowed, but in the lower part of the brain cavity was seen a large collection of coagulated blood.

Dr. WEIR said that in another case, where the hemorrhage was from vessels too deeply situated to apply a ligature, he would control it by leaving on clamp forceps, to be removed after a period of twenty-four or forty-eight hours. The opening, although large, was not sufficiently large to enable him to remove the tumor entire. It was intended to adopt Macewen's method, and employ bone grafts. Dr. Weir had recently replaced the pieces of bone removed by the trephine in a case of epilepsy, the opening being nearly two and a half by three inches, and now, about seven weeks after the operation, the wounds had healed save one, and the bones were felt to be solid, and were painless. Brief references to the cases of tumors of the brain for which operations had been performed were made.

REPORT OF A CASE OF CYST OF THE BRAIN, WITH OPERATION.

Dr. GRAEME W. HAMMOND related the case. The patient, a married woman, complained of severe pain an inch above the right ear, and had left hemiplegia. At the time her symptoms began, she was about twenty-nine years of age; she had had four children, and during the progress of her disease she had a fifth child. All were strong and well. Her sickness lasted about two years and a half. It commenced by sudden loss of consciousness and convulsions limited to the left side. The left side of the face became, and remained, paralyzed. About a year later she noticed gradual loss of power in the left arm; things dropped from the hand. At the end of another year the left arm was completely paralyzed. She then noticed increasing weakness in the left leg. When Dr. Hammond first saw her she was able to stand and walk slowly. While the paralysis was extending she had four or five epileptic seizures, confined to the left side. Headache developed about the time the legs became affected, grew more constant, and was described as agonizing.

She denied syphilis. Physical examination showed loss of motion on the left side of the face, tongue, and soft velum; of the left arm, and partial loss of motion in the left leg. There was no disturbance of sensibility of any kind. The reflexes were exaggerated on both sides. Sight, hearing, smell, and taste were normal. Choked disc on both sides was observed at a subsequent examination.

Under treatment, the headache was controlled to a considerable extent. Dr. Hammond's diagnosis was probable cerebral tumor involving the cortical or sub-cortical substance of the motor centres. An operation was refused. The patient grew worse until the 20th of March, 1887, when her husband asked that the operation be performed. Dr. Spitzka then saw the patient with him, and made two examinations. He rather coincided in the diagnosis. The operation was performed in the hospital last Wednesday. Dr. H. Josiah Roberts assisted at the operation, removing the portion of skull by his electro-osteotome. Four buttons were removed by the electro-trephine; these were connected by straight lines made with the circular saw. The diameter of the opening was over two inches. A crucial incision was made through the dura. A hypodermic needle was introduced in different directions, but no fluid was withdrawn. The dura was

closed, a drainage-tube was introduced, the skin-flaps were sewed up, the patient was put to bed. She lived only twenty-one hours, remaining unconscious after the operation. Prior to the operation she had become completely paralyzed in the left lower limb; she had delusions and hallucinations, she talked incoherently. Bed-sores developed.

The autopsy showed little hernial protrusion at the wound; the cortical substance here was thin. Incision through the motor region revealed three cysts in a line, deep in the white substance. The fluid in the cysts had been only partially examined; it was serum, and contained broken-down brain substance. The cysts were close together, and in a position to affect the face, arm, and leg centres. He could not explain why the syringe failed to bring forth fluid, unless it was that the cysts were too deeply situated, or the needle passed between them. He added to the clinical history that the head was drawn to the right side the last three days of life.

Dr. E. C. SEGUIN was partly responsible for the operation in the first case, but it seemed the patient would not live more than two or three months without it. He expected to find a large tumor, but was somewhat surprised to see it encapsulated and non-parenchymatous. During the early history of the case the symptoms pointed to destruction of brain-tissue. He asked Dr. Hammond whether the sensory or motor symptoms determined the seat of his operation.

Dr. HAMMOND replied that the headache corresponded to the centres for the motor systems, and the seat of the operation.

Dr. SEGUIN added that the seat of the pain would be a very uncertain indication for the seat of the operation. In some cases of cerebellar tumor, for instance, the pain had been mostly frontal.

Dr. E. C. SPITZKA, referring to the case reported by Dr. Birdsall and Dr. Weir, said that an artery, large enough to cause fatal hemorrhage, entered the gray and white substance of the right occipital lobe. It had been overlooked in many text-books.

Dr. ROBERTS explained how the circular saw could be used without injury to the brain, and the operation of the electro-osteotome.

Dr. STARR suggested the desirability of an analysis of reported cases of cerebral tumors, for the purpose of determining their rapidity of growth and size.

Dr. R. L. PARSONS read a paper entitled

NOMENCLATURE IN PSYCHIATRY. MONOMANIA OR OLIGOMANIA, WHICH? PARANOIA, WHAT?

An examination of the reports of fifty-one asylums for the insane, taken at random, showed that of the whole number of patients enumerated less than two per cent. were classified as cases of monomania, while in twenty-four of these reports the term did not appear. But, however much systematic writers on the subject of insanity deprecated the use of the term monomania, they rarely succeeded. There were manifestations of insanity which were neither melancholia nor dementia, but which differed so much from mania that another designation was required for them, and the objectionable term monomania was the only one generally employed. Dr. Parsons thought a suitable substitute could be found. Paranoia had been used to a considerable extent, but if the meaning of the term monomania was too narrow for the purpose required, that of paranoia was too broad. In conclusion, then,

with the assumption that monomania, as defined and explained by certain writers on psychiatry, designates phases of insanity of sufficient importance and well enough differentiated to require a place in the general classification of mental diseases; and with the further assumption that the reasons adduced in this paper are sufficient to justify the substitution of the term oligomania for monomania, it only remains to apply the proper meaning of the latter term to the former, to wit: a form of insanity which, although potentially affecting all the mental faculties and operations, apparently involves only a part, as the intellect, the emotions, or the will, or certain manifestations only of a faculty of the mind; which originates in the intellectual faculties rather than in the feelings: and the manifestations of which are well-defined, persistent, dominant, and systematic in character.

Recent Literature.

A Text-Book of Pathological Anatomy and Pathogenesis. By ERNST ZIEGLER. Translated and edited for English students by DONALD MACALISTER, A. M., M.D. Part II. Special Pathological Anatomy. Sections IX-XII. New York: MacMillan & Co. 1886.

This completes a work, the previous parts of which have already been noticed in the JOURNAL. These sections contain a description of the changes found in disease in the urinary and respiratory organs, and in the central and peripheral nervous systems. These subjects are carefully treated and well illustrated. They all bear the impress of original work, especially the section devoted to the kidney. And this, perhaps, is the only criticism that can be made against the work: that, for a text-book, it has too much individuality, and, therefore, does not give quite enough value to the views which have been more generally received. The abundant references, both to German and English literature, aid in correcting this fault, however, but are of greater value to the advanced student than the beginner. We can most heartily recommend the book to the profession, and prophecy for it as great a success here as abroad.

Tenth Annual Report of the State Board of Health of New Jersey.

This report contains the report of the Secretary, Dr. E. M. Hunt, followed by several papers upon various important topics relative to Public Health.

Of these, two are especially worthy of comment. "The Hygiene of Occupations" by Drs. Hunt, Stickler, Newton and Davis, forms a valuable contribution to the literature of this important subject. The occupations considered are glass and iron workers, hatters, workers in silk, jute, flax and rubber. The statistics relative to hatters are carefully compiled, and data are presented relative to the prevalence of certain diseases, such as catarrh, lung-disease, rheumatism, etc., among them.

The paper upon "Illuminating-Gas" by Dr. J. H. Raymond, of Brooklyn, New York, deals with a subject of considerable importance, but in such a manner as to elicit an inquiry as to its "raison d'être" in a sanitary report. The main portion of the paper relates to the history of illuminating-gas, processes of manufacture, etc., while the dangers from gas-inhalation are hastily disposed of in a few closing para-

graphs, and the comparative dangers of the two principal gases now used in some of the large cities of the United States are entirely ignored.

It is quite remarkable that the writer should not have found out, after the very elaborate report which he had made to the City Government of Brooklyn, that the fatality from gas-poisoning in his own city and in New York had increased ten-fold since the introduction of a more poisonous gas, the same being also true in regard to Baltimore, Rochester, Toronto, and other American cities.

Nervous Diseases and Their Diagnosis. By H. C. WOOD, M.D., LL.D. 8vo. pp, 501. Philadelphia: J. B. Lippincott Company. 1887.

The author of this work sees fit to apologize "for again trespassing upon the patience of the profession." Such an apology, which would hardly be warranted when we recall the value of the author's previous work in this department, becomes still more unnecessary from the fact that, in spite of the number of new books on nervous diseases, there is no good work in English on the special subject of diagnosis, except the manuals of Gowers, which cover but a part of the ground. The volume before us, therefore, is a distinct help to the student, and is a necessary supplement to the systematic works on diseases of the nervous system.

The first four chapters are devoted to motor symptoms — paralysis, motor excitements, reflexes, and disturbances of equilibration, — then, after a chapter on trophic lesions, sensory paralysis, exaltations of sensibility, and disturbances of special sense each form a chapter. Disorders of memory and consciousness, disorders of consciousness, and disturbances of intellect are discussed in the last three chapters. The arrangement of subjects under the several headings is systematic and clear. We feel grateful to the author for considering all the diseases of the brain in the various chapters, the insanities as well as the forms of brain disease commonly treated in our text-books, — and for devoting a special chapter to the subject. Such a course must be a great help to the student, who too often overlooks the facts that mental and nervous diseases cannot be separated by any distinct line. Pathology as a rule is subordinated to diagnosis in the work, but occasionally, as in treating of chorea, the author dwells at length upon the pathology, giving us the substance of his own former researches.

A few statements merit a word of criticism. The author's experience in finding the patellar reflex absent in hysteria is certainly unusual, and we would regard the absence of the reflex in health as an event much more rare than the figures show that the author quotes. In progressive muscular atrophy, too, reaction of degeneration is not uncommon, even in the early stages. The section on Thomsen's disease is far behind our present knowledge, and the section on aphasia seems to us a little brief and obscure. Singularly enough the author omits to speak of neuritis as a cause of paræsthesia. An explanation of the lettering of some of the figures would be desirable. Moreover, a chapter devoted to cerebral localization would add to the value of the work. On the whole, as we have said, the book filled as it is with personal experience, is a welcome addition to our knowledge, and a work which the student will find a necessary assistance in the study of the diagnosis of nervous diseases.

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THE OPERATIVE TREATMENT OF TUMOR OF THE BRAIN.

In another column will be found the report, read before the New York Neurological Society, of two cases of cerebral tumor, in which an operation was undertaken for the removal of the new growth. We have already spoken in these columns of the now well-known operation performed by Mr. Godlee,¹ and the successful operation of Mr. Victor Horsley,² but we feel justified in a further consideration of the subject, because the doubtful prognosis, even of syphilitic new growths, and the almost hopeless fate of the victims of every other form of tumor of the brain, render any new attempt at relief, however desperate, of the utmost interest.

Beside the four cases referred to above, the cranial cavity has been opened six times for the removal of a suspected tumor. The first operation was performed by Dr. MacEwen,³ on a suspected new growth of syphilitic nature over the Rolandic region. There was no tumor to be excised, but a false membrane was removed, the cortex incised, and some red, grumous fluid evacuated, with relief of symptoms and recovery. The first operation in this country was done by Dr. Morse, on a patient of Dr. Hirschfelder's.⁴ The tumor, a glioma, was in the motor region of the cortex, but, owing to extensive infiltration of the growth, it could not be entirely removed, and the patient died of encephalitis on the eleventh day. Mr. Horsley has recently referred⁵ to two other operations that he has performed for tumors in the motor region, but, although both were successful, the details have not yet appeared. Dr. Weir⁶ has also operated before this on a patient of Dr. Amidon's, to remove a supposed sarcoma in the motor region, excising a portion of the cortex, which proved to be healthy. The patient recovered from the operation, but died in two months and a half of the

tumor, which was found, at the autopsy, on the under surface of the cerebellum, pressing on the medulla. Mr. Bennett May⁷ reports a recent attempt to remove a tubercular tumor of the cerebellum. Contrary to his expectation, the operation was performed with comparative ease, and there was but little hæmorrhage, but the child, who had been much collapsed for some days before the operation, died of shock in a few hours.

Of these ten cases, therefore, four have made a good recovery, and the fifth recovered from the operation, although the topical diagnosis was at fault. Two cases — Dr. Hammond's and Mr. May's — were not operated upon until the patient was already much exhausted, and these are the only cases in which the operation seems directly accountable for the fatal result. The other three cases died from what must be regarded as accidental and avoidable causes — inflammation or hæmorrhage. On the whole, then, it would seem that, in selected cases, an operation for removal of the tumor is not only justifiable, but affords a fair chance for recovery, if done before the patient has become too much exhausted.

Unfortunately for the victims of cerebral tumor there are only certain portions of the brain that are accessible to the surgeon, and only in certain regions of these portions is our topical diagnosis reasonably certain. Tumors of the pons and basal ganglia can never be attacked by the knife, and tumors in the white matter of the centrum ovale are the most difficult to locate of tumors in any region of the brain, nor is it yet certain that, if we can locate such a growth with certainty, a deep-seated tumor can be removed. Furthermore multiple tumors can seldom be successfully located and removed. At present we can admit that only single tumors of the cortex and perhaps of the cerebellum are amenable to surgical treatment, and these are unfortunately few in number. Out of 485 cases collected by Bernhardt,⁸ only 57 were in the cortex, and 90 in the cerebellum. In Mr. W. Hale White's⁹ 100 autopsies at Guy's, 22 were cortical, and 29 cerebellar. Of the 100 select cases of Drs. Mills and Lloyd¹⁰ nine were cerebellar, and 33 at most, were cortical. Of these, moreover, many cases of cerebellar new growths may escape the most skilful diagnostician, and there are at present only a few areas in the cortex where we can be at all sure of our localization. It is now generally admitted that in the central convolutions and their neighborhood lie the centres which preside over the movements of the body, although many observers doubt whether these centres can be mapped out as exactly as Ferrier and Horsley claim; and it is in this region in which most of the tumors operated on have been situated. Seguin has done much to establish the belief that in the cuneus is the centre for vision for one-half of each retina, and Dr. Birdsall's case is of especial interest as the first attempt to operate in this region. To these

¹ Vol. CXII, 41, 67. See also Lancet, December 20, 1884.

² Vol. CXV, 530. See also British Medical Journal, October 9, 1886.

³ Glasgow Medical Journal, February, 1884.

⁴ Pacific Medical and Surgical Journal, April, 1886.

⁵ American Journal of the Medical Sciences, April, 1887.

⁶ Medical News, March 5, 1887.

⁷ Lancet, April 16, 1887.

⁸ M. Bernhardt. Beiträge zur Symptomatologie und Diagnostik der Hirngeschwülste. Berlin, 1881.

⁹ Guy's Hospital Reports, 1885-86.

¹⁰ Pepper's System of Medicine, Vol. V, 1069.

regions we may, perhaps, add the left upper temporal convolution, the acoustic speech centre, as a region where a lesion can be definitely located. Mills and Lloyd¹¹ suggest that hereafter the tumors in the antero-frontal and postero-parietal regions may also be located with some degree of certainty. Beyond these regions our knowledge of the localization of disease in the cerebral cortex is still uncertain, and less than two-thirds of the cases of cortical tumor cited were located in the regions where an exact topical diagnosis was possible. In spite of Dr. Birdsall's conclusions, our knowledge of localization is still capable of further advance, and it may be destined to become a still better guide to the surgeon than it is at present.

Certain other factors of a purely surgical nature render the prospect for the relief of victims of cerebral tumor still less hopeful. In the first place certain forms of tumor, such as cancer and sarcoma, are as likely to recur in the brain after removal as they are in other organs. In the second place Dr. Hirschfelder's case seems to indicate that, if the tumor be infiltrated, as often happens with gliomata and sarcomata, the chances for success are materially lessened.

Mr. Horsley has called attention to certain confirmatory signs of tumor which may appear at the time of operation, and his observations have been corroborated by most of the other operators. The dura is usually forced outwards through the opening in the skull, by the great intra-cranial pressure, and the pia over the tumor is often discolored. In some cases the tumor was distinctly felt as a hard mass beneath the finger.

The unsuccessful cases have at least served to emphasize certain precautions to be observed in operating. The first point seems to be, as in all operations, that surgical interference should not be put off too long. The only cases where death seemed due to the operation were cases where the patient was already much exhausted. The need of the most rigid antiseptic precautions is also evident. In case of hæmorrhage, the vessels must be tied or twisted, or, if too deep in the cranial cavity, clamp forceps might be left in for twenty-four hours or more, as Dr. Weir suggests. Etherization should be preceded by morphine. A large opening into the skull is necessary, and, after the operation, the buttons removed by the trephine, if kept warm, moist, and aseptic, will aid in fresh bone-formation. Horsley also recommends a U-shaped flap in the dura, instead of the crucial incision.

Under these precautions it would seem that, in a certain class of cases, unfortunately too limited, the operative treatment of tumor of the brain, has a fair chance for success.

— Shall we say *prodromes* or *prodromata*? A correspondent asks what authority certain medical writers have for using the word *prodromata* as the plural of a word which others give as *prodromes*? We confess that we give it up. The Greek word is *ἰπποδρῶμη*; hence the plural *prodromes* is philologically correct.

¹¹ Op. cit., p. 1067.

HEALTH OFFICERS AND PATENT DISINFECTING PROCESSES.

An important suit in regard to rag-disinfection by patent processes has just been decided, although not finally, after a ten days' trial, in the New York Supreme Court, Part II, before Judge Ingraham and a jury. It was brought by the firm of Lockwood & McClintock against E. B. Bartlett & Co., warehouse men and disinfectors of rags, and Dr. Wm. M. Smith, Health Officer of the Port of New York, to recover \$15,000 damages; the complaint setting forth that in May, 1885, Lockwood & McClintock imported and received from Japan 2,920 bales of rags by the ship *Vigilant*, and from Leghorn, Italy, 150 bales by the bark *Battaglia*, and that they were justly entitled to the possession and control of the goods, and would have had this but for the wrongful acts and conduct of the defendants. One of the clauses of the complaint states that Dr. Smith "with intent to wrong and injure plaintiffs, wrongfully and unlawfully conspired and combined with said Bartlett & Co. to have said rags of plaintiffs condemned as unclean and infectious property, and to require said rags to be disinfected under the process used by said Bartlett & Co., so that said Bartlett & Co., would be able and entitled to charge plaintiffs therefor, and to hold and keep said rags until such charges were paid."

Another clause reads: "That in furtherance of said wrongful conspiracy and combination, said Smith, under color of his said office, but wrongfully and unlawfully, caused said rags of plaintiffs on and between June 5, 1885, and June 17, 1885, to be taken from said vessels and transferred to the place of business of said Bartlett & Co., for the pretended purpose of having the same disinfected, although said Smith and the said Bartlett & Co. knew that such rags were clean and free from any infectious matter, and were not at all dangerous to health, and did not require to be disinfected. The rags, the complaint goes on to state, were held from the consignees until October 1, 1885, and during that time "were partially subjected to a pretended process of disinfection which was worthless and ineffectual for any real purpose of disinfection, and which greatly damaged and injured the rags, but which process was fraudulently and collusively approved of by said Smith, with intent to give said Bartlett & Co., the control and monopoly of the disinfection, or pretended disinfection, of rags, so that they might be able to charge and extort from plaintiffs and others, large sums of money for such so-called disinfection."

It will thus be seen that the suit was of a double nature. It was for damages as against Bartlett for injury sustained by the forcible retention of the plaintiff's property, in pursuance of the orders of Health Officer Smith, and against both Dr. Smith and Bartlett, for conspiracy in giving and carrying out these orders. Against Bartlett the jury rendered a verdict of \$8,000 damages; but in the case of Dr. Smith they were unable to agree, although it is stated that a large

majority of them were of the opinion that the charge of conspiracy had been sustained. The case will now be taken to the General Term, and possibly to the Court of Appeals.

Whether Health Officer Smith be ultimately condemned to pay damages under this indictment or not, public confidence in his integrity and usefulness must be very seriously impaired or altogether lost. It is probable that Health Officers, Health Commissioners, and Boards of Health, will in the immediate future be more careful, than they have been in the recent past, about compromising themselves in any way, even in appearance, by any association with or employment of patent or proprietary disinfecting or other processes. It is also probable that we shall hear less of the extraordinary infectiousness of foreign rags and of the crying necessity for their invariable disinfection. The insensate clamor on this subject which filled the daily press, and even crept into some of the medical journals, two years and more ago was the most infectious element of the rag question which has thus far been brought to our notice.

HATS AS A CAUSE OF BALDNESS.

IN the October number of the *Popular Science Monthly*, Mr. Virgil G. Eaton expatiates on the prevalence of baldness among the male members of the present generation. From careful observations made in churches and theatres of all the large cities, he finds that fully thirty per cent. of the men over thirty years of age show unmistakable signs of baldness, while nearly twenty per cent. have spots on their heads, that are not only bald but actually polished with the gloss that is supposed to belong to extreme old age alone; bald-headed men, he affirms, are most plentiful in New York and Boston. His observations have been taken among the most cultivated as well as the least refined classes; it is among the former that baldness is the most prevalent. "Of two nights," he says, "when Patti sang at the Boston Theatre, there were forty-six per cent. of bald heads on one occasion, and forty-two on another. When De Lussan appeared in 'Fra Diavolo,' I discovered thirty-eight per cent. of baldness, and at Matthew Arnold's lectures there were forty-six per cent. In fact, out of hundreds of observations, extending over several years, I have found that the higher the price of admission, and presumably the more refining the nature of the performance, the larger the per cent. of bald heads." He found in one store in New York, twelve shipping clerks, all under forty years of age, seven of whom were bald, and declares that there are more bald-headed men in Boston than there are who have black or red hair. In view of these facts he asks: "Will the coming man be bald? If not, what is the present generation doing, or what can it do to hinder such a fate?"

Among the causes of the prevailing baldness of the

present age Mr. Eaton assigns the most importance to the wearing of tightly-fitting head coverings, living in doors, and the custom of cutting the hair close. "Among savage races who live out doors and go bare-headed, baldness is unknown. To these, hair is a protection. It grows in rank profusion without care. Something is needed to protect the scalp from the sun and wind and rain, and hair grows luxuriantly; when hats and caps were invented, they took the place of the natural shield, and the hair having no longer any function to perform, fell away. The days of its usefulness in the economy of life are past, and like the tails of the monkeys and the muscles of the ears, it has become rudimentary from disease. If it is to be restored to its former glory, men must stop making 'close crops,' and must go bareheaded." He thinks that the reason why there are fewer bald-headed women than men is that women do not "shingle" their hair after the manner of the sterner sex. The recent fashion of "banging" and "frizzing" their hair, adopted by ladies of fashion, is a death-blow to their sex having good hair much longer. If it continues there will be as many bald-headed women as men.¹ Mr. Eaton concludes that: "the man or woman who wears a closely-fitting cap, and works in over-heated shops and stores, under the rays of gas and electric lights, cannot expect to have good hair. If they want to be 'worth scalping,' they must go out into the open air, and expose their heads so that they will feel the need of scalp locks." "Nature never makes anything for which she has no need, and when she finds that her works are of no use, she proceeds to eliminate the superfluous article."

In the May number of the *Popular Science Monthly*, Mr. W. C. Gouinlock continues the discussion of the subject. He does not think the habit of wearing warm coverings on the head, or of cropping the heads likely in itself to be of injury to the hair follicles and result in alopecia. The habit of wearing warm coverings on the head is not of recent date; the armies of Europe, for instance, no inconsiderable number of men, with heads close-cropped, have worn for a long period warmer and heavier head-gear than the modern dwellers in cities, without the same tendency to baldness. Nor are the heavy fur coverings of northern races incompatible with luxuriant hair." He does not think that close cutting of the hair has anything to do with baldness; certainly the habit of shaving the beard does not seem in races or individuals to cause disappearance of that hirsute appendage, nor does cropping the hair at the back of the head and neck, regions which are habitually cut close, favor baldness of those regions.

With regard to indoor life, this is less a factor in the production of alopecia than Mr. Eaton supposes; on the one hand, women who are the most confined indoors are the least subject to baldness, and, on the

¹ Reliable statistics as to the percentage of baldness among women would be interesting, but proportionately difficult to get at. We have recently become cognizant of a complete general alopecia affecting three female members of a family, a mother and two grown daughters.

other, falling of the hair is by no means infrequent in persons whose occupation keeps them most of the time in the open air.

Mr. Gouinlock believes that the common form of baldness is due entirely to the kind of hat that is worn, principally to the "high hat, and the hard-felt hat," and also "to any other head covering that constricts the bloodvessels which nourish the hair-bulbs." By close-fitting, heavy and rigid hats, the arterial blood-flow to the hair-bulbs and the return of venous blood are obstructed, and the result is an impairment of nutrition and final atrophy. "Few," he declares, "will escape the evil effects of twenty or thirty years of rigid tight-fitting hats, the destructive process being delayed only by the length and frequency of respites from this tourniquet of fashion."

If these conclusions are sound, the present generation should endeavor to undo the evil by the timely adoption of softer head coverings, whose loose rims can neither constrict the arterioles nor starve the hair-bulbs. The wearing of the unventilated beaver, which, according to Dr. B. W. Richardson,¹ "is a ready method of suppressing the natural growth of hair, and of causing to be retained in the hair that effete epithelial scale vulgarly called scurf," should be interdicted; and the hard-felt hat, unless it be ventilated at the top and worn loosely on the head, so as to be at the mercy of every gust of wind, must go the way of other unphysiological fashions.

As physiologists we may be permitted to doubt the adequacy of the cause assigned for our natural baldness by Mr. Gouinlock, although his view has the endorsement of so high an authority as the author of "Diseases of Modern Life."

MEDICAL NOTES.

— Antithermin is the latest reported antipyretic.

— Dr. Freire, of Rio de Janeiro, is in Paris demonstrating his yellow fever germ before a committee appointed by the Société de Biologie.

— Professors H. P. Bowditch, of Harvard, Mendenhall, of Terre Haute, Ind., and Cook, of Brunswick, Ga., have been elected members of the National Academy of Sciences.

— President Cleveland has appointed George M. Sternberg, M.D., Surgeon United States Army, to examine and report upon the question of inoculation against yellow fever.

— It is reported that another patient of M. Pasteur's has died in Paris. He was a Spaniard, named Ramon, who was bitten by a wolf on February 15th, and was at once sent to Paris, where he went through the "Pastenrian treatment." This is said to be the forty-fifth death from hydrophobia after treatment by Pasteur.

— The Marine Hospital bureau is informed that the Indians in the vicinity of Yuma, Ari., are suffering from a severe epidemic of measles, which had proved fatal in sixty cases up to the 16th of April.

— Our English confrères are chafing under the carriage-tax, which in spite of efforts to secure its reduction, remains at two guineas, in some cases amounting, it is said, to fifteen per cent. of the cost of a vehicle. To the country practitioners especially, the burden is very heavy, and prevents them from keeping a close carriage for rainy weather, and a cheaper open vehicle for fine days.

— The *London Medical Record* contains the following formula, which has been used to prepare a calming and adhesive preparation, suitable for neuralgias, or tender, inflamed, or abraded surfaces. Bits of linen or silk dipped into it answer the same purpose as the so-called "court plaster": Mastic 3iij., balsam Peru 3j., narcotine 3j., chloroform 3vj. The three first substances must be powdered separately, and then added to the chloroform.

— The *Therapeutic Gazette* calls attention to massage as an employment especially suited to the capabilities of the blind, in whom the tactile sense is so strongly developed, and remarks that, in Japan, massage has been for a long period of time practised by blind men, who go about the streets with a flageolet, to call attention to themselves and their occupation. It adds the hint that superintendents of blind asylums will do well to consider this as a possible avenue for labor for their pupils.

— Dr. J. A. S. Grant (Bey), writing to the *Provincial Medical Journal* regarding midwives in Egypt, says that he was called to the wife of a Turkish gentleman during her first confinement, a midwife being in attendance. The pains were unusually severe, and though their violence was mitigated by chloroform, to which the native practitioners are, of course, strangers, no progress was made. The midwife proposed craniotomy, saying that the child was dead, and was provoked that the surgeon insisted on forceps, saying that she (the midwife) sometimes performed craniotomy as often as ten times in one day. It evidently was her only operative resource. The child was delivered, alive, and the midwife at once introduced her hand nonchalantly to the uterus and scraped out the placenta, that being her routine treatment.

— Some curious discoveries, according to the *Medical Press*, were recently brought before the Odontological Society of Great Britain by Mr. Charters White. He examined some dental tartar removed from the teeth belonging to dolichocephalic skulls, found in a "long" barrow near Heytesbury, the original proprietors of which were contemporaneous with the Stone Age. Decalcified and examined under the microscope, he found small, drab-colored masses, composed of altered and disintegrated epithelial scales, mixed with the contents of starch-cells. Throughout these masses were scattered grains of sand, due to the practice of

¹ *Diseases of Modern Life*, p. 247.

grinding corn between two gritty stones, the effect of which, in wearing down the teeth, is very apparent in the teeth themselves. In addition to the above, he was enabled to identify portions of husks of corn, hairs from the outside of the husks, spiral vessels from vegetables, husks of starch, the point of a fish's tooth, a conglomeration of oval cells, probably of fruit, barblets of feathers, portions of wool, and fragments of cartilage. The idea of deriving information as to the gastronomic propensities of our ancestors by such means is certainly remarkably ingenious. The fertile imagination of the archæologists will doubtless suffice to build up, on this somewhat slender foundation, a legend which will be handed down to posterity, and ultimately be hallowed by its own antiquity, as well as the antiquity of the material dealt with. In future ages, remarks our contemporary, instead of scratching a Russian to find a Tartar, our descendants will scratch the tartar to find a Russian.

BOSTON AND NEW ENGLAND.

— At the annual meeting of the Suffolk District Medical Society, held Saturday evening, April 30th, Dr. John Homans was elected President, and Dr. Geo. W. Gay, Vice-President for the ensuing year.

— The Boylston Prize of the Boylston Medical Society of Harvard University has been awarded to Mr. Charles L. Scudder for an essay on "Congenital Talipes Equino-Varus."

— Drs. J. Solis Cohen and Edward Martin, of Philadelphia, made a visit this week to the Physiological Laboratory of the Harvard Medical School to assist at some investigations, by Dr. F. H. Hooper, upon the action of the vocal cords in response to electrical stimulation, the results of which were pronounced very satisfactory.

— A bill passed the Senate of Rhode Island last week, providing that every person, firm or corporation employing minors under sixteen years of age, or women, in any manufacturing, mechanical or mercantile establishment in this State, shall provide suitable seats for the use of such minors and women so employed, and shall permit the use of such seats by such employees when they are not necessarily engaged in the active duties for which they are employed. Every person, firm or corporation who wilfully violate any of the provisions of the law shall be fined not exceeding \$20 for each offence.

NEW YORK.

— At the "Festival of the Year," a charitable entertainment held last week, at the Metropolitan Opera House, in aid of the New York Skin and Cancer Hospital, about \$5,000 is said to have been cleared.

— A householder in Jersey City has brought suit to recover \$20,000 damages against City Health Inspector Benjamin and his assistants, for dumping night-soil against the rear fence of his premises, in consequence of disease contracted, from which, it is claimed, five children of his died within three days.

— A mother, whose two daughters have been secretly using "arsenic wafers" for their complexion, having applied to the Board of Health to inquire if the practice of selling such articles could not be stopped by the authorities, Dr. Cyrus Edson has been instructed to make an investigation of the matter.

— On the 23d of April, Dr. Charles Sedgwick Minot, of Boston, delivered an illustrated lecture on "The Evolution of the Head," before the New York Academy of Sciences; and, on the 28th, Dr. H. C. Haven, of Boston, read a paper on "Natural *versus* Artificial Feeding during Infancy," before the Section on Obstetrics and Diseases of Women and Children of the New York Academy of Medicine.

— A dispatch from Middletown, Orange County, dated April 26th, states that no official attempt has yet been made, or is likely to be made, to enforce the orders recently issued by the State Board of Health to the local Boards throughout the milk-producing districts, instructing them to "seize and destroy" bobveal before it leaves their jurisdiction. On account of the profit derived from the forbidden traffic by the dairymen, the calf-butchers, and the railroads, public opinion tolerates it, and the local Health Boards are indifferent about the matter.

— A remarkable showing is made by the result of the physical examination of candidates from the public schools for the appointment of a cadetship at the Naval Academy, at Annapolis. The position was offered by Col. L. S. Bryce, member of Congress for the Seventh New York District, to the lads, between fourteen and eighteen years of age, in the district, who should pass the best competitive examination; and, on the 29th of April, twelve youths presented themselves at the College of the City of New York for the trial. The physical examination was made by Drs. Stuyvesant F. Morris, of New York, and Shaeffer, of the Navy, and not one of the twelve was found to answer to the qualifications as regards physique required by the Government for admission to the Academy. Of the candidates, three were rejected for defective eyesight, and four for malformation of the chest or heart troubles, while one was under the minimum stature allowed.

— One of the morning papers, in commenting on a table recently published by the *Pall Mall Gazette*, showing the death-rates of the great cities of the world, from which it appears that crowded London leads the list, while New York is bracketed with Calcutta (a city in which cholera always prevails, and has destroyed 24,000 lives in the last six years), suggests, as one cause of the large mortality in New York, the vile habits of thousands of immigrants living in filthy tenement-houses. One day last week, the Health Department is said to have seized in an Italian grocery on Mulberry Street, two thousand pounds of unwholesome food, including a large number of chickens which had died of tuberculosis. While, according to the census of 1880, the number of persons to each dwelling is 5.79 in Philadelphia, and 8.26 in Boston, in New York the number is no less than 16.37.

Miscellany.

DANGER ATTENDING THE USE OF PURE TEREBENE.

DR. HARVEY, of Birmingham, describes in the *British Medical Journal*, January 29, 1887, the case of a man aged fifty-six, a chronic asthmatic, who suffered from the beginning of December with severe bronchitis, with profuse muco-purulent expectoration: "On December 21st he began to take pure terebene (ten drops on sugar every four hours) with great advantage, the expectoration diminishing to *nil*, and the dyspnea being much relieved. After the treatment had been continued for three days, the patient was seized with intense pain in the region of the left kidney, shooting into the pelvis and down the left thigh, with blood in the urine and severe strangury. Cessation of the terebene treatment, together with the use of poultices and the administration of opium internally, resulted in speedy relief, and left little doubt that the condition was one of intense renal congestion caused by the terebene."

OBITUARY.

GUSTAVUS PERCIVAL PRATT, M.D.

Gustavus P. Pratt, M.D., died at Cohasset, Mass., April 29, 1887, after an illness of three months. He was born in Cohasset, February 14, 1840, and passed his boyhood and early school days there, with his grandfather, Dr. Ezekiel Pratt. He entered Phillips Exeter Academy in 1857, and graduated at the head of his class in 1860. Three years later, in 1863, he graduated at the Harvard Medical School. He was appointed almost immediately, by Governor Andrew, assistant surgeon in the Thirty-second Massachusetts Regiment. He became later brigade surgeon, and served in the Nineteenth and Twentieth regiments until the close of the war. In 1865 he went into business in Chicago, but soon returned to Cohasset, where he has since practised his profession with great success. Dr. Pratt was widely known and much esteemed in this part of the State. He leaves a widow and three children.

E. T. CASWELL, M.D.

Edward Thompson Caswell, M.D., died at Providence, R. I., April 17, 1887, in the fifty-fourth year of his age. He was the son of the late Professor and President of Brown University, Alexis Caswell, D.D., was graduated here in 1853, received his medical education at the Jefferson Medical College, Philadelphia, taking his medical degree in 1859. He continued his medical studies in Europe, especially at Vienna and Berlin; in the latter city under the inspiring influences of Langenbeck, he turned his attention more directly to surgery, and this remained through his life the more attractive branch of his professional work. Returning from abroad in 1863, he was in the hospital service of the government at Portsmouth, Va., until a serious impairment of his health in 1864 compelled him to retire. In 1864 he opened an office in Providence and remained here, in the active practice of his profession, until his death. Successively vice-president and president of the Rhode Island Medical Society, he enjoyed the distinguished honor of being three times called upon to deliver the annual address before that body. In the years 1868-76 inclusive, he prepared the Registration Reports of his State. He was chosen one of the surgeons of the Rhode Island Hospital at its establishment, and was a consulting physician of the Providence Dispensary. He had also been president of the American Academy of Medicine, and was selected to deliver the annual address before the Alumni of Jefferson Medical College in 1879. This is the record of a busy and successful professional life, full of honors fairly earned by the faithful and enlightened service of a man of unusual qualifications for his work. Believing conscientiously in the realities and certainties of medicine, he thought no expenditure of time, health, or money, too great, if he could only the better prepare himself for the relief of suffering and disease. During the last year of life, when the fatal character of his illness had become a certainty to him, he did not cease from his labors, but continued to the end, bringing cheerfully to others the help that none could offer him. To all the advantages, which his home and associations had bestowed upon him, were added the grace, purity and manly strength of a Christian faith. Wherever known he was appreciated, and the community where he spent his life, mourns for the good physician.

Correspondence.

IN-GROWING TOE-NAIL.

[The following letter, sent in for publication, will be sufficiently clear to those who may have read the foot-note on page 324, of the April 7th number of this JOURNAL.—Ed.]

NEW YORK, April 22, 1887.

DEAR SIR,—I beg to acknowledge the excerpt from the *Boston Medical and Surgical Journal*, received through Dr. Hartley. I fancy I have not made myself clear in speaking of your operation. I only intended to convey that it had failed in my hands at times, and in the hands of others, because it had not been properly done. I have used it as is described in your last remarks some seven times with uniform success. In over a dozen other cases, success varied with the amount sliced off.

In styling it a "very little operation," I did not wish to belittle its importance, but only to allude to the fact that such minor operations were rarely to be met with in our large hospitals, and hence I *lugged* it in, so to speak, to emphasize the importance of doing it rightly.

I think, moreover, that I was among the earliest to use your operation here. Yours most truly,

R. S. WEIR, M.D.

To DR. B. E. COTTING.

EROSIONS OF THE CERVIX UTERI.

CARLSBAD, April 8, 1887.

MR. EDITOR,—I have read with unusual interest the paper presented by Dr. E. W. Cushing before the Suffolk District Medical Society (Section of Obstetrics and Gynecology) upon this subject, a report of which appeared in the *Boston Medical and Surgical Journal* of March 10th. Of even greater importance, perhaps, because of its advanced pathological reasoning, was the stand taken by Dr. Fitz, on the relation of erosions to cancer. In the present position of accurate scientific observation we are justified, I take it, in attributing to mal-nutrition of the body, a large percentage of these cases of local derangement of cell multiplication and tissue formation. No theory of traumatism or of irritation from noxious secretions can possibly hold, when urged as a primary cause in the case of newly-born children or of young girls. The erosion is a mere symptom of some vicious nutritious action in the cervix, which in turn may be inter-dependent with a constitutional fault of some kind. I have long believed that very many of the specific ailments of women were not so much local in their natures, as general, and that to meet rational therapeutic indications we should first address ourselves to the cause, and later attack the local symptom if demanded. The cervix possesses no potential power to *originate* tissue degeneration. It is simply impossible for it to inaugurate any such departure from the normal, unless there be a constitutional cause. As cervical erosions may exist without lacerations, it cannot be maintained that the latter originate the mischief. It does not seem to me probable that lacerations of the cervix have anything more than a casual relationship to erosions. Neither can I accept just yet as synonymous terms, glandular endometritis and cervical erosion. One is exaggerated cell-growth and proliferation of the body of the uterus, and the other is more like a retrograde metamorphosis. Excluding cases of cervical erosion due to direct irritating contact of a foreign body, or to the germs of noxious discharges, there yet remains a certain class of cases to be accounted for upon some other hypothesis. The normal tissue of the cervix is changed into a pathological one, because its nutrition has in some way been prejudiced. Its circulatory supply has been interfered with, either the quality or the quantity thereof. There is just a bare possibility that this defect of supply may be carried to such an extent as to produce malignant disease, though I am quite one with Dr. Fitz in failing to see how the epithelial cells are formed out of the

cylindrical ones. It has never yet been proven that a cancer of the cervix has originated from an erosion, and pathological observations certainly disprove any such train of reasoning. Clinical studies point to such a possibility—cases are even cited to prove the fact—but valuable though such clinical facts always are, they lack merit as scientific data. Dr. Fitz is entirely in accord with the most recent pathological researches in Germany. The most eminent pathologists here do not sanction yet the theory of erosions as causes of cancer, because the various steps in the process of growth, degeneration, death and new formation are not known. It rests with those who defend the theory to prove their premises. If there be a predisposition to cancer, by reason of transmitted heredity, conjoined to an erosion of the cervix, it is possible that the inherited tendency may manifest itself in the most vulnerable part. But I am quite sure that many, vastly many

more women go through life with erosions that never manifest any malignancy, than those who consult the medical man for a cancer developing out of an erosion. How is it possible for a non-malignant erosion to take on malignant action in one case and not in another? I mean what are the exact pathological processes at work? If the excitant be circulating in the blood, it might, perhaps, find its more fitting lodgment in the erosion as being the part the least adapted to resist an attack, but even then the characteristic cell should be that of the part diseased, we may never know whether such an assumption be true or otherwise, but it seems to me a tenable hypothesis, that if the woman, in whom subsequently the cancer develops, never had an erosion, she would have developed a cancer later on somewhere; so that it cannot be maintained that the local cause set up the graver sequelæ.

HORATIO R. BIGELOW, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 23, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhæal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	760	268	15.73	22.23	2.21	7.41	1.17
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	743,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	156	47	12.16	10.24	2.56	2.56	.64
Boston	400,000	203	68	10.78	16.66	1.96	3.43	.49
New Orleans	242,750	105	37	10.45	16.15	5.70	—	.95
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	87	21	16.66	2.38	2.38	2.38	—
Pittsburgh	210,000	80	33	15.00	37.50	1.25	3.75	2.50
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	57	20	8.80	13.88	—	5.28	—
Providence	121,000	55	13	16.38	18.18	1.82	—	14.56
Richmond	100,000	33	13	24.24	12.12	6.06	—	12.12
New Haven	80,000	—	—	—	—	—	—	—
Newport	19,566	6	0	33.33	—	—	—	16.66
Charleston	60,145	36	8	8.34	8.34	2.78	—	2.78
Portland	40,000	20	2	—	20.00	—	—	—
Worcester	68,383	30	12	—	16.66	—	—	—
Lowell	64,051	46	26	49.91	8.68	—	4.34	23.21
Cambridge	59,660	29	6	10.35	24.15	—	3.45	6.90
Fall River	56,863	22	7	—	13.65	—	—	—
Lynn	45,861	13	3	15.38	23.07	—	7.69	—
Lawrence	38,825	16	5	25.00	12.50	—	—	—
Springfield	37,577	14	2	14.28	7.14	—	—	14.28
New Bedford	33,393	16	4	6.25	6.25	6.25	—	—
Somerville	29,992	18	10	22.22	33.33	—	—	11.11
Salem	28,084	13	4	7.69	15.38	—	7.69	—
Holyoke	27,894	11	7	18.18	18.18	—	—	9.09
Chelsea	25,709	14	3	—	7.14	—	—	—
Taunton	23,674	5	3	20.00	20.00	—	—	—
Haverhill	21,795	6	1	33.33	—	—	33.33	—
Gloucester	21,713	6	1	—	33.33	—	—	—
Brockton	20,783	5	0	—	20.00	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	7	2	—	28.46	—	—	—
Fitchburg	15,375	7	4	—	14.28	—	—	—
Waltham	14,609	8	1	—	50.00	—	—	—
Newburyport	13,716	4	0	—	25.00	—	—	—
Northampton	12,896	7	1	—	14.28	—	—	—

Deaths reported 1,901: under five years of age 653; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhæal diseases, whooping-cough, erysipelas and fevers) 271, acute lung diseases 348, consumption 283, diphtheria and croup 84, measles 48, diarrhæal diseases 39, scarlet fever 22, typhoid fever 21, cerebro-spinal meningitis 16, erysipelas 11, malarial fever 11, whooping-cough 10, small-pox four. From scarlet fever New York 15, District of Columbia four, Boston two, Pittsburgh one. From typhoid fever, District of Columbia and Lawrence, four each, New York, Baltimore, Boston and Lowell, two each, Pittsburgh, Milwaukee, New Orleans, Charleston, and Holyoke one each. From cerebro-spinal meningitis, Lowell six, New York four, Somerville two, Richmond, Milwaukee, Newport and Taunton one each. From erysipelas, New York four, Boston three, Pittsburgh two, Baltimore and District of Columbia one each. From malarial fevers, New York six, Baltimore three, New Orleans two. From whooping-cough, Boston three, New York and Baltimore, two each, Richmond, District of Columbia and Lynn one each. From puerperal

fever, New York and Baltimore, two each, Pittsburgh one. From small-pox New York three, Pittsburgh one.

In the 22 cities and greater towns of Massachusetts, with a population of 1,062,033 (population of the State 1,941,465) the total death-rate for the week was 24.38 against 22.18 and 21.95 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 9th, the death-rate was 20.5. Deaths reported 3,641: infants under one year of age 818; acute diseases of the respiratory organs (London) 363; measles 250, whooping-cough 117, scarlet fever 41, diarrhæa 33, diphtheria 24.

The death-rates ranged from 17.0 in Portsmouth to 32.6 in Manchester; Birmingham 17.1; Blackburn 21.9; Brighton 17.2; Huddersfield 22.6; Hull 20.1; Leeds 22.4; Liverpool 28.6; London 17.8; Newcastle-on-Tyne 21.3; Nottingham 18.6; Sheffield 21.3.

In Edinburgh 19.4; Glasgow 25.2; Dublin 30.0.

The meteorological record for the week ending April 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 23, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 17	29.835	39.0	48.0	34.0	69.0	43.0	41.0	51.0	N.W.	N.W.	N.W.	24	16	16	O.	C.	C.	—	—
Monday, ... 18	29.818	29.0	35.0	26.0	64.0	100.0	97.0	87.0	N.	E.	N.E.	7	16	24	O.	C.	C.	12	33
Tuesday, ... 19	29.837	39.0	48.0	28.0	82.0	39.0	48.0	56.0	N.	N.	N.W.	16	12	11	O.	C.	C.	2	62
Wednes., ... 20	30.039	48.0	56.0	34.0	51.0	35.0	47.0	44.0	W.	W.	N.W.	8	14	7	C.	C.	C.	—	—
Thursday, 21	30.106	47.0	54.0	38.0	45.0	54.0	57.0	52.0	N.W.	E.	W.	4	12	11	C.	C.	C.	—	—
Friday, ... 22	30.117	51.0	60.0	42.0	51.0	60.0	53.0	55.0	W.	E.	S.	6	12	4	C.	C.	C.	—	—
Saturday, ... 23	29.939	50.0	59.0	46.0	50.0	57.0	94.0	67.0	S.W.	E.	S.E.	2	14	8	C.	T.	R.	3	.01
Mean, the Week.	29.956	43.0	51.0	35.0				59.0										17	.36

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 23, 1887, TO APRIL 29, 1887.

SMITH, J. R., lieutenant colonel and surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

TAYLOR, MORSE K., major and surgeon. Relieved from duty at Fort Sill, I. T., May 10, 1887, to proceed home, San Antonio, Texas, preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

HEIZMANN, CHAS. L., major and surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

AINSWORTH, FRED. C., captain and assistant surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

CABELL, JULIAN M., first lieutenant and assistant surgeon (recently appointed). To proceed to Fort Omaha, Nebraska, and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

WOODRUFF, CHARLES E., first lieutenant and assistant surgeon (recently appointed). Ordered for duty at Fort Wayne, Mich. S. O. 96, A. G. O., April 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 30, 1887.

ATLEE, L. W., assistant surgeon. Ordered to the Receiving Ship "Vermont."

BIDDLE, CLEMENT, passed assistant surgeon. Detached from the Naval Academy and to Marine Rendezvous, Philadelphia, Pa.

ASHERIDGE, RICHARD, passed assistant surgeon. Ordered to the Naval Academy.

HUDSON, A., medical inspector. Ordered to the United States Steamship "Trenton."

HIBBETT, C. T., passed assistant surgeon. Ordered to the United States Steamship "Trenton."

DECKER, CORBIN J., assistant surgeon. Detached from the Receiving Ship "St. Louis," and to the United States Steamship "Trenton."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING APRIL 30, 1887.

GOLDSBOROUGH, C. B., surgeon. Leave of absence extended thirty days, on account of sickness. April 20, 1887.

DEVAN, S. C., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved. April 12, 1887.

BRATTON, W. D., assistant surgeon. To proceed to Port Townsend, W. T., and assume temporary charge of the service. April 21, 1887.

SOCIETY NOTICES.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, May 12, at 4 o'clock, P.M. Reader: Dr. H. J. Harriman, "The Relation of Improper Alimentation to the Ill Health of Women."

H. J. HARRIMAN, M.D., *Secretary*.

NORFOLK DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at Rockland Hall, No. 2343 Washington Street, Roxbury, Tuesday, May 10, at 2 P.M. The Board of Censors will meet at 1 P.M. Order of business: 1. Reading of Records. 2. Report of Committees. 3. Election of Officers. 4. Report of Treasurer. 5. Incidental Business. 6. Communications: (a) "The Third Stage of Labor," E. G. Morse, M.D. (b) "A Case of Probable Intussusception with Recovery," E. F. Dunbar, M.D. 7. Introduction of newly-elected Officers.

S. ALLEN POTTER, M.D., *Secretary*.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, May 11th, at 7.45 o'clock. Papers: Dr. F. W. Stuart, "Can Cirrhosis follow Trauma? a Case of Medico-Legal Interest." Dr. F. I. Knight will report "A Case suggesting some Considerations in regard to the Contagiousness of Tubercular Disease of the Lungs." Dr. John S. Billings, of Washington, is expected to be present, and to take part in the discussion.

ALBERT N. BLODGETT, M.D., *Secretary*.

F. I. KNIGHT, M.D., *Chairman*.

BOSTON CITY HOSPITAL EXAMINATIONS.

The semi-annual examination of candidates for the position of externe at the Boston City Hospital, will be held Wednesday and Thursday afternoons, May 11th and 12th, at the Hospital, at 4 P.M.

E. H. BRADFORD, *Secretary*.

DEATH.

Died in Cohasset, Mass., April 29, 1887, Gustavus Percival Pratt, M.D., M.M.S.S., aged forty-seven years.

BOOKS AND PAMPHLETS RECEIVED.

The Rhin Glabrum. A Remedy for Stomatitis. By Hiram Corson, of Conshohocken, Pa. 1887. (Reprint.)

Will Contests. By Walter E. Rex, Esq., formerly Register of Wills for the City and County of Philadelphia. 1887.

Cocaine in General Surgery. By John B. Wheeler, M.D., Instructor in Surgery, University of Vermont. Montpelier, Vt., 1887.

Report of the Commission appointed by the Governor of Minnesota to Locate and Prepare Plans for a Third Hospital for the Insane. St. Paul, 1887.

A Successful Case of Partial Excision of the Larynx on account of Intra-Laryngeal Epithelioma. By Lennox Browne, F.R.C.S. Ed. (Reprint.)

Some Considerations concerning Cancer of the Uterus, especially its Palliative Treatment in its Later Stages. By Andrew F. Currier, M.D. 1887. (Reprint.)

Original Articles.

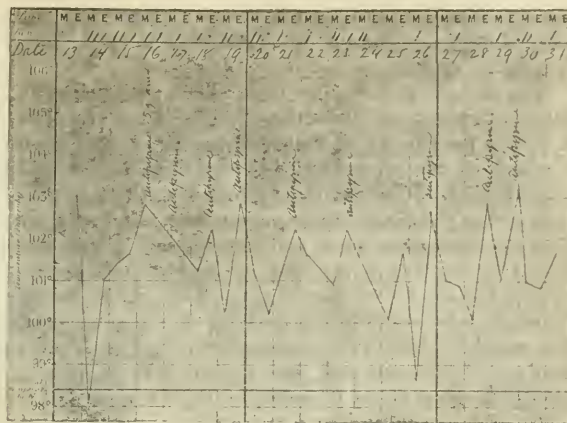
A CASE OF DIFFUSED GANGRENE OF THE RIGHT LUNG, FOLLOWING PYORRHEA ALVEOLARIS.¹

BY C. ELLERY STEDMAN, M.D., OF DORCHESTER, MASS.

I WAS asked by the husband of a patient to meet her at the dentist's, where she was to have all her teeth extracted, and administer the ether. The operation was done by Dr. F. F. Gage, with great rapidity and skill, on the 8th of October, 1885. During anaesthesia she collapsed, and for five minutes seemed moribund. The anæsthetic having been suspended, the blood cleared from the mouth, a subcutaneous injection of a drachm of brandy given, the operation was completed. She rallied in half an hour from the ether, and was driven home in a close carriage.

This patient was thirty-one years old, and had been married four years. Her father died of pneumonia; her mother, now living, lost her teeth several years ago, as did the patient's brother. A paternal grandfather died of cancer. Aunts and uncles are presumed to be healthy. She had never been a robust woman, and had been under treatment for various ailments since childhood. She was specially subject to chills, which were called malarial, but which were probably due to the condition of her gums, which had been diseased for eight years or more. She always suffered abnormally from the usual cold of winter, and then experienced difficulty in respiration. The summer before the teeth were removed she had amenorrhœa and other symptoms of pregnancy, which condition an examination proved not to exist, and she improved greatly on spending the summer at the shore.

On the day before the operation she had one of her chills, but it did not confine her to her chamber. The teeth having been extracted on the 8th, a slight cough and fever developed on the 9th. The gums healed in quickly, and such fetor was noticed as would be expected from the suppurating surface, and was relieved by a myrrh lotion. For a day or two she seemed to be recovering from the operation, as, on the 10th, the temperature was 98°; but, on the 13th of October, pneumonia was suspected, because the temperature shot up to 103.4° (the highest point it reached). The pulse was as high as 120 on one day only. There followed cough; scanty expectoration of not very viscid sputa, at rare intervals, rusty. During the first few days there was some delirium. The physical signs, at first, were negative; to the last, the front of the chest was clear, and the heart-sounds normal. Evidences of consolidation were heard in the middle of the right back, and extended downwards and upwards, till little or no free respiration could be heard. Once or twice the left back was suspected, but the sounds were transient, and proved to be transmitted. There was little or no pain. The sputa, never abundant, grew more and more fetid. This was at first ascribed to the condition of the gums, but these healed with remarkable speed, and probably, by the third day, presented no suppurating surface. After one or two remissions, which, for a day or two at a time, gave hope, she died, in full consciousness, at midnight of the 31st of October, on the nineteenth day of the disease. Dr. Whittier saw her twice in consultation. The chart is appended. The autopsy was made by Dr. Fitz on the 2d of November, and he has kindly sent me his notes.

¹ Read before the Norfolk District Medical Society.

AUTOPSY, THIRTY-FOUR HOURS AFTER DEATH.

Rigor mortis present. Frame small; well-formed; abundant subcutaneous fat-tissue. Head not opened. Nothing abnormal found on examination of heart and left lung. Right lung adherent throughout by fresh adhesions, except at the base, in front and behind, where circumscribed cavities were found. In each were about four ounces of foul-smelling, opaque, greenish-yellow fluid; these cavities communicated with the interior of the lung through sloughing tissue. The right upper lobe showed nothing abnormal; the lower lobe moderately retracted. A few cavities as large as English walnuts were present, with sloughing walls and offensive contents. In several instances, the beginning cavity-formation followed the course of the bronchial distribution, dilated bronchi being thus suggested. There was but little solidification of the lung-tissue between the gangrenous centres. The spleen was slightly enlarged and soft; the kidneys and liver presented the appearance of parenchymatous degeneration. Bladder not abnormal. External examination of stomach and intestines showed nothing abnormal. The sigmoid flexure formed an unusually large loop: adherent to its mesentery was the left ovary, apparently more than two inches from the uterus. The latter organ, of the average size, was malformed, consisting of but one horn — the right. The left horn was represented by a thin, flat, red band, within the broad ligament, and to which was attached a fibromyoma as large as a plum. About an inch and a half from the attachment of the band to the uterine wall, the round ligament was given off. The left Fallopian tube was not recognizable. The left ovary normal in appearance. Diagnosis: Gangrenous broncho-pneumonia; putrid empyema; malformation of uterus (one horn developed, the other solid and rudimentary, with a fibro-myoma).

In the chart, you will notice the low run of the pulse, temperature, and respiration; the course of the disease — nineteen days — so different from the record of a frank case of pneumonia. The remissions of temperature on the second and thirteenth days are worthy of note. You will also see how the temperature fell after moderate doses of antipyrene, which was always given with brandy. The treatment was liberally restorative: she took enough milk, champagne, and other food and stimulants readily, and retained them all. The slight delirium spoken of above did not cloud her mind, and, as has been said, she died aware of all

that was going on around her, and was so mistress of herself, that she expressed a desire to make her will; and, after it was drawn up, she signed it very shortly before her death.

The disease of the gums from which the patient suffered is called, by the dentists, *pyorrhœa alveolaris*, and by some Riggs's disease. It appears to begin with a calculous deposit around the necks of the teeth, and is said to be not uncommonly found in the mouths of very young patients—say, even those of two years. The deposit can be seen, and its presence is also manifested by a more or less distinct line of inflammation about the necks of the teeth. The gums become more or less congested, and cover the deposit, while the mischief proceeds in secret, the gums bleeding easily. If not removed, this deposit will go on hardening, clinging more tenaciously to the necks of the teeth, and extending its boundaries . . . the soft tissues shrink or recede . . . the disease attacks the hard tissues, and they yield more or less rapidly. The thin edges of the alveolar process are the parts now involved, and, from the breaking down of their structure, we have an easily perceptible discharge of pus. It is more intractable when hereditary.² The remedy for this formidable disease is the early removal of the deposit, or extraction of the teeth when it is advanced.

Gangrene of the lung is a rare disease. The case under consideration is the first in my own practice, and I recall only one or two in my hospital experience. In 1866, Dr. Austin Flint had seen fifteen cases, and cites the record of 1,069 autopsies by Lauthna, of Vienna, who found among them only five instances. Fischell, of Prague, in 3,437 necropsies, noted 75 cases of pulmonary gangrene. Ten years' post-mortem records in St. George's Hospital afford nineteen cases only. The fatality of the disease is large; the patients generally die before the slough can be cast off, its presence setting up septicæmia or secondary pneumonia. Dr. Coupland³ has collected some cases, principally reported with a view to operative procedures, in an able and interesting paper in the *British Medical Journal* of the 5th of September, 1885. The cases in the autopsy-book of the Middlesex Hospital, from 1875 to 1885, numbered thirty-eight. In a paper in the *Boston Medical and Surgical Journal*, 26th of October, 1876, Dr. Thomas W. Huntington reports thirty-two cases in the Massachusetts General Hospital, from 1857 to 1875. Of these, seven were discharged well, six much relieved, three temporarily relieved, five not relieved, eleven died. In summing up, Dr. Huntington finds that 73.3 per cent. of cases uncomplicated recovered, while complicated cases showed 80 per cent. of deaths.

The most frequent cause has been thought to be acute pneumonia, ending in gangrene, but I think that if a full history of each case could be procured, most of the patients would be found to have been exposed to some septic influence. Again, drunkards are peculiarly liable to this form of inflammation of the lung. Blocking of the pulmonary vessels does not necessarily lead to gangrene, but rather to that form of necrosis which is known as hæmorrhagic infarction, unless the occluding matter be of septic character. The inhalation of putrescent matter is a cause, such as retained bronchial secretions, or morbid extra pulmonary products, or foreign matter from without. Malignant ulceration in the mouth is stated as a cause in

more than one case. It often happens that after the first urgent symptoms of impaction had ceased, the patient lies in a condition of comparative comfort. Dr. Sydney Coupland cites illustrations of all these instances. Octavius Sturges adds cancer, carious vertebrae, and aneurismal tumor. Dr. Coupland also says the relationship between gangrene of the lung and acute lobar pneumonia has hardly yet received satisfactory explanation. Laennec considered that the surrounding inflammatory change was purely secondary, and there is, no doubt, much truth in this view of the case. But yet there remains a fair proportion where there seems no room for questioning the fact that acute pneumonia has ended in gangrene. In the rest, the limitation of the pneumonic areas, the distribution of the gangrenous foci, point to the hepatization being secondary to the gangrene. At the same time, no adequate cause for the gangrene can be assigned.

Octavius Sturges⁴ is strong in statement that true pneumonia never ends in gangrene. He writes that the cases which are obnoxious to gangrene are precisely those which are least liable to true pneumonia; are those, it almost might be said, where the state of the blood renders such an occurrence impossible. We have the testimony of authors that the liability to gangrene varies inversely with the liability to pneumonia. Gangrene of the lung is more rare in enteric fever than in typhus. Pneumonia is more rare with typhus than with enteric fever. . . . Dr. Stokes, who is little prone to accept doctrines on the mere authority of others, insists on the close connection between gangrene and what he elsewhere describes as "typhoid pneumonia." . . . A separate form is met in children. . . . The extravasation of blood (hæmoptysis) may terminate in a gangrenous cavity, the access of air to a lot determining its putrefaction, and, eventually, that of the surrounding tissues. M. Grisolle, who concurs with Frank, Laennec, and Andral in regarding this event of pneumonia as very rare, investigated the history of seventy reported cases of pulmonary gangrene. He relates that he could hardly find five out of the seventy which could, in strictness, be regarded as examples of pneumonia so terminating. Dr. Thorowgood gave Dr. Sturges particulars of a case, in which the characteristic and overpowering fetor of pulmonary gangrene arose in a pneumonia of no great severity, and which ultimately recovered, under his care, at the West London Hospital.

Gangrene of the lung occurs in two forms: the diffused and the circumscribed.⁵ In the former, the gangrene extends over a considerable space, sometimes involving the greater part of a lobe. This is the graver form, and almost of necessity proves fatal. The circumscribed form is that which usually occurs. In this kind, the gangrene is confined to a space limited in size from that of a bean to a hen's egg, the limits being sharply defined. Even when circumscribed, it is an extremely grave affection, but recovery takes place in a certain proportion of cases. The chances of recovery are differently estimated by different writers, which may, perhaps, be accounted for by supposing that the diagnosis of gangrene is not infrequently based on insufficient grounds. Fetid sputa are not restricted to this disease. Among the conditions simulating gangrene of the lung, are the sloughing of pulmonary tissues in tubercular cavities, a superficial slough of a

² Dr. George A. Mills. *Dental Cosmos*, Vol. XIX.

³ *British Medical Journal*, September 5, 1885.

⁴ "Natural History and Relations of Pneumonia," London, 1876.

⁵ Flint's "Practice of Medicine," first edition.

portion of the bronchial mucous membrane, and the retention of old secretions in cases of bronchiectasis.

We thus have the history of a patient never very strong, who, after long disease of the gums, under which pus was secreted, fell a victim to pulmonary gangrene. As malignant ulcerations of the mouth are a cause of this disease, so the condition of the alveolar mucous membrane placed her in a favorable state for the onset of the fatal illness. Gangrene of the lower lobe of the right lung set in, and, to the septic condition of the mouth, may be added, as a possible cause, entrance of blood into the bronchi during the operation of extraction, particularly during the collapse. Perhaps the collapse, too, may have been caused by the plugging of a bronchial tube with blood flowing from the gums into the trachea during anæsthesia. The decomposition of such clots, even when caused by hæmoptysis, has been noted above as originating this form of disease. Careful search was made in the autopsy for the signs of any such plugging, but none could be found. I am more inclined to place the cause of death with the long disease of the gums, favoring the fatal illness.

CASE OF ATTEMPTED SUICIDE FROM THE
INGESTION OF THIRTY-SIX GRAINS OF
MORPHIA, WHICH REMAINED IN THE
STOMACH FIVE HOURS. RECOVERY.

IN THE PRACTICE OF DR. L. E. LEMEN, DENVER, COL.

REPORTED BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.

WILLIAM P., aged thirty-eight years, a German, six feet in height, about two hundred pounds in weight and of powerful build, becoming tired of life attempted suicide by taking a large dose of the sulphate of morphia. At ten o'clock on the night of March 6, 1887, in the presence of a woman with whom he had had a disagreement, he opened a one-eighth of an ounce bottle of Powers & Weightman's sulphate of morphia, which he had bought for the purpose of committing suicide, poured out a large quantity on to the palm of his hand, and ate it down. The drug remaining in the bottle proved to weigh twenty-four grains, making the amount that he took in the neighborhood of thirty-six grains. After taking the drug he remained in the woman's room some ten or fifteen minutes, when, under the apprehension that a physician was being called, he ran down stairs, jumped into a hack, and was driven about a mile and a half to his home. On the way he opened a small vial of the spirits of chloroform, that he had with him, and drank a fluid drachm. When he reached his house and got out of the hack, the driver thought he was drunk. P—— afterwards stated that the last thing that he remembered was his getting into bed on reaching home. He drank freely of water and, on the arrival of the woman with whom he had quarreled, he was given a couple of glasses of milk, and a physician was summoned.

Half-past twelve, March 7th. Two and one-half hours after the ingestion of the drug, Dr. L. E. Lemen, who was called and who took charge of the case, arrived. Respirations were six per minute; pulse sixty-eight. Pupils pin-hole. Patient cyanotic. Ten grains of tartar emetic were placed upon the tongue and an attempt was made to wash it down, but the reflex effort of swallowing could not be excited. The at-

tempt and the dose were repeated, with a like effect, in about twenty minutes. Twenty minims of the fluid extract of belladonna were given hypodermically at 12.30, A.M., and the dose was repeated at 12.45, and again at 1.15.

Quarter-past one, A.M. Three and one-quarter hours after ingestion of the drug, I arrived with my battery. Found the respirations three per minute; pulse eighty-four. Pupils moderately dilated, due, no doubt, to the belladonna. We immediately applied the galvanic current from eighteen cells of a McIntosh Battery, the negative pole being placed over the right superior, carotid triangle, the positive over the præcordium, and the current interrupted very slowly. Galvanism and the belladonna brought up the respirations, both in depth and number.

Two, A.M. Four hours after ingestion. One-sixth grain of apomorphia was given hypodermically and an attempt to wash out the stomach with a soft-rubber tube was made, which failed, as the tube was not stiff enough. The hypodermic injection of apomorphia, one-sixth grain dose, was repeated in about twenty minutes after the first injection and followed in twenty minutes more by a third injection, making one-half grain in all of the drug that was given hypodermically, but it was of no avail.

Three, A.M. Five hours after ingestion. Galvanism having been kept up pretty constantly, an œsophageal tube was introduced into the stomach and it was thoroughly emptied and washed. The citrate of caffeine, grains fifteen, in solution, was then administered by the tube and the tube withdrawn. At this point the respirations ceased, the heart stopped beating and could not be heard over the præcordial region. The face and surface of the body became pallid, and we were afraid that life had flown.

Galvanism from eighteen cells was applied as before, and after three or four minutes a shallow inspiration occurred, and a second, and a third. Electricity was continued, the expirations were increased by compressing the chest, the heart started beating again, the respirations were restored, and the patient broke out into a profuse cold sweat.

Four, A.M. Six hours after ingestion. The stomach tube was introduced a second time and fifteen grains more of caffeine administered. On withdrawing the tube the pulse and respirations stopped as before, and were reproduced by galvanism as described. The respirations soon became Cheyne-Stokes in character, four or five series to the minute, and from that time for several hours but little was done except to stimulate the inspirations with a weak galvanic current whenever they seemed to flag.

Nine, A.M. Eleven hours after ingestion. Respirations eighteen per minute and fairly regular. Pulse one hundred. Patient unconscious.

Eleven, A.M. Thirteen hours after ingestion. Gave strong coffee, by spoonfuls between the cheek and the teeth, some of which would be drawn into the trachea and produce a violent coughing and the patient would thus become partially aroused, but dropped off instantly into slumber again. Could arouse him and make him cross for an instant or two, by pulling his beard. Slapping the face with a wet towel produced contractions of the orbicularis palpebrarum and corrugator supercillii. The citrate of caffeine in six-grain doses was administered every two hours for four or five doses, and we kept pouring down black coffee by

spoonfuls and by arousing patient enough for him to drink a little.

Three, p.m. Seventeen hours after ingestion. Vomited a little. Could be aroused sufficiently to be made to walk, supported by a man on either side. Pulse one hundred and twenty and thready. Respirations normal. Very drowsy, but could be kept from going into a deep sleep by talking to him. Skin bathed in perspiration.

Six, p.m. Twenty hours after ingestion. Sufficiently conscious to answer questions intelligently. Voice very husky, and he complained of his throat's hurting him. That night he vomited profusely and repeatedly.

The subsequent history was marked by great physical prostration; by a sore throat, on which some sloughing patches occurred; and by a cough, which with the ulceration in the pharynx lasted about ten days. At the end of that time he was able to get up and be around, and to-day he is a well man.

The interest of this case attaches to the fact that so large a dose of morphia could remain for five hours in the stomach of a perfectly healthy man, subject to the rapid absorption that would come from the stomach being empty, and yet that recovery should take place.

That the amount taken was about thirty-six grains, we feel sure, because he bought a fresh one-eighth ounce bottle, opened it in the presence of the woman, poured out a large quantity of the drug on to the palm of his hand, and ate it down. The remnant left in the bottle weighed just twenty-four grains.

That the drug taken remained in his stomach five hours we are equally positive, because from the time of his taking the drug, until his stomach was washed out, five hours afterwards, he was constantly in the presence of some person, and there is no history of his having vomited or purged in that time.

It is unfortunate that the washings of the stomach were not saved, so as to have determined accurately the amount of the drug that was not absorbed, and so, to have learned the real point of interest, the quantity of the drug that was absorbed. But so desperate did the case look, at the time, that it did not occur to us that there would be any need of reporting it, save to the Health Office, and the washings were thrown away.

We offer no excuse for the extreme measures taken in handling the case, except the urgency of the symptoms and the final recovery of the patient.

We are conscious that the stomach should have been washed out earlier than it was, but the delay was in a large degree unavoidable. The case has taught us, however, the necessity of emptying and washing the stomach even in apparently hopeless cases.

In turning to the books on my shelves, I find a case, cited by Reese in his "Manual on Toxicology," where a druggist swallowed *seventy-five* grains of sulphate of morphia. No marked symptoms appeared for an hour and a half, when he began to feel sleepy and had a staggering gait, soon after this emetics were given; causing free emesis. Despite the fact that the amount of the drug ingested was twice that taken in the case here reported, the absorption was evidently not as great—due to the fact that it was retained only an hour and a half, as against the five hours in this case.

Ziemssen's *Cyclopædia* (Vol. xvii), states that Bonjean witnessed a recovery after twenty-five grains of the acetate of morphia were taken: and Wood, (Ther-

apeutics, etc., p. 216), says the maximum doses from which recovery has taken place *without* emesis are fifty-five grains of the solid opium, equivalent to nearly seven grains of morphia.

A CASE OF PREGNANCY IN A UTERUS BILOCULARIS.¹

BY G. S. STEBBINS, M.D., SPRINGFIELD, MASS.

Mrs. A., thirty-six years of age, had been married ten years, and never been pregnant. She had always been an intense sufferer from dysmenorrhœa, having been obliged at every menstrual period to remain in bed from three to four days, and have hypodermic injections of morphia administered, or resort to frequent use of opium suppositories per rectum. I am confident that her sufferings during her periods, taken altogether, were greater than those attendant upon ordinary cases of labor. Pregnancy had been suggested to the patient as the most hopeful remedy, but however gladly she would have availed herself of the relief that such a condition might have afforded, it was quite evident that there was some physical impossibility that stood in the way. Examination per vaginam revealed a very narrow, contracted os, which well-nigh amounted to stenosis of the cervical canal, and which, I assured the patient, was the cause of her sufferings, and her non-pregnant state. As the patient was desirous of obtaining relief at all hazards, I suggested dilatation of the cervix, which operation she finally assented to. I dilated pretty thoroughly with the steel dilator, and in a few months afterward she became pregnant as was supposed, but the question of pregnancy was rendered a doubtful one, by the subsequent history of the case for four or five months.

About six or eight weeks after her last period, she began to experience intense pain in the right ovarian region, the abdominal walls at the same time becoming so sensitive, that she could not turn in bed, nor hardly tolerate the weight of the bed-clothes. These symptoms continued very severe, and were unendurable unless she was continually under the influence of opiates. Soon there began to be visible enlargement in the right iliac region, the nodulated, uneven outline of what appeared to be a tumor being readily mapped out by gentle pressure, the growth seemingly extended just above Poupart's ligament, the upper border rising up inside the ilium to its anterior superior angle. At the termination of the fifth month, there was no enlargement in the median line perceptible to the eye, nor to be distinguished by pressure on the abdominal walls; neither did examination per vaginam reveal anything except an elongated, œdematous condition of the posterior lip of the os, which felt like a bladder of water. A sympathetic condition, manifested according to some authors, in cases of tubal foetation.

The uterine cavity was still apparently empty, as far as the vaginal examination shed any light upon the case. The following question now arose: was she really pregnant? If so, was it a case of extra- or intra-uterine pregnancy? Had she a tumor? If so, was it ovarian; or was it some growth involving the broad ligament? If either of the latter, was the growth benign or malignant?

At this juncture, at my suggestion, a veteran in

¹ Read before the Springfield Society for Medical Improvement.

obstetrical warfare was called in council to help solve the problem. After a thorough examination of the case, he stated, with convincing assurance, that he could tell what it *was not*, but was unable, by any and all means, even by method of exclusion, to arrive at a positive, or even anything like a satisfactory diagnosis.

So far as we could arrive at conclusions, we agreed that the uterine cavity proper, was empty. This fact was quite apparent. We further agreed that if it was a case of tubal foetation, rupture should and doubtless would have taken place long before. Motion should also have been noted at this date, but had not been discovered. We finally agreed that it only remained to await the progress of events, and to treat the symptoms as they should become urgent.

From this time forward, for at least two months, until the completion of the seventh month, the abdominal enlargement continued to the right of the median line, but gradually extending toward it, until early in the eighth month, when the fundus of the uterus appeared to be reaching nearly its normal position, and the abdominal development presenting a uniform appearance. At the beginning of the ninth month, examination per vaginam disclosed the fact of head-presentation.

During the whole term of gestation, pain, and great abdominal tenderness continued, the patient having been obliged to remain in bed continually for the last seven months, unable to turn or lie on either side. Once she was assisted out of bed and tried to walk around it, but after taking a few steps sank to the floor. During the last two months, syncope, lasting from one to three hours, became an annoying, not to say an alarming symptom. At these times she could hardly speak above a whisper, or raise her hand, and required constant fanning in order to breathe.

With such a history antedating labor, of course I anticipated that event with no little anxiety, and not a few misgivings. The patient's female friends, with that wonderful and mysterious lack of sense so characteristic of women on kindred occasions, expressed grave doubts as to the final results of the case, and assured her that she need not hope to have a living child: which prophecies, I am happy to say, were not fulfilled.

When labor began, as might have been expected, the pains were irregular, weak, and the first stage of labor slow and tedious. Labor, however, progressed slowly, until the head began to press slightly upon the soft parts, when all progress ceased, and the patient appeared much exhausted, a condition to be expected, considering the case. I then applied the forceps, and delivered in fifteen or twenty minutes, Dr. Bagg having etherized the patient. While I was attending to other matters, Dr. Bagg kept up firm pressure upon the uterus, which contracted fairly well, but later, our united efforts of traction upon the cord and expression, failed to dislodge the placenta, after which, I introduced my hand into the uterus, where I not only found a firmly adherent placenta, but a solution of all of the unusual phenomena attending her whole period of gestation.

I could distinctly feel a strong membranous septum, which divided the uterus vertically, into two compartments. One portion of the placenta extended high up on one side the partition, and the other portion occupied a corresponding position on the opposite side of the septum, proving the case to be one of a uterus bi-

locularis, so well-described in Courty's work on "Diseases of the Uterus, Fallopian tubes, etc.," and in Getchell's "Obstetrics."

Pregnancy having taken place in the right cavity of the uterus, it might have been the cause of the lateral flexion of the organ low down in the iliac region, where the first period of development was so manifest, and troublesome; but it is more than probable that the uterus was laterally flexed *prior to pregnancy*, the latter being the diagnosis of Professor Breisky, of Prague, in a case coming under his observations during the past year, presenting a similar history, and the same general array of symptoms.

Had we used a uterine sound as a means of diagnosis in the early months of pregnancy, it would most likely have been introduced into the left cavity of the uterus, which would have been found, and declared to be empty.

The great pain and tenderness during the first seven months of pregnancy, I account for in this way: the growing foetus gradually raised the laterally inclined uterus toward the median line and normal position, at the same time crowding the septum to one side, until finally it worked its way down into the lower portion of the uterine cavity, by the yielding of the lower portion of the septum. Before the placenta was removed, the contracted uterus appeared larger than is usual, and its shape as felt through the abdominal walls, was peculiar. Instead of feeling like a globular body, it was broad, triangular in shape, and in the median line a well-defined depression could be distinctly felt on pressure. Getchell, in his work on obstetrics, in describing such a case says: the breadth of the uterus is greater, especially at the fundus, where a depression in the median line indicates the situation internally of a vertical septum, which more or less completely divides the uterine cavity into two compartments. He adds: "Great difficulty and danger may arise during the progress of gestation."

He cites what he calls a remarkable case of Rokitsansky's, the pathological specimen of which is now to be seen in the Vienna Museum. In this case death took place from rupture of the septum in the third month, the termination as he says, being what one would expect from development of the ovum in the Fallopian tube.

Rokitsansky, in speaking of the effects of such uterine anomalies on parturition, says: "the axis of expulsion may be so directed as to place the forces at an obvious disadvantage, but when complete intra-uterine development has taken place, there will not likely be any impediment during delivery, which may not be overcome by the application of ordinary principles."

Having given the history of the case antedating and during labor, together with a description of the attendant uterine anomalies, I will speak of the subsequent history. Considering the long-continued pain and tenderness about the abdomen, I confidently expected puerperal peritonitis, and was not in the least disappointed. The whole abdomen soon became exquisitely sensitive, painful and tympanitic. The temperature ranged from 102° to 104°, for about ten or twelve days, and the pain was so severe as to require the free use of hypodermic injections of morphia, and suppositories of opium and belladonna per rectum. Quinine and turpentine were given internally, the former to reduce temperature and for its tonic effect; the latter to relieve the discomfort due to the tympanitic condi-

tion. The bowels were occasionally relieved by injections and saline laxatives. The tympanites was so distressing at times, that it was best relieved by the introduction of a tube high up in the rectum, through which the gas freely escaped. The abdomen was kept covered with poultices of flaxseed and mustard, and later, was painted twice daily with tincture of iodine. I have said that the patient remained in bed seven months prior to her confinement, and I believe it was just three months after labor before she could walk a step. She first began to walk the 7th of March, and can now, April 1st, get about the house nicely and carry her child in her arms. The child weighed eight and one-half pounds at birth.

The patient, not nursing her child, has menstruated once since her confinement, and was rejoiced to know that the function was comparatively painless. I am now confident that the pregnancy, though a severe remedy, will result in a greater measure of health and comfort for the remainder of her menstrual days.

REPORT ON DERMATOLOGY.

BY G. H. TILDEN, M.D.,

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FIBROMA MOLUSCUM.

DRS. HÜRTLE and C. Nauwerck¹ report five cases of elephantiasis (*sic*), the examination of which confirms the statement of Von Recklinghausen, that the development of fibroma molluscum has its starting point in the cutaneous nerve-sheaths.² In three of these cases, the condition of things was found to be in all respects the same as that described by Von Recklinghausen, and, in one instance, the very earliest stage in the evolution of multiple neuro-fibromata could be demonstrated. This consisted in a thickening of the endoneurium, and later, also of the perineurium of the cutaneous nerves, which resulted in induration, spindle-formed swelling, and nodulated thickening of the affected nerve-fibres. Further developments of this nodulated condition of the cutaneous nerves implicated the adjacent hair-follicles, sweat-glands, and blood-vessels in the pathological process, several of the latter being almost obliterated by cell proliferation in their intima.

The newly-formed connective tissue, of which the tumors were composed, contained numerous nuclei, and was easily to be distinguished from the more coarsely-meshed cutaneous connective tissue. Even in the largest tumors, it was always possible to detect the string of cells, representing the nerve-fibre which had been primarily affected, and from which originated the new formation of connective tissue composing the tumors.

In a fourth case, which presented, on the thighs, a condition of diffused fibrous thickening, resembling in appearance ordinary elephantiasis, the same atrophied residua of nerve-fibres could be made out in the midst of the newly-formed and abundant cellular connective tissue, which had involved and imprisoned the cutaneous glands, hair-follicles, and the subcutaneous fat. In regions of the body where the pathological process was less advanced, the thickening of the skin was almost entirely caused by the formation under it of these

neuro-fibromata. The fifth case represented an instance of ordinary and acquired elephantiasis lymphangiectatica, which, in contra-distinction to the other four cases of so-called neurotic elephantiasis—more properly speaking, multiple neuro-fibromata—presented no affection of the cutaneous nerve-fibres, but, on the contrary, enormous dilatation of the lymph and blood-vessels of the skin and subcutaneous connective tissue.

MYCOSIS FONGOIDE.³

At the meeting of German naturalists and physicians held in Berlin during September, 1886, both Geber and Köbner presented communications upon this disease. The former mentioned two examples of the malady which had come under his observation, since the appearance of his first publication on the subject in 1878.⁴ One of these cases occurred in a man of sixty years of age, the clinical appearances being those of chronic eczema, attended with very great and universal pruritus. Several of the eczematous patches became somewhat elevated above the level of the surrounding skin, and, deprived of epidermis, presented a mammillated appearance. There were not developed any of the tumors peculiar to mycosis fongoide, and no mention is made of any enlargement of the lymphatic glands. The diagnosis was a purely clinical one, the patient being unwilling to have any portion of the cutaneous lesions excised for purposes of microscopical examination.

The fact of spontaneous recovery, which occurred in this instance after the disease had lasted eighteen months, is a remarkable one; for, of all the cases reported since Alibert's first description of the malady, in 1835, some forty in number, in only two other instances have the patients been known to recover: one mentioned, by Bazin, as having been restored to health after an attack of migrating erysipelas; and the other, reported by Köbner, as recovering after treatment with arsenic. The second case occurred in a woman, sixty-three years of age, and the disease had already existed for fifteen years, when she was first seen by Geber, at which time the clinical appearances were those of a combination of psoriasis and chronic eczema. The patient remained in the hospital for seven months, and was then discharged in a miserable condition, having received no benefit from any kind of treatment. Several of the cutaneous nodules were excised, and histological examination showed, in the papillary layer of the skin, the reticulated structure, containing round cells, and characteristic of mycosis fongoide. Inoculation of animals and men with blood and scales from the cutaneous lesions produced no effect. Inoculation of gelatine with the viscid secretion from these lesions resulted in the formation of colonies of what proved to be merely staphylococcus aureus. Sections of pathological tissue, stained by Gram's method, and examined with oil immersion and Abbe's illumination, showed the presence not only in the bloodvessels, but also outside of them, between the connective tissue fibres, of micrococci, diplococci, and streptococci. It could not be made out, however, that these microorganisms caused any thrombosis of the bloodvessels, as has been stated to be the case by Rindfleisch. Geber considers the presence of these microorganisms, which varied very much in size and distribution, as merely accidental and having no special connection with the disease.

¹ Beiträge zur pathol. Anat. und Physiol., von E. Ziegler und C. Nauwerck, I, Jena, 1886.

² Vide Dermatological Report in this Journal of October 5, 1882.

³ Vierteljahrsschrift für Derm. und Syph., Heft 1, p. 187, 1887.

⁴ Deutsches Archiv. für Klin. Med., Band xxi., Heft 3 und 3, 1878.

Köbner recognizes two varieties of mycosis fungoide, one presenting more isolated and pedunculated tumors than the other, which is characterized by a wider dissemination of the cutaneous lesions. He mentioned the fact that, in one of the cases which had come to his notice, recovery had taken place after the administration of arsenic. He was of the opinion that the assumption of the sarcomatous nature of the disease was not warranted by the microscopical structure of its lesions, nor by its clinical course. Neither does Köbner accept the views of the French dermatologists, who regard mycosis fungoide as possibly a variety of pseudo-leukæmia, characterized by the development of cytogenous tissue in the skin. Sections of the cutaneous lesions, stained by Gram's and Lutzgarten's methods, gave no indication of the presence of any kind of microorganism. Inoculation of gelatine with fluids from the pathological tissues only gave rise to the development of cultures of *staphylococcus aureus* and *albus*. Köbner is of the opinion that the microorganisms discovered by Auspitz's assistants, Hochsinger and Schiff, in connection with mycosis fungoide, and supposed by them to be pathogenic, are simply accidental, since they were found outside of the bloodvessels, and in sections taken from cutaneous lesions already deprived of epidermis, and thus presenting conditions favorable to the growth of ordinary and ubiquitous microorganisms. The streptococci, described by Rindfleisch and Hammer as existing only within the lymph and bloodvessels, he considers to be of post-mortem development, and similar to the micrococci found in the bloodvessels after death from septicæmia, which was the immediate cause of death in the patient who furnished material for the investigations of Rindfleisch and Hammer. Upon clinical grounds, however, the disease is to be regarded as one of the chronic infectious maladies, although the contagium or virus has not yet been demonstrated.

In the discussion which followed, Neisser stated that in three instances of granuloma fungoides, he had been able to constitute the presence in the cutaneous lesions of cocci, which, however, were found only in those portions of pathological tissue deprived of epidermis, and therefore their presence was to be regarded as fortuitous. Lewin also had been unable to detect the existence of any microorganisms in those lesions of mycosis fungoide which still retained their epidermal covering.

Dr. J. F. Payne⁵ describes a case of mycosis fungoide occurring in a man fifty-seven years of age, the disease having existed about four years at the time of death. The clinical appearances and course of the disease were typical, and just before death there were "upon the body about fifty-seven tumors large and small, varying in size from half an inch to two or three inches in diameter. About one-half of these showed no distinct softening or ulceration, but eighteen were wholly or partially excoriated, exuding a moist discharge and ulcerating, while eleven were converted into distinct flat ulcers." The autopsy revealed no changes in any of the viscera, the disease being confined to the skin and subcutaneous tissues, and it is worthy of notice that the lymphatic glands were not affected. During the life of the patient attempts were repeatedly made to cultivate microorganisms by inoculation of sterilized gelatine with fluids and epidermal

scales taken from the pathological tissues, but without success. Microscopical examination showed the structure of the cutaneous lesions to be essentially that of a granulation tumor, and it was found impossible by brushing sections of these tumors, to demonstrate the existence of a reticulated connective tissue stroma, such as was first described by Ranvier. Repeated microscopical examination by several independent and competent observers, also failed to show the presence of any form of microorganism in these tumors. The author refers to the conclusions of Köbner with regard to mycosis fungoide as agreeing entirely with his own. These conclusions⁶ are:

(1) There are no microorganisms to be found in the tissues or blood, in this disease.

(2) The supposed cocci of Hochsinger are granules of "Mastzellen."

(3) The micrococci described by Rindfleisch are those found in septicæmia.

(4) The micrococcus cultivated by Hochsinger and Schiff, was probably nothing but *staphylococcus aureus*.

ERYTHEMA NODOSUM AND RHEUMATISM.

In a paper⁷ presented to the Clinical Society of London, Dr. Stephen Mackenzie considers the relation of erythema nodosum to rheumatism, in connection with the analysis of one hundred and eight cases of the former disease collected from the records of the various London hospitals. Of these examples of erythema nodosum, eighteen occurred in males and ninety in females, and the period of life most obnoxious to the development of the disease was between the tenth and thirtieth years.

In thirteen out of these one hundred and eight cases or in twelve per cent. acute rheumatism coexisted with erythema nodosum, and in four instances subacute rheumatism was present, making seventeen cases in all, or fifteen and seven-tenths per cent. in which rheumatism and erythema nodosum coexisted. In addition to these there were also seventeen cases in which arthritic pains, apparently of a rheumatic character and not merely due to the cutaneous lesions, were present, making thirty-four cases altogether, or thirty-one and four-tenths per cent. in which rheumatism was found to be associated with erythema nodosum. With regard to the development or existence of endocarditis during the course of erythema nodosum, after quoting Dr. Barlow⁸ to the effect that he himself had never been able to assure himself of the production of an organic cardiac murmur in erythema nodosum nor of any intercurrent arthritis, and that he did not consider the affection as closely allied to rheumatism, the writer mentions that of the one hundred and eight cases subjected to analysis, in four there was evidence of endocarditis in the shape of an organic murmur developed during the course of the attack, and twenty cases in which such a murmur was found to exist at the time of admission to the hospital. Dr. Mackenzie considers the above facts to warrant the following conclusions:

(1) That erythema nodosum is frequently associated with definitely rheumatic symptoms.

(2) That heart disease (endocarditis) may arise during an attack of erythema nodosum both in cases in which arthritis is present and in cases where there is no affection of the joints.

⁵ Fortschritte der Medizin, September 1, 1886.

⁷ Clinical Society's Transactions, Vol. xix, 1886, p. 215.

⁸ British Medical Journal, Vol. II, 1883, p. 511.

⁶ Transactions of the Pathological Society of London, Vol. xxxvii, 1886, p. 522.

(3) That these conclusions justify the inference that erythema nodosum is frequently, if not generally, an expression of rheumatism, even when no other definitely rheumatic symptoms are present.

UNIVERSAL ALOPECIA.

Dr. Tyson⁹ reported to the London Clinical Society, three instances of universal alopecia. The patients were all strong and healthy males, unaffected with syphilis, and forty, forty-four and twenty-one years of age respectively. In one case the affection followed long-continued anxiety about money matters, and total and universal baldness occurred in ten days. The cause to which the second patient attributed his misfortune, was sudden fright occasioned by his being awakened from profound sleep by an unusually loud clap of thunder. His hair began to fall out shortly afterward and in two weeks he was entirely bald. He also lost the nails of the thumbs and great toes. The third patient was thrown from his horse, one month before his hair began to come out. He was struck violently on the head and since that time his memory became defective and he was at times exceedingly drowsy. In this instance, baldness was complete and universal in one month. These cases were presented to support the assumption of a neurotic origin of the universal form of alopecia areata, and also to demonstrate the fact that clinically speaking there are two forms of the disease. There seems to be little doubt but that mental trouble or physical injury may be sufficient to cause universal alopecia in a very short space of time. Dr. Dyce Duckworth has recorded an instance of universal alopecia due to an injury,¹⁰ and Mr. Todd a case occurring after cerebral injury.¹¹ An example of rapid and universal alopecia mentioned in the second volume of "Holmes' System of Surgery," page 31, is interesting in this connection. A frigate was struck by lightning and the captain received at the time several wounds upon the head. The next day, while shaving, he found that the hairs instead of being cut by the razor, were torn out by the roots, and subsequently all the hair on the head and body was lost, while during the subsequent year, the nails of the fingers came away, but not those of the toes. This condition of things was permanent. The characteristics of this class of cases is as follows. The affection begins on the scalp, not necessarily in spots, and spreads rapidly until universal baldness is complete. It occurs in adults but not always in young adults as has been supposed. The prognosis is unfavorable, the more so the older the patient, and treatment has no effect whatever. The starting point of the malady can often be traced to a neurotic cause. These cases are entirely different from the ordinary type of alopecia areata which beginning in youth as scattered bald patches upon the scalp remains confined to this region, while the prognosis is comparatively good.

ALOPECIA AREATA.

Joseph¹² reported to the Association of German naturalists and physicians at their last meeting the results of some experiments which go to show the trophoneurotic origin of alopecia areata. Cats, in which the spinal ganglion of the second cervical nerve, together with a portion of the posterior and anterior

nerve roots, had been excised were affected in periods of time varying from five to twenty-seven days after the operation, with localized loss of hair. There appeared one or more spots of circumscribed baldness, situated in the cutaneous regions supplied by the occipitalis major and minor nerves, and by the auricularis magnus. The skin in the affected regions was of normal appearance, presenting no noticeable redness or paleness, and the loss of hair occurred in round, oval or oblong circumscribed areas of skin. These bald spots, which in the beginning were about the size of a ten-cent piece, increased gradually in size, eventually reaching that of a twenty-five-cent piece. Neither gross disturbances of sensation, itching nor any parasitic affection were to be detected in connection with these bald spots. Microscopic examination of the skin of the affected areas showed simply atrophy of the hair papillæ, combined with complete lack of hair. The erector pili muscles and the sebaceous glands were found to be unchanged. The writer also brought forward as clinical facts which support the assumption that alopecia areata is of trophoneurotic origin, the discovery of Nachtigal that there may exist in the bald patches due to this disease a greater delicacy and acuteness of sensation than in other regions of the skin and the fact that in one instance mentioned by Michelson, there had been noticed by the patient for about three months before his hair begun to come out a prickling, "going to sleep" sensation in the regions of the scalp, in which baldness ensued. An observation of E. Wagner is of interest in this connection. A patient who was affected with alopecia areata fell ill with the measles, and the eruption due to the latter disease did not make its appearance upon the areas of baldness. Analogous to this are those cases of hemiplegia in which the eruption caused by any intercurrent acute infectious disease, such as scarlatina or measles, does not appear upon the paralyzed side of the body. In the discussion of the subject which followed, it was the general opinion that alopecia areata is of trophoneurotic origin simply, and that instances of so-called inflammatory alopecia areata, attended with more or less redness, and desquamation or with desquamation alone, are in reality patches of tinea capitis. As to the micro-organisms discovered by some observers in connection with alopecia areata, and supposed by them to be pathogenetic, there is reason to believe that they are nothing more than ordinary cocci, to be found on healthy as well as diseased hairs. In support of this view, agar cultures of hairs, taken from healthy scalps, from the periphery of bald patches due to alopecia areata and also from the patches themselves, together with nodulated hairs from the axillæ, were shown by Behrend. In all of those cultures made with different kinds of hairs, there were found the same varieties of micrococci.

METHOD OF EXAMINING EPIDERMIS IN ORDER TO DETERMINE THE PRESENCE OF FUNGI OR OTHER MICROÖRGANISMS.

The method employed by Bizzozero whose name is well known in connection with such examinations, is as follows: (1) The epidermal scales are first soaked in ether for twenty-four hours, in order to remove the fat. (2) A few drops of a fifty per cent. solution of acetic acid are then added to the epidermal scales on a cover or object glass, and the larger masses of epider-

⁹ Trans. London Clinical Soc., vol. xix, 1886, p. 120.

¹⁰ St. Bartholomew's Reports, 1872.

¹¹ Lancet, vol. ii, 1869, p. 69.

¹² Vierteljahrsschrift für Derm und Syph. 1 Heft. 1887, p. 197.

mis are broken up with needles. (3) The acid should then be allowed to evaporate spontaneously or with the aid of a moderate application of warmth. The specimen is now ready for staining. For this purpose the following preparation may be used:

Concentrated alcoholic solution of methylene blue . . .	30 parts.
One per cent. solution of potassium hydrate . . .	1 part.
Distilled water	100 parts.

A still better method of staining is Gram's differential method, as follows:

A few drops of gentian or methyl-violet solution in aniline water is added to the specimen, on a slide or

cover-glass, and allowed to act for from five to thirty minutes. The specimen is then washed with absolute alcohol, after which Gram's iodine solution is added to the specimen, or else the cover-glass upon which the specimen is placed, may be floated in the iodine solution for from one to five minutes. The preparation is then again washed in alcohol and dried, being now ready for examination, the fungi or micro-organisms which may be present being the only portions in which the coloring matter is retained. This method is given by Dr. Payne in the "Transactions of the Pathological Society of London for 1886," in connection with an article upon erythrasma.

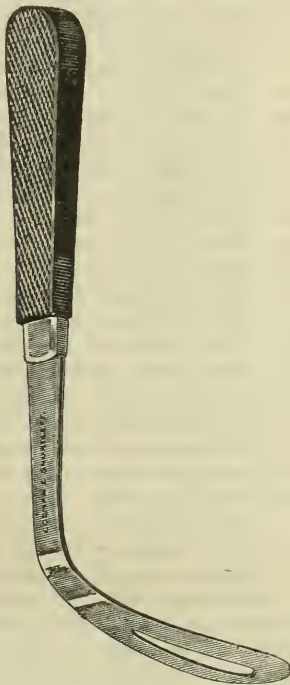


FIG. 1.



FIG. 2.

Clinical Memorandum.

ON EXAMINATION OF THE THROAT, WITH ESPECIAL REFERENCE TO THE MANNER OF USING THE TONGUE-DEPRESSOR.

BY JOHN W. FARLOW, M.D.

ANY one who has instructed students in examinations of the throat, must have noticed the great difficulty that is often experienced in depressing the tongue so as to get a satisfactory view of the pharynx, and, more particularly, how great an undertaking it is to hold the unruly member under control long enough to admit of the use of the rhinoscopic mirror. Whoever has had his own throat looked at, must have noticed how much easier it is to breathe quietly, and allow a thorough inspection of the throat, when the one holding down the tongue understands how to do it, than when some well-intentioned, but uninstructed, member of the family makes a number of desperate, but ineffectual attempts, which result only in gagging.

I do not propose to say anything about the use (only too common) of the spoon, lead-pencil, paper-cutter, or other domestic article, other than that the sooner they are given up, and a proper tongue-depressor sub-

stituted, the more satisfactory to both patient and physician will be the examination.

Let us suppose the patient to be seated in a comfortable position, before a good light. A few preliminary directions to him will be of great service. As soon as he is seated, he usually opens his mouth as widely as possible, contracts his throat, and thrusts out his tongue to its utmost extent, which, together with his grimaces, make him thoroughly ill at ease before a word has been said. He should be told, at the outset, not to open his mouth too widely, as a more moderate opening is much better. He should be particularly requested not to contract his throat or distort his face. In other words, he should open his mouth gently, a little wider than if he were to say "ah!" in his natural voice. The tongue should not be forcibly extended, but should rest against the inner side of the lower front teeth. Be sure that he does not hold his breath, as this only tires him.

It would seem as if it were easy to say "ah!" correctly, but here is another stumbling-block. It is usually formed in a contracted throat, and exploded as if it were the offending, foreign body which had caused the patient's grimaces when first opening his mouth. A good way is to tell him to say "ah!" after you sev-

eral times quietly. Not until you are satisfied that these preliminaries (seemingly trivial, but, in reality, of great importance) are well carried out, should you use the tongue-depressor.

What are some of the essential features of a good tongue-depressor? It should be simple in construction, so as to be easily cleaned, and not liable to get out of order or break. It should be firm, so that a strong tongue can be held down. Here is a source of weakness of the folding depressors. When the patient throws his head back, the tongue-holder tends to fold up, unless the outer blade is pulled forward. It should not be too large; otherwise, it would project too far back on the tongue, or take up too much room in the mouth. Many tongues are so large, that they need all the room they can get. Some lower jaws are so narrow as to admit only a rather small instrument between the teeth. It should not be too heavy, for it would tire the tongue. It is better to let the hand use what force is necessary, as it can do it intelligently and accurately. In order to hold the tongue better, and to make the instrument lighter, it is often fenestrated. This fenestra is sometimes so large, that the portion of the tongue which projects upward through it is of such size as to interfere seriously with the view of the pharynx. This is a fatal defect of the open-wire depressor. Another important point is that the blade should *look* clean, for which reason nickel-plated ones are better than hard rubber or iron. The handle should be one that can be firmly held, and, to my mind, indented wood or hard rubber is better than metal.

The instrument figured here (Figure 1) is no new pattern, but I introduce it as illustrative of some of the points of which I have been speaking. I have found it to serve a very good purpose, and, although this is the smaller size, I use it for both children and adults. It is nine inches long, and weighs not quite one-and-a-half ounces. The part that goes into the mouth is three inches long and one inch wide at its widest part. The greatest width of the fenestra is one-half inch.

The tongue-depressor should be taken firmly between the thumb and fore-finger (Figure 2). The patient should quietly say "ah!" and, during expiration, the instrument should be put into the mouth, till its end is a little farther back than where the tongue begins to curve backward and downward. Be careful not to put it too far back, but, at the same time, it should be far enough back, so that the base of the tongue can be drawn well forward. The middle finger, placed under the patient's chin, steadies the hand, and also holds the patient's head under control. The tongue is now depressed, and then its base drawn forward by lifting and pulling forward the handle of the instrument by the third and little fingers, the thumb and forefinger acting as a sort of fulcrum.

The head, tongue, and tongue-depressor are thus easily controlled by one hand, and the patient, feeling that he is firmly held, no longer tries to free his tongue and move back his head, and, consequently, is quieter, and gags much less than when he is held in the usual loose fashion.

In Figure 2, the left hand holds the instrument. It is better to use the left hand, so that the right may be free to use the rhinoscopic mirror, probe, or whatever is necessary to complete the examination or treatment.

— Dr. Olshausen of Halle, succeeds to the chair of Prof. Schroeder at the University of Berlin.

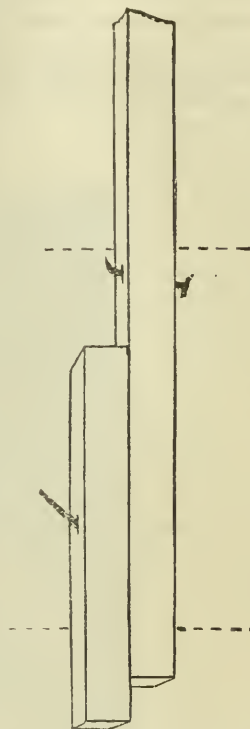
Hospital Practice.

BOSTON CITY HOSPITAL.

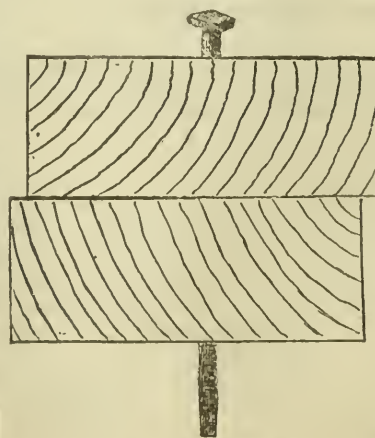
A CASE OF SEVERE PERFORATING WOUND OF THE THIGH, WITH OTHER INJURIES. RECOVERY.

SERVICE OF G. W. GAY, M.D.

REPORTED BY OLIVER H. HOWE, M.D., FORMERLY HOUSE-SURGEON.



as he fell. The slats entered behind and a little below the great trochanter of the right thigh and passed through the thigh, behind the femur, to a point at the inner side, just below the scrotum, where the square ends projected about an inch and a half.



quarters of an hour and was finally released by a policeman.

He was brought to the hospital with the slats (in all, about eleven inches long) in his thigh. The slats were one and seven-eighths inches wide and three-fourths of an inch thick.

Ether was given, and Dr. Bolles, who happened to

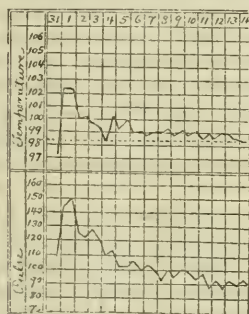
On the morning of January 31, 1886, J. F., a boy sixteen years of age, employed as a telegraphic line-man, was walking upon the roofs of buildings in the city. The roofs were covered with a light coating of snow, which had freshly fallen. Owing to this fact, he stepped upon a skylight, which gave way under him, allowing him to fall through a ventilating shaft, a distance of four stories (forty-two feet, by measurement), to the ground floor below. At the bottom of the shaft (on a level with the ground floor) were piled up a number of old bedsteads and projecting vertically from this pile was a bed-slat with a shorter piece of the same roughly nailed to it, two nails projecting at nearly right angles. Upon the square ends of these slats, the boy's thigh was impaled

The boy hung, impaled in this way, partly supporting himself by standing on his left leg, until his cries brought assistance to the spot and he was released by the slat being sawed off below. As the place where he fell was difficult of access, he is said to have hung there from half to three-

be nearest at hand, removed the slats from the thigh, after having pulled out one of the nails.

On the inside of the thigh was a ragged wound about three inches long. On the outside (at the point of entrance) was a V-shaped wound, each arm of which was about three inches long. The muscles were badly lacerated and the sheath of the great sciatic nerve was laid bare for a distance of about three inches.

Dr. Gay, to whom the case had been assigned, now being present, cleansed the wound, inserted two drainage tubes (one passing through the thigh) and closed both wounds with wire and shirt-button sutures and accessory silk sutures. The whole was done antiseptically and a dressing of iodoform gauze applied.



The boy was found to have a comminuted fracture of the lower third of the right scapula; also two scalp wounds, each an inch long, neither exposing the bone. After recovery from ether, the boy was not much collapsed and had very little pain. The next day he was delirious, with temperature of 102.4 and pulse of 150. The temperature just mentioned was the highest ever reached during his stay in the hospital.

The second day after entrance, there was considerable diffused redness about the wounds and the flaps were very tense, triangular flap on outer side beginning to slough. No chill. Antiseptic dressing is changed temporarily for a poultice. Two wire sutures removed. That night he got out of bed in delirium. A little pus about wounds.

6th day. Resume antiseptic dressing again, as the cellulitis has subsided. Very restless at night and tries to get out of bed. All sutures have been removed from thigh.

8th day. Delirium has ceased. Scalp wounds have healed by first intention.

13th day. Slough proves to be superficial only and has wholly separated. Granulations healthy throughout; only slight amount of pus. Outer wound, which has been gaping badly, is now held together by a strip of adhesive plaster. Tubes removed. General condition very good.

21st day. Has had very little pain from scapula, and it can now be moved without pain. Union appears to be firm.

35th day. Cavity has been steadily filling up with healthy granulations.

53d day. Wound on inside of thigh entirely healed; that on outside now superficial. Dressing changed to soda wash.

59th day. Sitting up for first time.

65th day. Walks without limping.

69th day. Wound only the size of a silver three-cent piece. Leaves hospital with dressing of simple cerate.

Since discharge he has reported several times. The wound was soon entirely healed. With exception of slight stiffness of the injured thigh, he has had no inconvenience remaining from any of his injuries and has resumed his former occupation of telegraphic lineman.

Reports of Societies.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

S. ALLEN POTTER, M.D., SECRETARY.

MEETING March 30, 1886. DR. JOSEPH H. STREETER in the chair.

Dr. C. E. STEDMAN read a paper upon,

A CASE OF GANGRENE OF THE LUNG.¹

The discussion was opened by DR. J. H. STREETER, who described two cases of gangrene of the lung which had come under his own observation.

The first occurred in the practice of the late Dr. Henry A. Martin.

The patient was a man of between sixty-five and sixty-eight years of age. His illness lasted from five to six months, and was marked by periods of alternate improvement and decline. There were hæmorrhages from the lungs, at first slight, later severe. There was noticeable absence of prostration, a fact to be especially remarked, for in gangrene of the lung great prostration is the rule. The man finally died.

The second case occurred in Dr. Streeter's own practice. It was that of a merchant, who presented at first the trifling symptoms ordinarily referred to as "a cold." One morning, however, on attempting to rise from bed, he felt faint, and had a slight chill. This passed, and the only notable symptoms remaining was an unaccountable prostration. On the afternoon of this same day, a transitory pain was felt under the right scapula, but no physical signs were discoverable. The prostration, however, continued, and in three or four days the breath became very fetid. On the tenth day, during a severe attack of coughing, a plug of fetid material, about two inches long and as large round as a lead pencil, was expectorated, and from that moment the patient began to improve.

The long continuance of the extreme prostration, and fetid breath, led the speaker to think that the disease had not been confined to a bronchus, but that the mass had originated in the parenchyma of the lung and been lodged in a bronchus some time previous to expulsion.

DR. H. W. BROUGHTON described a case of circumscribed gangrene of the lung, which had been treated by himself, and reported in the *Boston Medical and Surgical Journal* of February 21, 1884. The patient showed at first the symptoms of ordinary pneumonia, except that in place of the usual single chill, there were several. When resolution was expected, there occurred fetor of the breath, a sputum nearly black, and profound prostration. Empyæma soon followed upon the same side as the pneumonia. A permanent opening was made and fetid pus removed. The patient recovered.

The reader, in closing the discussion, called attention to the fact that in his case the severity of the symptoms was by no means commensurate with the gravity of the disease. Prostration was not great, fetor not very marked, cough and expectoration scant, temperature not high, and the pulse, upon which one relies most in acute diseases, not rapid.

— The State of Ohio claims to have sixteen institutions licensed to confer the degree of M.D.

¹ See page 441 of the Journal.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, April 7, 1887.

DR. A. P. GERSTER read a paper on

THE PROPER SELECTION OF ETHER OR CHLOROFORM
AS AN ANÆSTHETIC.

In approaching this subject, he said it was necessary to cast away all prejudice, considering it in a spirit of candid inquiry. In the first place, it was to be borne in mind that both ether and chloroform were dangerous anæsthetics. Researches with the aid of the sphymograph, demonstrating the effect upon the pulse, had shown, however, that chloroform was infinitely the more powerful agent of the two. Still, this fact did not afford ground for the universal condemnation of chloroform, though it rendered greater caution necessary during any operation in which it was used. But, while chloroform was the more powerful agent, and, consequently, attended with more danger at the time of the operation, its employment was not followed by the secondary affections of the lungs and kidneys which were apt to result from that of ether.

The statement frequently made by partisan zealots, that ether is always, and under all circumstances, safe, was not true. In hospital practice, it was found that in a considerable number of patients, particularly those addicted to the use of alcohol, it was exceedingly difficult to produce profound anæsthesia with this agent, and in such cases, from the effect of the excessive and irritating mucous secretions excited, catarrhal or septic pneumonia was very apt to ensue. Admitting that, on the whole, ether was safer than chloroform, Dr. Gerster proceeded to speak of the manner of administration, and recommended, as superior to any other, that by means of Ormsby's inhaler. He then went on to say that ether was contra-indicated in all affections impairing the renal function, a circumstance the credit for first pointing out which belonged to Dr. Emmet. Having referred to cases showing the danger of ether when nephritis was present, he expressed the opinion that an examination of the urine should be made in every case before administering an anæsthetic, except where the urgency of the circumstances precluded this; when, if Bright's disease was discovered, chloroform was to be preferred as the safer agent.

Ether, he said, was also contra-indicated where, in the aged or in young children, or generally in the feeble, there were catarrhal conditions of the air-passages. Having related three cases in his own practice, in which he claimed that fatal or dangerous pneumonia was set up by ether in patients suffering from cancer, he stated that, in the year 1886, three cases of pneumonia occurred after the administration of this agent in the Mount Sinai Hospital, in two of which the patients died, while in the third recovery took place. There were also five cases of severe bronchitis, arising under similar circumstances, reported during the year. Dr. Gerster said he had four more cases in his notes, but, as these operations were performed either upon the trachea, larynx, or lower jaw, it was possible that the entrance of blood into the air-passages might, perhaps, have caused the trouble, and he would not, therefore, insist on these. As anæsthesia by ether was dangerous in young children suffering from affections of the air-passages, chloroform was always to be preferred under these circumstances, although, in healthy children, ether was borne well.

The third class of patients in which chloroform was to be preferred was those who could not be satisfactorily brought under the influence of ether. In the incomplete anæsthesia caused by it, there was an amount of muscular rigidity remaining, which constituted an insuperable difficulty in quite a large class of cases. Not only loss of sensation, but total relaxation of all the voluntary muscles, was indispensable in many operations; and, in spite of proper preliminary precautions, and the greatest amount of care in the administration of the anæsthetic, in 11 cases out of 125, at the Mount Sinai Hospital, it was found impossible to produce, with ether, the complete anæsthesia required. In all these instances, however, a change to chloroform was attended with the happiest results. Recapitulating, he said, then, that ether should not be used as an anæsthetic in any case (1) where acute or chronic nephritis is present, or is suspected to exist, (2) Where there is any chronic pulmonary affection, especially in the aged or feeble. (3) Where ether will not produce the complete anæsthesia and relaxation indispensable for the successful performance of the operation in question.

Dr. Gerster then went on to say that while, in general, the administration of chloroform undoubtedly required greater caution than that of ether, there was only one contra-indication against chloroform, namely, the presence of a fatty or weak heart. In the hands of a careless giver of anæsthetics, chloroform was, no doubt, more dangerous than ether, but Bright's disease offered no contra-indication to chloroform. In eight years' hospital experience, he had met with but two cases in which pneumonia followed the administration of chloroform, and in both of these the probable cause of the pulmonary trouble was the entrance of blood into the bronchi. The existence of valvular disease of the heart, again, was not a contra-indication to chloroform, provided there was satisfactory compensation by muscular hypertrophy. On the other hand, if the heart were feeble from any cause, chloroform should never be used. In anæmia, also, ether was, as a rule, safer.

He next spoke of the special danger of chloroform in cases of marked nervous depression, and said it should never be used when the patient was in a state of fright. It was a fact that most of the deaths from its use were in cases of slight operations, and he thought this was explained by the dread of the operation or the anæsthetic. In severe operations, the patient generally nerved himself for the ordeal, and hence there was less danger from this source.

On February 10, 1886, Thomas R., aged thirty-two years, consulted Dr. Gerster, at his office, for a tumor on the lower part of the face. When an exploratory incision was proposed, he became so much alarmed that he begged for chloroform, which was not given at this time. Five days later, he was admitted at Mount Sinai Hospital as a private patient, and on the 17th, Dr. Gerster proceeded to operate on the tumor, which proved to be a glandular abscess. He subsequently learned that the patient expressed the conviction that he would never leave the operating room alive. When two drachms of chloroform had been administered, by means of Esmarch's mask, opisthotonos suddenly occurred, the pupils became dilated, and the abdominal muscles were found to be rigid. The pulse ceased, and within a minute the patient was dead, all efforts at resuscitation proving futile. The experience gained

in this case, he said, had led him to administer stimulants and a small dose of morphia prior to operating in all cases where the patient was not in perfectly good condition, and he would now never give chloroform to any one who was the subject of deadly fear. In every instance in which it was feasible, a careful physical examination should be made, and the probable prognosis duly announced to the patient or his friends before proceeding to employ this anæsthetic.

DISCUSSION.

DR. A. JACOBI, the President, read a letter from Dr. H. Knapp, who was unable to be present, in which he briefly related his personal experience with the two anæsthetics. From 1860 and 1874 he used chloroform in over three thousand cases. While he had had no fatal result, in many instances the effects were very unpleasant, and he had met with a considerable number of critical cases. During this period about once a month he was obliged to resort to artificial respiration and other measures for the resuscitation of his patients. Since the year 1874 he had used ether exclusively, and since then he had found no ground for complaint, and no contra-indication for the administration of this agent. It was his practice to employ what is known as the "choking plan" in giving it; though at the beginning of the anæsthetization the patient was allowed to have enough air to prevent the sensation of strangulation often complained of by those taking ether. He had found that many operations performed by the ophthalmic surgeon could be completed during preliminary anæsthesia, that is, before profound narcosis was induced. In several hundred of his cases the average duration of the maintenance of the anæsthetic was one minute and thirty-seven seconds. He had met with no fatal cases, and only a very few in which there was any trouble whatever on account of the anæsthetic. The secondary effects, moreover, he had not found any more unpleasant than those of chloroform. On the whole, therefore, he regarded ether as an invaluable anæsthetic, and he looked upon it with special favor from the fact that, now that he habitually employed it his mind was quite free from that feeling of anxiety as to the effect of the anæsthetic which in the case of chloroform he could never overcome.

DR. ROBERT F. WEIR said that there seemed to be a growing feeling in the minds of the profession that ether is not as safe an anæsthetic as we have for many years been supposing. The points presented by Dr. Gerster were certainly worthy of consideration, but he thought he had stated the case too strongly against ether. While, in some instances, kidney trouble might be aggravated by the administration of this agent, he had seen too many cases of this kind, in which it had been given with safety, to make him willing to acknowledge that the presence of nephritis was always a contra-indication to the use of ether. He did think, however, that in such cases it should be given with special caution.

Dr. Gerster was perfectly correct in his statement that there were a certain proportion of cases in which it was practically impossible to produce perfect anæsthesia with ether. He could not, however, recall a single case in which the patient took ether badly, as it was generally expressed, when the operation had to be postponed on this account. By summoning aid to assist in holding the patient, he had always been able to

get along, also, without resorting to chloroform. As to the production of pneumonia, while it was possible that this might sometimes be due to the local effect of the cold ether vapor, he was inclined to think that, in many instances, it was directly attributable to the exposure of the patient's person in carrying out the antiseptic measures now so generally in vogue. Some time ago, he had called the attention of the house-staff of the New York Hospital to the matter, directing warm and dry towels to be placed next the body, except just at the seat of operation; and, since this precaution had been taken, he had met with less trouble of the kind in question.

Personally, he did not think the bad consequences arising from the use of ether were as frequent as had been represented in the paper; but, after all, Dr. Gerster had admitted very frankly that chloroform was much more dangerous than ether at the time of administration. The question then arose: Is the danger which follows the use of ether greater or less than the danger which attends that of chloroform during the operation? Dr. Weir answered this by saying that, for himself, he would prefer to take ether rather than chloroform, if an anæsthetic were necessary, even if he were the subject of kidney trouble. The deaths from chloroform, from 1873 to 1879, collected by the *Lancet*, amounted to 92; while those from ether, from 1873 to 1880, as collected by Dr. Roberts, of Philadelphia, amounted to only 18. This showing, he thought, corroborated the position which he took.

In the New York Hospital, ether and chloroform had been used since 1847. Shortly after this date, however, a number of mishaps occurred in connection with chloroform, and, since 1850, ether alone had been employed. From 1847 to 1870, when the old hospital on Broadway was closed, some 7,700 operations were performed under ether, and in only three of these was a fatal result attributed to the anæsthetic. From 1876, when the new hospital buildings were opened, to 1886, 2,289 operations were performed under ether, with one death from the anæsthetic. In the House of Relief, from 1876 to 1886, 802 operations were performed under ether, with one death from the anæsthetic; and it would thus be seen that, at the New York Hospital, there had been only five cases of death from ether in nearly eleven thousand operations. Until an anæsthetic free from all objections was discovered, he thought, therefore, we could go on with the use of sulphuric ether with a considerable amount of confidence and satisfaction.

DR. LEWIS A. SAYRE stated that he was well aware that the views which he entertained on this subject were widely different from those held by the great majority of the profession in New York; but, in spite of opposition, he had for many years continued to hold them with ever-increasing confidence. He preferred chloroform, because it was agreeable to take, speedy in action, excited no spasmodic rigidity, and was not followed by the bad effects which were sometimes noted in the case of ether. It was the usual practice to allow the patient to have plenty of fresh air with the chloroform, thus permitting its antidote to act directly against the anæsthetic. In consequence, a much larger quantity of chloroform was taken into the system than was required if the proper manner of administering it were employed. The method of pouring an unmeasured quantity of an anæsthetic into a cone or inhaler, and then, every few minutes, adding an ounce

or two more, he thought was entirely wrong. We did not, he said, use strychnia, arsenic, morphia, or other potent agents in this careless way. Chloroform and ether were both powerful drugs, and he thought, therefore, that they should be used with the same caution as any other potent agent.

Dr. Sayre then exhibited the inhaler, or modification of Lente's, which he had used exclusively for many years. By means of a rubber attachment, it could be made to fit any face in a perfectly air-tight manner, so that the patient was not allowed to breathe any air, except that which was permeated with the anæsthetic. Ten, twenty, or thirty drops of chloroform, poured in upon the sponge with which the cup was provided, would almost invariably produce anæsthesia; and if, from any cause, the heart should show signs of weakness, a few expirations caused by artificial respiration would be sufficient to get rid of the entire amount of chloroform, and thus save the patient. When chloroform was freely mixed with air, anæsthesia was not produced for a long time, and great injury was liable to result from the violent muscular exertion made by the patient, especially when there was a joint-disease present. In addition, if, in any case in which chloroform was given in this way, trouble should arise from the anæsthetic, a fatal result would probably ensue, on account of the large quantity of the drug which it had been necessary to administer before anæsthesia was produced.

Dr. W. G. WYLIE said that, as a rule, he preferred ether, but thought there were many cases in which it was advisable to use chloroform. There could be no doubt that ether was often given altogether too carelessly, and this was probably due to the prevalent impression that there was little danger to be apprehended from this agent. Some years ago, he had heard a new interne at Bellevue Hospital, who had just nearly lost a patient while taking ether, remark that he "didn't know that a person could be killed from ether." Like most other members of the profession in New York, Dr. Wylie said that he had used ether almost exclusively in surgical cases, though he had always employed chloroform in his obstetrical practice, and, until two months ago, had never met with any trouble from ether. At that time he operated on a patient with a large abdominal tumor, using ether as the anæsthetic. The urine had been previously examined, and found to contain no albumen; but not long after the operation the patient died of Bright's disease, an attack of acute nephritis having supervened upon chronic interstitial nephritis. In this instance, he thought that the administration of chloroform would not have been followed by the disastrous results which were caused by the ether.

Since then he had been called upon very suddenly to operate in a case of strangulated umbilical hernia. The patient was very stout, and became cyanotic while taking ether. She nearly died on the table, but rallying to some extent, died about an hour afterward, apparently from suffocation. If another case of this kind presented itself he thought he would try cocaine, as he had come to the conclusion that ether was very dangerous in very fat women. The lung capacity was so small that any extra strain upon the lungs would be apt to prove fatal, for the presence of even a very little fluid in the trachea might be attended with serious danger.

There was another point which he thought was of

some value. He had found that patients who had taken ether more than once were apt to acquire a certain tolerance of the drug; so that it was often very difficult to get them under its influence. He had had an opportunity of observing this a number of times at the Woman's Hospital, where patients with troubles like vesico-vaginal fistula had to undergo several successive operations. He had to confess that three or four years ago he was more or less prejudiced in favor of ether in almost all cases, but he had now modified his views to some extent; so that if there were any trouble about the lungs or kidneys he would use chloroform.

Dr. WEIR remarked that it had been shown that operations for hernia, and upon the peritoneum in general, had of themselves a direct effect upon the kidneys, independent of the anæsthetic used for the operation.

Dr. JOHN A. WYETH said that he had formulated his views as to the cases in which the use of chloroform was justified as follows:

(1) In children under six years of age, where it is less apt to cause an accumulation of mucus in the trachea and bronchi than ether. Its more rapid and less irritating action renders it preferable in this class of cases.

(2) In women in childbirth, where the recumbent position is imperative.

(3) In an emergency where ether cannot be obtained.

(4) In a patient who had previously been in ether narcosis, in whom dangerous symptoms were caused by the ether.

(5) In an emergency where it becomes necessary to perform an operation within two or three hours after the ingestion of solid food.

(6) In some exceptional cases of laryngeal or tracheal stenosis.

In regard to the existence of nephritis, he would not consider this a positive contra-indication against ether. When this was present, however, he would always proceed with unusual caution, and if any trouble should arise, he would change to chloroform. He entirely agreed, in the main, with what Drs. Knapp and Weir had said. In his own practice he said he had used ether exclusively, except in the classes of cases mentioned, and although his experience had been quite extensive, he had not met with a single case of trouble from it. He had never seen such cases as those referred to by Dr. Gerster. Some of the operations mentioned by him in which ether was followed by such disastrous results were very long and tedious, lasting from three to six hours, and in individuals suffering from cancer; so that a fatal termination would not have been a matter of surprise under any circumstances. In his work on surgery Agnew had collected statistics which showed the deaths from chloroform and ether respectively to be in the proportion of sixty-five to one. Moreover, in half of the deaths attributed to ether in these statistics a mixture of ether and chloroform was employed. As to the good results which Dr. Sayre had met with from chloroform, he believed that his experience with it had been to a large extent confined to young children and parturient women.

Dr. ROBERT ABBE said that he had seen but one death from ether. It was a case of tetanus in which the late Dr. James L. Little was performing amputa-

tion of the leg, and the patient died, apparently from spasm of the heart, before the operation was completed. It seemed to him that ether was preferable to chloroform from the fact that the two principal dangers which had been urged as objections against ether, namely, the possible occurrence of acute pneumonia and acute nephritis were to a large extent under the control of the physician; while the dangers incident to chloroform were entirely beyond control. When asphyxia occurred during ether narcosis the use of artificial respiration and other appropriate measures were usually successful in restoring the patient, and if acute nephritis occurred after the employment of this anæsthetic, it was in his opinion amenable to treatment by such agents as sinapisms, digitalis, acetate of potassium, and, possibly opium. He had never seen a case of this kind in which death resulted. With regard to acute bronchitis and pneumonia, he believed that many of the cases following operations were due, not to the ether which had been employed, but to the exposure of the patient in being carried from the operating-room and in draughty wards. If such troubles were caused by ether, he thought that we should meet with laryngitis much more frequently than is actually the case. During the three years that he had spent at St. Luke's Hospital, seeing both medical and surgical cases, he had found that acute pneumonia arising in the hospital was more frequent in the medical than in the surgical wards. These considerations, he said, gave him great confidence in the use of ether, although he quite agreed with some of the other speakers that when chronic nephritis was present, it should be administered with great caution.

DR. P. F. MUNDÉ said that in his earlier professional career, spent abroad, he had been accustomed to use chloroform, and that since he had been practising in New York he had used ether almost entirely in surgical cases. He had seen no deaths or subsequent bad effects from the latter, either in his own practice or that of others. He had, however, on three occasions — twice in children and once in an adult — met with cases in which death would have resulted from the primary effects of the ether if artificial respiration and other active measures had not been resorted to. While he had been trained to use chloroform exclusively he would confess that he felt ether to be safer, if it was properly administered. The giving of the anæsthetic was, in his opinion, often a more important point than the operation itself. He therefore thought it was entirely wrong to entrust so serious matters to young hospital internes with little or no experience, since to administer an anæsthetic properly required as much experience as to assist intelligently in the actual performance of an operation.

The method for giving ether which he preferred, was by means of Clover's inhaler, in which the amount of air admitted could be carefully regulated. He had seen some cases which could not be well anæsthetized with ether, and therefore when he noticed that the mucous membrane was particularly sensitive, he generally substituted chloroform for it for a time, and then afterwards went on with the ether again. He almost always gave bromide, and sometimes a hypodermic injection of morphia, preparatory to administering the anæsthetic. He was inclined to think, however, that morphia might possibly sometimes increase the danger. For short operations, and also in

the case of children, as well as in obstetrical practice, he preferred chloroform to ether.

DR. R. W. AMIDON said that while, as Dr. Gerster had stated, the only real contra-indication against chloroform was a weak heart, it was at the same time true that deaths occurred under it more unexpectedly — often, indeed, without any warning whatever — than when ether was used. In a note in "Holmes' System of Surgery," Dr. J. C. Reeve had said very truly: "There is danger attending the use of chloroform which no foresight can discern, no precaution avoid, and no skill avert."

As to the collection of mucus in the air-passages which Dr. Gerster had referred to as liable to cause such unpleasant and dangerous results when ether was used, this could readily be avoided by the preliminary hypodermic injection of atropia, as he had pointed out in a paper which he had read by invitation two years ago before the New York Surgical Society. When, therefore, any respiratory impediment was anticipated from the effects of the ether, from one-fiftieth to one-thirtieth of a grain of atropia should be administered. By this agent the broncheal and tracheal secretions are diminished, and it also tended to increase the activity of the respiratory centres and strengthen the heart. Dr. Thallen, of Brooklyn, and Dr. Weir had employed atropia to a considerable extent in this connection, and quite recently a case had been reported in the *Medical News*, in which impending death was averted by the administration of digitalis and belladonna.

DR. THALLEN, of Brooklyn, like most of the other speakers, thought that Dr. Gerster was too strongly in favor of chloroform. He agreed with Drs. Weir and Wyeth that the presence of nephritis should not be considered a positive contra-indication against the use of ether, although it should make us cautious in giving it. He related a case which had nearly died from the effects of ether in the hands of Dr. Emmet, and which afterwards came under his own care. After an examination of the urine and the heart, he determined to give ether for an operation that it was necessary to perform, and the patient took it without experiencing any trouble either at the time or subsequently. Still later she took chloroform, and this likewise was unattended with difficulty. He thought, as Dr. Sayre had suggested, that the administration of anæsthetics was largely a question of dosage.

The apparatus which he had adopted he regarded as far superior to Clover's or almost any other, and it was simply the ordinary inhaler used by dentists for nitrous oxide gas. As in the case of the inhaler exhibited by Dr. Sayre, at each inspiration the anæsthetic was inhaled, while the expiration got rid of the foul air. By means of this apparatus he had been able to keep a patient anæsthetized for hours, and yet had not used more than a quarter of a pound of ether altogether. With it he had never had any kicking or struggling on the part of the patient, or failed to secure complete anæsthesia. There was much ignorance in the profession, he thought, as to the proper administration of anæsthetics, and the ordinary way of giving ether was little less than brutal. The point suggested by Dr. Amidon seemed to him one of great value. He had first seen the idea proposed in the *Lancet* in 1880, if he remembered rightly. It was well known that atropia was one of the best stimulants to the respiratory centres, and it was therefore a valuable prophylactic in this connection.

DR. GERSTER in closing the discussion, said that he regretted that he had been charged with partiality, when he had endeavored to present an entirely unbiassed opinion, and that his position had been misunderstood. He had not defended chloroform; but he did mean to say that it was unscientific to claim that either ether or chloroform was, so to speak, "our only salvation." The proper choice of the anæsthetic in each case, should be left to the intelligence and experience of the surgeon. Whatever might be the case with others, he himself had certainly met with a certain proportion of instances in which he could not properly anæsthetize the patient with ether. He had not hesitated to say, however, that he considered ether safer than chloroform, and that it should be preferred to it as a rule. Still, he did not think the statistics which had been quoted altogether reliable, from the fact that while in fatal cases from chloroform the patients died while upon the operating-table, and were thus sure to attract public attention; in many of those where ether was the cause of death the fatal issue did not take place for some time after the anæsthetic was given. He himself knew of a number of cases of death from ether which had never been published.

Recent Literature.

Refraction of the Eye, its Diagnosis and the Correction of its Errors. By A. STANFORD MORTON, M.B., F.R.C.S., etc. Third edition, revised and partly rewritten. pp. 67. Philadelphia: P. Blakiston, Son, & Co.

It is hardly necessary to enter into an extended review of this well-known little book; it is, as its title indicates, a practical guide for the correction of errors of refraction. The chapter upon retinoscopy has been almost entirely rewritten, and in its present form is the best exposition of the diagnosis of errors of refraction by this method, that we have seen. There has been added to the book a series of new test-types.

M. S.

Manuel Pratique de la Vaccination Animale. Par L. VAILLARD. Paris. 1886. p. 73.

This excellent little treatise contains the principles of animal vaccination, clearly and concisely stated. The subjects treated are the objects and advantages of animal vaccination, the implements required, the choice of animals, method of inoculation, evolution of the eruption, collection and preservation of virus.

The author follows quite closely the instructions laid down in the larger work of Warlomont. The advice given by the French authorities, as to the preservation of lymph upon ivory points by a coating of mucilage of gum arabic, has two decided objections, namely, the insolubility of the gum as compared with that of dried lymph, and also the liability to employ it as a diluent, substitute or adulterant.

Fifteenth Annual Report of the Local Government Board. Supplement. 1885-1886.

This report comes, like its predecessors, replete with valuable papers upon topics connected with public hygiene. Some of its reports have appeared before, and received comment in the JOURNAL, notably the paper upon "Milk-Scarlatina at Hendon."

The statistics upon vaccination show that, of the 890,780 born in the previous year, 762,080, or 85.6

per cent., had been successfully vaccinated, and 81,955, or 9.2 per cent., had died before they could be vaccinated; 1,102 had been registered as insusceptible, 93 contracted small-pox before they could be vaccinated, and 37,440, or 4.2 per cent., were unaccounted for.

These results, as compared with those of previous years, do not seem to show that the anti-vaccination tumults at Leicester and elsewhere had produced much effect on the percentage of vaccinations in England.

Dr. Cory, by careful observations, shows that the "keeping" qualities of bovine lymph are fully equal to those of the humanized lymph, having obtained some successful results from tubes kept upwards of two years.

Mr. Powers gives further observations as to the effect of the Fulham small-pox hospital upon the surrounding neighborhood. Since his former report in 1881, the administration of the hospital had been improved in several directions. Measures were adopted to restrict, as much as possible, the communication with the outside world. An ambulance service was provided, and the number of the sick in hospital at any one time was limited. The conclusions, which he states after a careful estimate of the cases which occurred in the region adjacent to the hospitals, in the epidemics of 1880-81 and 1884-85, are that the changes in the administration of the hospital had little or no influence upon the quantity of small-pox distributed in the recent epidemic, through hospital agency, over the houses of the neighborhood.

Dr. Klein contributes further observations upon the pathology of foot-and-mouth disease; upon the etiology of tuberculosis; of the infection of fowls by human tubercular sputa; and upon the germicide power of bichloride of mercury upon pathogenic and non-pathogenic microorganisms. Mr. Laws contributes a paper upon the growth of the bacillus anthracis in vacuo, and upon its thermal death-point. Other papers follow upon the disinfectant properties of oxygen and ozone, and also upon the changes noted in the aëration of water, as indicating the nature of the impurities represented in it.

A Companion to the United States Pharmacopœia.

Being a commentary on the latest edition of the "Pharmacopœia." By OSCAR OLDBERG, Pharm. D., and O. A. WALL, M.D., Ph. G. Second revised edition. 650 illustrations. viii. 1216. New York: Wm. Wood & Co. 1887.

This work, by two of the members of the Committee of Revision of the United States Pharmacopœia itself, contains the description, properties, uses, and doses of all official and numerous unofficial drugs and preparations in current use in the United States, together with practical hints and working formulas. It is designed to be a ready-reference book for pharmacists, physicians, and students, yet it does not, as some other commentaries, repeat so much of the United States Pharmacopœia itself, being intended to serve rather as a companion and supplement to that work, than as a substitute for it.

Most of the illustrations are original drawings by Professor Wall, from actual specimens. A chapter is devoted to practical suggestions upon the use of the microscope in pharmacognosy, and the microscopic structure of plants is briefly treated. It contains practical information relative to the preparation and use of hypodermic and other injections, as well as inhalations, baths, and other forms of medication not usually referred to in books of similar description.

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THE HYGIENE OF APARTMENT-HOUSES.

WHEN in the course of the settlement of any community the price of land available for residential purposes rises above a certain limit, it is inevitable that the increasing tendency towards a concentration of domiciles should reach a point where the dwellings must be superimposed upon one another. Hence the genesis of the apartment-house.

The "tenement-house" the earliest link in the evolutionary chain, of which the latest is the apartment-house, has long been in our larger cities the stumbling block of the social philanthropist and the thorn in the side of the dispensary physician. Much remains to be desired in the condition of these caravanseries for the poorer classes, and yet the vigilance of local health boards is gradually eliminating the worst of these breeding places of disease and foci of degradation. Capitalists are even finding out that it can be made to pay to provide comfortable and hygienic quarters for the class of people whose earnings are two dollars a day or less.

For the more favored class, pecuniarily, apartment-houses are now becoming more and more of a necessity, and the objections which were urged against these buildings when they first began to come into use, are, we believe, being found less cogent. Perhaps no one would deny that a detached suburban residence is hygienically preferable for a growing family to an apartment-house. But the former is in many cases, for reasons economic or social, the less feasible alternative, and the important fact should be remembered that the device under consideration usually enables people to live with greater comfort and hygienic advantage than would otherwise be attainable for them in the same topographical locality. In the best of these houses the elevator and fire-escape give to the fifth or sixth story very reasonable accessibility and safety, while the view, the sun-light and the pure air, free of dust, enjoyed by their denizens are very positive elements on the credit side of the hygienic trial-balance.

There are unfavorable elements, some of which are perhaps essential to the structure, intrinsically, as for instance, dark rooms giving upon narrow well-spaces or against blank brick walls, but most of which are confined to the cheaper grades of buildings. One almost universal fault is the lack of ventilation in the common hall-ways and corridors. Few such buildings which we have seen, are free, as one ascends the stairs, from a more or less close and stifling or malodorous atmosphere. In many cases this unfortunate state of things is directly favored by the atrocious structural blunder of making the bath-rooms on the successive floors dependent for light and ventilation upon small windows opening into these common passageways.

The item of noise is susceptible of great mitigation through the materials introduced into the floors and partitions of the better class of buildings, though there are few structures in which the endeavors of the too zealous musician are strictly confined to the room that gave them birth.

The heat which is usually supplied to the apartments is sometimes erratic in its distribution, and tenants who are sick or for other reasons are obliged to be up at night, may find that the janitor, either as a reflector of the thrift of the landlord or else as a delinquent in his own proper capacity, has left no source of caloric available for these hours.

In buildings devoid of an elevator, convalescents from sickness are often unable to get out of doors at as early a period as the degree of their recovery would otherwise allow. The same difficulty occurs in the way of the daily airing of young children, of whom the apartment-house usually contains a large proportional contingent, on account of special adaptation of such quarters to young married couples. Yet as a matter of fact not only the most expensive apartment-houses, but many of very moderate cost, do contain elevators, while that convenience is the exception in detached domiciles of corresponding grade, so that the climbing of stairs, which is the bane of the female sex in most urban dwellings, is avoided by a large portion of the women who live in apartment-houses, and the work of nursery maids, and others who take out young children, is proportionally decreased.

THE INFLUENCE OF ALCOHOL ON THE DIGESTIVE FUNCTIONS IN THE NORMAL AND IN THE PATHOLOGICAL STATE.

GLUZINSKI has recently undertaken a series of experiments on human subjects, to ascertain the influence of dilute alcohol on the stomachal digestion. He gave to fasting individuals, some of whom were healthy, and others of whom were suffering from digestive troubles, a certain quantity of coagulated albumen, with a definite proportion of alcohol. At certain periods of the digestion, he syphoned out the contents of the stomach for chemical analysis. He was thus able to follow the march of digestion in its several

stages. The results of his experiments are as follows:

Alcohol rapidly disappears from the stomach, leaving not a trace of its presence behind. The digestion, as influenced by alcohol, is divided into two phases in healthy individuals: The first phase is characterized by a marked retardation of the digestion of albuminoid matters, which, in fact, fail to undergo peptonization as long as any alcohol remains in the stomach. The second phase begins after the elimination of the alcohol. It presents an absolute contrast with the first, and makes up for the slowness of the first period by increased functional activity of the stomach, so that the digestion is terminated about the same time as when no alcohol has been ingested. In the first period, alcohol retards the pepsin digestion. On the other hand, it causes a certain degree of excitation of the glandular elements, which is followed, in the second period, by a more abundant secretion of hydrochloric acid. This excitation persists, even after the albuminous elements have disappeared from the stomach.

The first period, that of slowing of the digestion, is generally very short. Experiments, in fact, show that one hundred grammes of albumen, containing twenty-five per cent. of alcohol, have, in many instances, completely disappeared from the stomach at the end of fifteen minutes. The second period, during which digestion is accelerated, supervenes quite speedily.

The conclusion which Gluzinski draws from these experiments is that, in reality, the ingestion of small quantities of alcohol exercises a favorable influence on the digestion in individuals in good health.

In the pathological state, the two phases of digestion are much less marked after the absorption of a certain quantity of alcohol. The second period, that of excessive functional activity, is almost completely wanting in most persons. These facts show that in cases of dyspepsia (for example), physicians should not recommend, with the intent of promoting digestion, the usage of beverages which contain a large percentage of alcohol.

THE PASTEUR INSTITUTE.

We learn from recent French papers that the Society of the Pasteur Institute has declined — for reasons that do not sufficiently appear — the large lot of land offered for the erection of the new building by the Municipal Council of Paris. The Communal Assembly was the scene of an animated discussion on the 22d ult., when was presented the report of Georges Berry concerning a proposition of M. Cateaux, the purport of which was to stay the proceedings of the Council, relative to the concessions granted M. Pasteur. Some of the members present expressed quite freely their utter disbelief in the efficacy of Pasteur's anti-rabic inoculations, which were credited with numerous deaths, and congratulated the Council on being rid of a burden of responsibility. M. Navarre told the Assembly that in giving moral support to

Pasteur, the Council was recognizing the worth of a method whose scientific validity was every day being disproved, and he added with fearful sarcasm: "*S'il est des morts qu'il faut tuer, M. Pasteur n'est pas de ceux-là, car il s'est suicidé.*" (If there are more dead men to kill, Pasteur is not among them, for he has killed himself.)

Against this sentiment, the President and others present (notably M. Cochin) vehemently protested, and assured the Council that the Committee of the Pasteur Institute had no intention of renouncing their humanitarian work whose general utility (despite some inevitable failures) had been sufficiently recognized. Pasteur would go on with his labors, perfecting them by new experiments and researches, and France was honored when its government aided the beneficent enterprises of its men of genius. In the meantime we learn on good authority that M. Pasteur is the subject of advanced nephritis, and is not likely to survive long to continue his labors.

MEDICAL NOTES.

— The following items from the *Hamburger Nachrichten* and *North German Allgemeine Zeitung* have been received from the United States consul at Hamburg:

"In consequence of the suspicious death which yesterday occurred at Pesth, bacteriological examinations have been made, which have shown that the person in question really did die of Asiatic cholera. Yesterday a fresh case is said to have been discovered."

"Constantinople, March 29th.—In consequence of cases of cholera at Pesth, a quarantine of five days has been ordered for products coming from the Danube and the Black Sea from the mouth of the Soolina to Boorghas."

— United States Consular reports from Catania state that eight cases of cholera and three deaths from that disease were registered during the week ending March 26th. The consul says that "the wells of the city (with few exceptions) have been closed by official order. Water has been brought to the city from the slopes of Etna in closed conduits. As soon as this water came into use the cholera began to disappear. During the past four days no cases or deaths have been reported. It is hoped that the malady has terminated. Application has been made to the government to have quarantine removed."

— Kanehiro Takaki, Medical Director General of the Imperial Japanese Navy, publishes in the *Sei-I Kwai Medical Journal*, April, 1887, a tabulated report of the patients suffering from kakke (beri-beri) in the navy, from 1878 to 1886. The following is the total number in each of these years, beginning with 1878. 1,485, 1,978, 1,725, 1,163, 1,929, 1,172, 661, 9, 3. The deaths during the same years were, respectively, 32, 57, 27, 30, 51, 49, 8, 0, 0. The enormous decrease in the cases of the disease during the last two years, is ascribed by the director-general to an improvement in the scale of diet made in April, 1884. He adds that even the few cases in the last two years were found after examination to have occurred among those who did not share the improvement in the food.

—The *New York Medical Journal* publishes an abstract from a book, giving the history of a journey to Saragossa, Barcelona, and Valencia, in the year 1585, by Philip II, of Spain, in which is contained an alleged instance of remarkable fecundity. The book was written by Henrique Cock, who accompanied Philip as his private secretary. On page 248, the following statements are to be found: "At the age of eleven years, Margarita Gonzalez, whose father was a Biscayan, and whose mother was French, was married to her first husband, who was forty years old. By him she had seventy-eight boys and seven girls. He died thirteen years after the marriage, and, after having remained a widow two years, the woman married again. By her second husband, Thomas Ochoa, she had sixty-six boys and seven girls. These children were all born in Valencia, between the fifteenth and thirty-fifth years of the mother's age, and at the time when the account was written she was thirty-five years old, and pregnant again. Of the children, forty-seven by the first husband, and fifty-two by the second were baptized; the other births were still or premature. There were thirty-three confinements in all.

—The London correspondent of the *Philadelphia Medical Times* writes that Mr. W. H. Power, one of the medical inspectors for the Local Government Board, seems to have shown, that, in some way not easy to understand, a small-pox hospital in a town causes a greater incidence of small-pox in its immediate neighborhood. He has taken the statistics for a great many hospitals, and has written a number of reports to his Board on the subject. One of the most recent relates to the small-pox hospital at West Ham. He found that within an area contained by a circle described three-quarters of a mile from the hospital, the death-rate from small-pox was much higher than in other parts of the same districts. It was never less than twice, and had risen to ten times, the general rate. Mr. Power has also given statistics which tend to show that the number of cases shows a progressive decrease on passing from the immediate neighborhood of the hospital in every direction. No explanation has yet been afforded of the influence of the hospitals. It seems to be independent of the winds, and the explanation at first suggested — that it was due to clandestine or accidental communication between the hospital inmates and attendants and the neighbors — is now found to be inadequate.

BOSTON AND NEW ENGLAND.

—A prominent dealer in spring waters in Boston, has lately placed before the medical profession and the public a new mineral water, which he claims, in staring capitals, is especially beneficial in cases of **DIABETIS**.

—*Essex North Medical Society*. At the annual meeting, held at the Franklin House, in Lawrence, May 4, 1887, the following officers were elected for the ensuing year. President, E. P. Hurd, of Newburyport; Vice-President, C. G. Carleton, of Lawrence; Secretary and Treasurer, M. D. Clarke, of

Haverhill; Corresponding Secretary, Aug. Stabler, of Lawrence; Censors: John Crowell, F. B. Flanders, J. F. Young, R. C. Huse, A. F. Shea; Councilors: H. J. Cushing, F. A. Howe, George Montgomery, F. H. Allen, R. B. Root, C. N. Chamberlain, O. H. Johnston, L. A. Woodbury, H. M. Chase; Commissioner on Trials: F. A. Howe, of Newburyport; Nominating Committee: C. N. Chamberlain, of Lawrence. The Censors reported the following doctors admitted as members of the Society: Franklin B. Pierce, of Methuen, Susan Elizabeth Crocker, of Lawrence, Joseph G. Burque, of Haverhill.

—*Norfolk South District Medical Society*. The annual meeting of the Norfolk South District Medical Society took place at the Robertson House, Quincy, May 4, 1887. The following officers were elected: President, Dr. J. H. Robbins, of Hingham; Vice-President, Dr. C. A. Dorr, of Hingham; Secretary and Treasurer, Dr. John F. Welch, of Quincy; Librarian, Dr. F. C. Granger, of Randolph; Commissioner of Trials, Dr. C. E. Prior, of Holbrook; Censors, Drs. J. C. Fraser, of East Weymouth, C. E. Prior, of Holbrook, S. M. Donovan, of Quincy, C. C. Tower, of South Weymouth, and G. W. Tinkham, of Weymouth; Councillors, Drs. J. A. Gordon, of Quincy, J. W. Spooner, of Hingham, and F. C. Granger, of Randolph; Nominating Councillor, Dr. J. A. Gordon, of Quincy.

NEW YORK.

—The commencement exercises of the Mount Sinai Hospital Training School for Nurses were held at the nurses' building near the Hospital, on the 5th of May. Two of the graduates read essays, and addresses were made by Ex-Governor Hoadley, of Ohio, and Dr. Heineman; after which refreshments were served and a social reception held.

—While during the weeks ending April 16th and 23d, only four cases of small-pox a week are reported, and during that ending April 30th, five cases; since then a considerably increased number have been met with by the authorities. One of these was in a German immigrant who was taken with the disease during the voyage to this country and who died while being removed from quarantine to the small-pox hospital on North Brother Island.

—The annual commencement of the college of Physicians and Surgeons is announced to take place at Steinway Hall on Wednesday evening, May 12th, when the address to the graduating class is to be made by the Hon. Stewart L. Woodford.

Miscellany.

ELECTRICITY IN THE TREATMENT OF TEDIOUS LABOR AND POST-PARTUM HÆMORRHAGE.

A CASE reported by Dr. Guice de Fayette, (*Arch. de Tocologie*, February 28, 1887, and *London Medical Record*, April 15th,) is as follows: The patient was a

primipara, twenty-three years of age. Twelve days before labor came on, Dr. de Fayette was engaged to attend her, and on examining her urine, he found it contained a large quantity of albumen. When labor commenced, her face was oedematous, pulse 110. Head presented in the first position. The *os uteri* was at first rigid, but gave way after a dose of two grammes of chloral-hydrate. Uterine contraction was feeble and ineffectual. After working twelve hours, a strong and rapidly interrupted current of electricity was brought to bear on the inert uterus. When the head came down on to the perineum, the current was stopped. After delivery, as the uterus did not contract well, a dose of ergot was given. About an hour later the doctor was called hurriedly upstairs and found his patient flooding. He at once passed his hand into the uterus, but did not succeed in setting up contraction; he then removed the clots and injected vinegar, but still no effectual contraction took place. The injection of hot water was equally in vain. The battery was then called into requisition, and with the positive electrode in the patient's hand, and the doctor holding the negative electrode in his left hand, he grasped the flaccid uterus through the abdominal walls with his right hand; the effect was instantaneous, the uterus at once becoming powerfully contracted and the hæmorrhage ceased. After a few minutes the current was discontinued and the bleeding did not recur.

POISONING BY DRESSINGS OF SUBNITRATE OF BISMUTH.

THE *Paris Médical* of January 22d, and the *London Medical Record* of March 15th, contain notes of a case of poisoning after dressings of subnitrate of bismuth, described by M. P. Dalché, before the Société de Médecine Légale de France. A woman of thirty, in M. Peyrot's ward, was treated for two burns. One of these was of the third degree, and extended in length from the lower angle of the shoulder-blade to the gluteal region, and occupied the entire width of the back. The other was a large burn on the left arm. On September 26th these wounds were dressed with subnitrate of bismuth. The dressing, though renewed every second day, did not prevent them from becoming fœtid. The general condition of the patient improved. On October 11th the throat became sore; there was dysphagia. There were pseudo-white membranes on the lower surface of the upper palate, the uvula, and the tonsils. On October 13th the patches had spread, the mucous above them was black, and the edge of the gums of the lower jaw was rough and dark-brown in color. There was a pseudo-white membrane, resting on a black spot of the mucous, on the lower lip. The general condition was good. There was no albumen in the urine. A few days later the breath became fœtid, and there was gangrene of the upper palate. On the 26th the patches above described had partly disappeared, but there was a burning sensation under the tongue, and a series of black spots formed a track, upon which several pseudo-white membranes appeared. There were violent diarrhœa and continual vomiting; the gums and the patches on the buccal surface of the cheeks had a rough black edge. The bismuth dressing was abandoned. Up to November 1st, vomiting, diarrhœa, and hicoughs per-

sisted. There was albumen in the urine. On November 5th there were pains along the œsophagus; a number of the patient's teeth were loosened; nevertheless there was slight improvement, which continued, and the patient completely recovered by the middle of December. M. Dalché is convinced that bismuth was the cause of the lesions observed, which were not the lesions peculiar to diphtheria, nor to any known stomatitis. The bismuth was pure; its presence was detected in the fecal matters and in the urine.

SYMMETRICAL GANGRENE (RAYNAUD'S DISEASE) FOLLOWING VARICELLA IN A CHILD, AGED FOUR, CAUSING DEATH ON THE FOURTH DAY.

MR. EDWARD BELLAMY reported an interesting case of this disease before a recent meeting of the Clinical Society of London (*Medical Press and Circular*, April 6, 1887): The patient was admitted under his care on January 19, 1887. On admission, she had spots of varicella over her body and face, which were first noticed on the 16th. On the evening of the 19th, at 7 o'clock, the child complained of her right leg being sore, and a small, circular, black patch, about as large as half-a-crown, was seen below the inner side of the knee. By 10 o'clock this patch had extended down the leg to the foot, when she was brought at once to the hospital. On arrival, a similar patch had made its appearance just above the left ankle, and which rapidly extended up to the knee. The patient was unable to stand, complained of great pain in both legs, and which increased on pressure. The second, third, and fourth toes of the right leg exempt from discoloration, and the fifth but slightly mottled. Shortly after admission, an oblong patch, about two inches by two inches, appeared on the outside of the left thigh. On the 21st, a small patch appeared on the outer side of the right forearm, and slight discoloration on either side of the spine, on a level with the crest of the ilium; in the afternoon of the same day, in either cheek and conchæ of both ears. The complexion was very white, face sallow, expression dull and heavy, tongue dry and brown, but reddish at tip; pulse 150, weak; temperature 100°, heart-sounds normal; breathing normal, both legs cold and insensitive; pulsation, left femoral, fairly distinct, but could not be felt in right. Urine: specific gravity, 1023; clear, pale, no trace of albumen, and no hæmoglobin could be detected. In the evening of the 21st she became suddenly seized with stertor, and died. A full account of the post-mortem accompanies the paper. Among the most interesting points are the following: There was an enormous opening in the foramen ovale, bounded below by a valve one-fourth of an inch deep, having a free, crescentic margin. On dissection of the right leg, the fat and skin and gangrenous parts were dark purple, from hæmorrhagic infiltration, and this appearance died away at apex of Scarpa's space. The obvious gangrene ceased just above the inner condyle, the skin above being apparently normal. The legs appeared quite gangrenous, being uniformly purple. There were some petechiæ or small hæmorrhages in the intermuscular plane, the muscles themselves being very strongly contracted by rigor mortis, and appearing almost healthy, except where, here and there, they showed small hæmorrhages; this was especially the case in

the deeper fibres of the soleus. The femoral glands were a good deal enlarged, and either hæmorrhagic, or containing a quantity of blood pigment. The saphena vein contained only post-mortem clot.

THE PROGNOSIS IN CASES OF HEART DISEASE.

In the *British Medical Journal* for February 12 and 19, 1887, Sir Andrew Clark reports a long series of cases of valvular diseases of the heart known to have existed over five years without causing serious symptoms, from a study of which he draws the following conclusions :

"*First.* That there are many persons with long-standing valvular disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, have enjoyed good health, and have reached an advanced age.

"*Second.* That the mitral regurgitant murmurs so often encountered in chorea, for the most part disappear within eight or nine years of the attack.

"*Third.* That valvular inflammations, and their effects arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence ; and that this, occurring for the most part in the young, also occurs sometimes in the middle-aged.

"*Fourth.* That the signs of valvular defects arising out of the degenerative changes of middle life do, also, on rare occasions, disappear ; and that, when circulatory and respiratory disturbances accompany their commencement, they sometimes subside, and permit of apparently complete readjustment.

"*Fifth.* That as there must be in the histories, habits, occupations, and surroundings of patients with valvular disease, conditions, which, in one case, bring about secondary disorders, and, in another case, exempt it from them, it is desirable that the respective *differentialiæ* should be discovered, and made capable of application to practice.

"*Sixth.* That any systematic and critical study of this subject likely to lead to practical issues could be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners, who possess, in a special manner, the knowledge necessary to the end in view.

"*Seventh.* That a joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them."

JUVENILE INTERMITTENT ALBUMINURIA.

CONSIDERABLE interest attaches to cases of cyclical albuminuria, for their pathology is unknown, and, perhaps, is different in different cases. The causation of mere intermittency of symptoms generally has not received adequate attention. The *Lancet* gives the facts collected by M. Teissier in a fresh series of ten cases of cyclical albuminuria. He lays stress on the following features : A separation of oily matter on the urine, and the presence in it of brilliant bluish or metallic-looking spangles ; the absence of true casts, though cylindroids, possibly of mucus, and sometimes drops of fat, may be detected with the microscope ;

the slightness of the subjective symptoms, which may consist of mere vague feelings of malaise, of pain in the back, of weakness, or of pains in the limbs. Neuralgic troubles are rare. There is great nervous excitability or impressionability. Physical examination has never revealed the "bruit de galop." The lowness of arterial tension, which is calculated to be equal to a column of mercury sixteen to seventeen centimeters high, is important as an item in the differential diagnosis of cyclical albuminuria from interstitial nephritis. Dilatation of the stomach was observed in three cases. Three patients had had eczema or urticaria. Neither œdema nor "dead fingers" was noted. Speaking generally, the aspect of the patients is one of good health. The complaint, if such it can be called, is commonly curable ; but slight relapses may recur under the influence of fatigue or violent impressions. The age that is most liable to the affection is ten years from puberty onwards ; males suffer more than females. Violent exercise and excessive emotional excitement are direct causes. Teissier does not accept the mechanical theory of Bar, nor the theory of disturbance of the glomerular circulation of Magnin. His own view, propounded two years ago at Grenoble, he now believes to be insufficient to explain all the phenomena. A slowing of the combustion of albumens will not explain the presence of fatty matters, or the increase of urea in the urine. His present position is to regard the malady as due to over-action of the liver, which is the factor for urea, uric acid, and fatty matters. In treatment, the importance of hygiene is very great. These patients are, perhaps, predestined to become gouty. Shampooing, plenty of fresh air, prohibition of alcohol and white wines, and moderate exercise, are to be prescribed for these young men. Arsenic, inhalations of oxygen, cold baths, bromides and hydrotherapy, tannin, benzoate of soda, etc., are recommended, but especially sweet spirits of nitre, twelve to fifteen drops a day (alcool nitrique). Milk, eggs, and ham may be eaten, but not fish ; thermal waters are good.

CAFFEINE AS A DIURETIC.

W. v. SCHROEDER, of Strasburg, has carried out a series of careful experiments, originally published in the *Arch. f. exp. Path. u. Pharm.*, Vol. XXII, 1886, and contained in the *Practitioner*, March, 1887, on the action of caffeine as a diuretic, using rabbits mainly, and also a few pigeons. His method was to tie a canula in one or both ureters, to collect the urine before and after administration of the drug, and to compare it with that of a probably normal animal, in quantity and quality. The first experiments were performed under the influence of morphia : but soon the results became inconstant, and in the later cases, even negative, the reflex excitability of the animal having greatly increased. He therefore had recourse to chloral, which deadened the nervous system more completely, and under which the flow of urine, though increased from the normal, remained practically constant. He obtained the same results by narcotizing with morphia, and cutting the renal nerves. After the administration of chloral, .02 gramme of caffeine in solution was injected into the jugular vein of the rabbit ; and in the course of ten to fifteen minutes the flow of urine increased considerably, and continued so, more or less, for a period of from two to three hours.

On an average, the volume increased to about ten times the normal, and the solids three times, the nitrogen being correspondingly increased. Similar results were obtained from a few experiments carried out in the same manner on the pigeon. Caffeine itself causes a fall of the general blood-pressure, and in this way, influences to a slight extent the secretion of urine. However, after eliminating the central nervous system, either by section of the renal nerves, or the administration of a full dose of chloral, the effect of caffeine on the flow of urine is very striking. This leads him to conclude that its chief, if not its entire, effect is local, and he compares its action with that of pilocarpine on the salivary glands, except that it does not act through the medium of secretory nerves, but directly on the kidney substance. Whether the action is on the glomeruli or on the convoluted tubules is not clear, but he inclines to the view that caffeine is a direct stimulator of the renal epithelium. The complaint of the uncertainty of the action of caffeine as a diuretic is, he believes, due to its effect on the central nervous system, coinciding with the results of his first experiments, and referable to different susceptibility of the nervous system in different individuals. He therefore recommends the use, with caffeine, of some substance which may depress the nervous system, and he finds that paraldehyde serves the purpose very well. From his investigations, Von Schroeder concludes that caffeine acts in two ways: First, by exciting the central nervous system comparably to strychnine, which interferes with the secretion of urine; and secondly, by acting directly on the kidney substance, this effect being characterized by the occurrence of a free flow of urine.

OBITUARY.

G. P. PRATT, M.D.

At the annual meeting, at Quincy, of the Norfolk South District Medical Society, the following resolutions were adopted, *apropos* the death of Dr. Gustavus Percival Pratt, of Cohasset, which took place April 29th:

Whereas, It has pleased an all-wise Providence to cause us to mourn the death of Dr. Gustavus P. Pratt, a worthy and much respected member of this Society.

Resolved, That we, members of said Society, do hereby tender to his bereaved family our heartfelt sympathy in their great affliction:

That we express to his numerous patrons our sorrow for the death of their loved and honored physician:

And that we condole with the people of Cohasset, in their loss of a prominent and valued citizen.

E. T. CASWELL, M.D.

At the meeting of the Staff of the Rhode Island Hospital, held on the 4th inst., the following was presented:

The surgeons and physicians of the Rhode Island Hospital, fully impressed with the great loss which they have suffered, in the death of their late colleague and president, Edward Thompson Caswell, M.D., desire to express their recognition and appreciation of his marked ability as a man and physician.

Associated with the hospital from its very beginning his fidelity to its interests and his conscientious devotion to its exacting and time-consuming duties—even long after his health and strength had been sadly undermined by disease—commands our sincere admiration and respect and present characteristic qualities that awaken our endeavors to follow and emulate.

His long-continued and thorough medical education, his extended experience and high sense of professional honor, all combined to make his death, in the prime of life, a very great loss, not only to the hospital and the patients in its wards, but to each of his colleagues and to the profession that he adorned.

Resolved, That the Secretary be instructed to enter these resolutions upon the records of the Staff Association, transmit a copy to the family of the deceased, to the Journals for publication and to the Board of Trustees.

J. W. C. ELY, M.D., *President, pro tem*, }
J. W. MITCHELL, M.D., *Secretary*, } *Committee.*

Correspondence.

BERI-BERI AGAIN BROUGHT TO NEW YORK.

Boston, May 9, 1887.

MR. EDITOR,—The enclosed cutting from a New York paper, kindly sent me by Dr. E. N. Whittier, speaks for itself. Beri-beri is again landed on our shores and again breaks out more than two months after leaving a country where the disease is endemic.¹

Yours truly,
FREDERICK C. SHATTUCK, M.D.

Terrible Suffering of a Ship's Crew.—New York, May 7.—The ship "Albana," from Manila, arrived to-day. She left Manila 119 days ago and out of a crew of nineteen able-bodied men, only six were able to work when she came into port. When seventy-five days out, the crew began complaining of pains in their legs, followed by peculiar swellings which soon rendered the majority unfit for work.

LETTERS FROM DR. GEORGE HAYWARD RELATING TO THE INTRODUCTION OF SULPHURIC ETHER.

The following extracts are from two letters, written by Dr. George Hayward, at the time of the introduction of sulphuric ether, which were recently deposited with the Boston Medical Library Association, by Dr. Benjamin Cushing, to whom they were originally addressed in Paris.

Boston, January 30, 1847.

... There have been quite a number of operations at the hospital this winter, and all the patients operated on have thus far done well. Many of them have inhaled the vapor of sulphuric ether, and have thus been rendered totally insensible to pain during the operation. I have amputated a thigh, removed a breast, and done several other operations, almost equally severe, and the patients have suffered nothing at the time, and have had no ill effects afterwards. This is a wonderful discovery, and the credit of it belongs to Dr. C. T. Jackson, the chemist, and Dr. Morton, the dentist; Dr. Jackson suggested the use of the ether, and Dr. Morton made the first successful application of it. I see by the last journals that they are beginning to use it in London, and it will not be long before you will hear of it in Paris, if it be not there already.

We were the first to use it in surgical operations at our hospital (Massachusetts General) and I performed the first important operation, amputation of the thigh, in a patient under the influence of it. The effects in this case were so decided, that it was immediately used by others, and it is now employed to a great extent, not only by the dentists, but by surgeons. It is, however, violently opposed in Philadelphia, probably because it was not discovered there, and not first brought into use in the Pennsylvania Hospital.

FEBRUARY 28, 1847.

... I have taken a good deal of interest in the inhalation of the vapor of sulphuric ether to lessen the pain of surgical operations, and I am rejoiced to perceive that it has been so well received in Europe and so successfully used. I did the first important operations, on patients under the influence of it, that were ever performed. The first was the removal of a tumor from the arm of a woman, which took place at the hospital on the 17th of October, soon after my return, and on the 7th of November I amputated the thigh of a girl. Both patients were entirely insensible during the whole operation and both recovered rapidly without an unpleasant symptom.

These were the two first cases in which complete insensibility to pain was produced by the ether, except for the extraction of teeth. Since that time I have used it constantly, both at the hospital and in private practice,

¹ Journal, April 14, 1887.

with almost uniform success, and without any ill consequences in any case.

The article employed is nothing but pure sulphuric ether, and care should be taken that the lungs are well supplied with atmospheric air, so that asphyxia should not be produced, at the same time all the air that is taken into the lungs should be well charged with the vapor of the ether.

With regard to the discovery, there is no doubt that Dr. C. T. Jackson suggested its use to Dr. Morton to produce insensibility, but it is certain that Dr. Morton is the first who ever operated on patients, who were made insensible by the ether. He is a dentist and of course only used it for the extraction of teeth. After repeated successful experiments in dentistry, he requested that it might be used in more important operations at the hospital. This was done and the results were most satisfactory. I have stated this because Dr. Jackson has written to

France, claiming the whole merit of the discovery, taking no notice whatever of the part which Morton has had in it. I hope you will take some pains to let M. Velpeau and other surgeons know this. Morton, in my opinion, is entitled to great credit for the successful application of a suggestion of Dr. Jackson. All that the latter knew was, that persons could be rendered insensible for a time by the inhalation of sulphuric ether, but it remained for Dr. Morton to prove the *all important point*, that while in that state they could undergo surgical operations without pain.

I send you a copy of the *Medical Journal* containing Dr. H. J. Bigelow's account of the experiments with the ether, and I should be very glad if you would show it, as well as what I say about it in this letter, to our friend Mr. George Sumner (brother of Charles Sumner). I should be glad if he would take some pains to set the savans in Paris right upon the subject.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 30, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	729	251	17.36	23.52	18.48	11.93	.84
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	314	101	16.00	19.74	.32	9.60	.64
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	119	35	10.32	11.18	1.72	2.58	.86
Boston	400,000	191	61	12.19	16.96	1.06	3.18	1.06
New Orleans	242,750	136	52	17.02	12.58	11.10	2.96	.74
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	86	28	4.64	2.32	1.16	—	1.16
Pittsburgh	210,000	59	28	28.02	15.21	3.38	3.38	10.14
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	28	—	42.84	32.13	—	17.85	25.00
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Newport	19,566	—	—	—	—	—	—	—
Charleston	60,145	30	11	23.33	6.66	6.56	—	2.33
Portland	40,000	13	4	—	—	—	—	—
Worcester	68,383	21	8	4.76	14.28	—	—	—
Lowell	64,051	33	19	39.39	15.15	3.03	15.15	15.15
Cambridge	59,660	—	—	—	—	—	—	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	25	4	—	36.00	—	—	—
Lawrence	38,825	9	3	—	11.11	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	10	—	—	10.00	—	—	—
Somerville	29,992	7	1	—	—	—	—	—
Salem	28,084	18	4	16.66	5.55	5.55	5.55	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	17	5	23.52	—	—	—	17.97
Taunton	23,674	7	3	14.28	14.28	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	1	—	25.00	—	—	—
Brockton	20,783	5	2	20.00	20.00	—	—	—
Newton	19,759	4	1	—	—	—	—	—
Malden	16,407	9	0	22.22	—	11.11	—	—
Fitchburg	15,375	3	0	—	—	—	—	—
Waltham	14,609	4	0	—	25.00	—	—	—
Newburyport	13,716	7	2	—	28.56	—	—	—
Northampton	12,896	3	0	—	33.33	—	—	—

Deaths reported 2,494: under five years of age 834; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 370, acute lung diseases 395, consumption 342, diphtheria and croup 145, measles 49, diarrhœal diseases 43, scarlet fever 26, typhoid fever 26, malarial fever 23, whooping-cough 13, erysipelas 10, puerperal fever seven, cerebro-spinal meningitis six, small-pox (New York) two. From scarlet fever, New York 16, Brooklyn three, Boston and Pittsburgh two each, Philadelphia, Chelsea and Taunton one each. From typhoid fever, Boston nine, Philadelphia six, New York, District of Columbia, and Charleston, two each, Baltimore, Pittsburgh, Lowell, Salem and Brockton one each. From malarial fevers, Brooklyn nine, New York seven, Philadelphia, Baltimore and New Orleans, two each, Charleston one. From whooping-cough, New York four, Philadelphia three, Baltimore and Pittsburgh, two each, Brooklyn and Boston one each. From erysipelas, Brooklyn four, Philadelphia three, New York, Boston and Baltimore, one each. From puerperal fever, New York and Pittsburgh three each.

Charleston one. From cerebro-spinal meningitis, New York two, Richmond, New Orleans, Lowell and Malden one each.

In the 18 cities and greater towns of Massachusetts, with a population of 876,014 (population of the State 1,942,141) the total death-rate for the week was 22.44 against 24.38 and 22.18 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 16th, the death-rate was 20.9. Deaths reported 3,696: infants under one year of age 843; acute diseases of the respiratory organs (London) 363; measles 266, whooping-cough 115, scarlet fever 45, diphtheria 32, diarrhœa 26, fever 24.

The death-rates ranged from 10.6 in Bradford to 35.3 in Huddersfield; Birmingham 18.3; Bradford 19.5; Derby 17.8; Hull 19.9; Leeds 20.9; Leicester 21.5; Liverpool 25.3; London 19.8; Manchester 31.7; Newcastle-on-Tyne 22.9; Nottingham 21.9; Portsmouth 24.2; Sheffield 22.9; Sunderland 18.1.

In Edinburgh 18.4; Glasgow 27.4; Dublin 34.1.

The meteorological record for the week ending April 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 30, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 21	29.845	48.0	64.0	43.0	93.0	75.0	63.0	77.0	N.	S.E.	N.W.	11	10	6	O.	C.	C.	—	—
Monday, ... 22	29.888	51.0	60.0	41.0	37.0	43.0	87.0	56.0	N.W.	S.	S.	2	16	10	C.	C.	T.	—	—
Tuesday, ... 23	29.732	46.0	55.0	35.0	100.0	59.0	55.0	71.0	N.E.	W.	S.W.	24	11	9	R.	O.	T.	—	—
Wednesday, ... 24	29.944	42.0	58.0	43.0	63.0	33.0	39.0	45.0	W.	W.	N.	12	22	3	C.	C.	C.	—	—
Thursday, ... 25	29.713	48.0	58.0	44.0	73.0	87.0	100.0	87.0	S.E.	S.E.	E.	8	8	16	C.	C.	T.	—	—
Friday, ... 26	29.166	50.0	56.0	45.0	87.0	100.0	100.0	96.0	E.	E.	N.	16	12	10	O.	G.	R.	—	—
Saturday, ... 30	29.379	51.0	57.0	48.0	75.0	54.0	57.0	62.0	W.	W.	N.W.	20	18	32	O.	T.	O.	—	—
Mean, the Week.	29.675	49.0						71.0										42	1.54

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 30, 1887, TO MAY 6, 1887.

FRYER, BLENCOWE E., major and surgeon. Ordered for examination by Army Retiring Board, at San Francisco, Cal. S. O. 101, A. G. O., May 2, 1887.

BILLINGS, JOHN S., major and surgeon. Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

STERNBERG, GEORGE M., major and surgeon. Assigned by the President, to the special duty, under the Treasury Department of "investigating the merits of the method practised in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as attending surgeon and examiner of recruits in Baltimore, Md. S. O. 101, A. G. O., May 2, 1887.

MIDDLETON, J. V. D., major and surgeon, HAPPERSETT, J. C. G., major and surgeon, AINSWORTH, F. C., captain and assistant surgeon. Appointed to assemble at U. S. Military Academy, West Point, N. Y., on June 1st, to examine as to the physical qualifications of the members of the graduating class and of the candidates for admission to the academy. S. O. 102, A. G. O., May 3, 1887.

LORING, LEONARD Y., captain and assistant surgeon. Sick leave of absence still further extended six months, on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

BRAIT, VICTOR, captain and assistant surgeon. Sick leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

EWING, CHARLES B., first lieutenant and assistant surgeon. Ordered from Fort Leavenworth, Kan., to Fort Lewis, Colorado, for temporary duty. S. O. 100, A. G. O., April 30, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 7, 1887.

SHAFFER, JOSEPH, assistant surgeon. Detached from the "Minnesota," and to the "Ossipee."

SIMON, W. J., surgeon. Ordered to the United States Steamship "Boston."

HENRY, C. P., assistant surgeon. Detached from hospital, Philadelphia, and to the "Boston."

MEANS, VICTOR C. B., assistant surgeon. Detached from hospital, Mare Island, and to the hospital, New York.

SIMONS, MANLY H., passed assistant surgeon. Detached from Naval Academy and to the "Constellation."

DICHL, OLIVER, passed assistant surgeon. Detached from hospital, New York, and to the hospital at Philadelphia.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 7, 1887.

WYMAN, WALTER, surgeon. Detailed as chairman, Board for physical examination of candidates for appointment as cadet, Revenue Marine Service, May 6, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as recorder, Board for physical examination of candidates for appointment as cadet, Revenue Marine Service, May 6, 1887.

SOCIETY NOTICE.

MEDICAL EDITORS' ASSOCIATION.—The next meeting of the Medical Editors' Association will be held in Chicago, on Monday evening preceding the meeting of the American Medical Association. The President, Dr. Shoemaker, will deliver an address, "Some of the Present Abuses of Medical Literature." It is desirable that all medical editors who can shall attend, as the organization is a permanent one and largely social. Dr. J. L. Gray, 70 Monroe Street, Chicago, is Chairman of the Committee of Arrangements. Members of the press who expect to be present should send their names as early as possible to the Secretary,
DR. WILLIAM PORTER,
3137 Lucas Avenue, St. Louis.

DEATH.

Died in Boston May, 6, 1887, Marcus Bloomfield Leonard, M.D., M.M.S.S., aged sixty-six years, two months, ten days.

BOOKS AND PAMPHLETS RECEIVED.

Post-Graduate Instruction in Gynecology. By Henry C. Coe, M.D., M.R.C.S. 1887. (Reprint.)

Annual Report of the Board of Health of the City of Lowell, for the Year 1886. Lowell, Mass., 1887.

Ueber das Vorkommen der Albuminurie bei Diabetes Mellitus. Von Dr. Arnold Pollabschek, Carlsbad. Abdruck.

Massachusetts Society for the Prevention of Cruelty to Children. Sixth Annual Report for 1886. Boston, 1887.

Twenty-Sixth Annual Report of the Cincinnati Hospital for the Fiscal Year ending December 31, 1886. Cincinnati, 1887.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

Twentieth Report of the Medical Staff of St. John's Hospital. Submitted at the Annual Meeting, April 4, 1887. Lowell, Mass., 1887.

Fourth Annual Report of the Superintendent of Health of the City of Providence. For the Year ending December 31, 1886. Providence, 1887.

Contributions to the Diagnosis of Yellow Fever. By Augustin M. Fernandez, M.D., Corresponding Member of the Medico-Chirurgical Academy of Madrid, Spain. 1887. (Reprint.)

Persistent Pain after Abdominal Section. By James B. Hunter, M.D., Surgeon to the Woman's Hospital, New York, Professor of Gynecology in the New York Polyclinic, etc. 1886. (Reprint.)

A Manual of Weights and Measures including Principles of Metrology, etc., with Rules and Tables. By Oscar Oldberg, Pharm. D. Second Edition Revised. Chicago: Published by Chas. J. Johnson. 1887.

Medical Education in the United States; its Defects and the Remedy. Annual Address delivered before the American Academy of Medicine, at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., LL.D., of Pittsburgh, Pa., President of the Academy.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia. Third edition. Enlarged and improved with 110 illustrations. Philadelphia: Lea Brothers & Co. 1887.

Original Articles.

THIRD ATTACK OF SCARLET FEVER. REMARKS UPON THE RECURRENCE OF ERUPTIVE DISEASES.¹

BY JAMES B. AYER, M.D.

In December, 1879, Charlie U., at the age of five, was attacked with a severe form of scarlet fever. He was then living in Charlestown, and was attended by Dr. E. J. Forster. His mother tells me that she passed through two severe and undoubted attacks of scarlet fever, at the ages of five and seven, and that one of her brothers was twice treated for the same disease, at ages of ten and twelve.

First Attack. Dr. Forster recalls the illness, and says that it was complicated by a submaxillary abscess, and by perforation of both membrana tympani. Special attention was paid to the ears by Dr. Forster, and there was no subsequent deafness. Patient was not as robust after the disease. Subsequently, there is a reliable history of two attacks of measles, with an interval of three years between the attacks.

Second Attack. November 25, 1885, I was called to the patient, now eleven years old, for the first time, and found the body covered with a characteristic scarlet rash, which lasted three days, and was not accompanied by constitutional symptoms of any kind, nor followed by desquamation; but was repeated eight weeks later, January 25th, the rash again, lasting three days, and now being accompanied by decided fever, vomiting, pharyngitis, otitic pain, and discharge from the right ear, requiring treatment. Shortly after the subsidence of the rash there was a marked lamellar desquamation, involving the whole body. At the end of three weeks from the beginning of desquamation, there were still a few ragged shreds of cuticle upon the fingers and toes. The rash and desquamation were in every way characteristic of scarlet fever. Hardly had the house been disinfected, when, March 1st, the redness reappeared, again lasted three days, leaving, on the ninth day, a roughness of the skin. This was, I am informed, followed by desquamation. No constitutional symptoms attended the relapse, except a slight fever at the onset, but he was left in a debilitated state, and unable to attend school, partly on account of conjunctivitis and weakness of the ocular muscles of accommodation. After five months' vacation these symptoms disappeared and he returned to school in September, with restored health.

Third Attack. A month later, October 3, 1886, while passing Sunday in the suburbs, he complained of headache, and was brought home in a feverish condition. Next morning I found his body broken out with a pink rash, which, in a few hours, spread to the face. At first, I considered the rash of erythematous character (similar to the light-colored rash which generally accompanies his catarrhal colds), but in a few hours it became darker, punctated, and presenting the lobster-red appearance of scarlet fever, accompanied by pruritus and heat of the skin.

The temperature fluctuated between 102° and 101° when I saw him, each morning, but probably rose higher during the latter part of the day. On the fourth day, the fever, which had been high during the preceding night, fell as the rash began to fade, and there was a sudden

(œdematous?) swelling of the upper lip, which disappeared in eight hours.

On the third day, there was vomiting for the first and only time. There was otitic pain, severe enough to waken him from sleep several nights in succession. At times he complained of soreness in the throat in swallowing, but pharyngitis was slight, and there were no other symptoms calling attention to the mucous membrane, or to other organs of the body.

On the ninth day, while desquamation was going on, the rash reappeared for a few hours, during which time I saw him, and found his fauces reddened, and his temperature raised to 100°. Lamellar desquamation continued, and was in every way typical of scarlet fever. At the end of four weeks the body was smooth, but the fingers and toes were still peeling.

At the end of six weeks he was out of doors, and, with the exception of catarrhal colds, accompanied by an erythema of short duration, he has since been well. When I have examined him of late, I have found that his skin is dry, but otherwise normal.

I believe that the best modern authorities, as Thomas² and Baze³ would agree in this

SUMMARY OF THE CASE.

First attack, at age of five, severe, involving the skin, mucous membranes, glands, and membrana tympani. *Second attack*, six years later: Typical skin eruption and desquamation; catarrhal symptoms present, but less marked. Relapse and sequelæ due to debility. *Third attack*, seven months later: Skin as in second attack; mucous membranes slightly affected; pseudo-relapse. Though the mildest of the three attacks, it was too severe to be classed under the "rudimentary forms" of scarlet fever.

Although obliged to change my diagnosis after watching this attack forty-eight hours, I will repeat that I, at first, felt that the affection was of an erythematous character, known as "false scarlet fever."

The following is Hardy's description of "scarlatiniform erythema": "The eruption appears in the form of bright-red patches, resembling scarlet fever, which soon become darker. These patches are the seat of intense itching. At the end of twenty-four hours the rash disappears, leaving only slight desquamation. The eruption may be prolonged a little, and terminate in a considerable amount of desquamation, which rises in large, epidermic patches, like scarlet fever. The fever is slight or absent, tongue quite natural, throat only slightly reddened; it relapses very frequently."

M. Fercol reports a case in point, where desquamation was marked: "The patient, a young man, was seized with a scarlatiniform rash, following typhoid pneumonia. At the end of eighteen months the rash reappeared, followed by complete desquamation of the whole body. There was no fever. The pseudo-erythema reproduced itself seven times during the year, always preceded by slight angina, with or without slight fever. The desquamation was always general, beginning in the upper part of the body, and ending in the feet; and, finally, the attacks become chronic and continuous."

Brocq, in the *Journal of Cutaneous and Venereal Diseases* (August, 1885), has an exhaustive paper upon the subject, "Desquamative Scarlatiniform Erythema," the most marked form of *false scarlet fever*, which dis-

¹ Read at the Boston Society for Medical Improvement, April 11, 1887.

² Ziemssen's Cyclopædia.

³ Real-Encyclopædie der Gesamten Heilkunde.

ease is of extremely rare occurrence, and is noticed almost exclusively in adults. It is characterized by many symptoms in common with scarlet fever attacks, but has a less severe onset, is accompanied by less fever, and its rash is of longer duration. In short, all of these forms of "false" or "bastard" scarlet fever are evidently skin diseases — not constitutional affections — and not to be classed with the case I have reported.

Evidently, my case does not come under the head of any form of erysipelas or eczema, nor was it a rash due to surgical causes or to drugs, and it only remains to classify it under the head of repeated scarlet fever, provided that it is known that this exanthematous disease occurs more than once.

Formerly, the question, "Does one attack of scarlet fever secure subsequent immunity?" was answered in the affirmative.

In Dr. Copland's Dictionary we read: "Dr. Willan and many others prove the impossibility of a second attack of scarlet fever," but this statement is immediately contradicted by the admission: "There are exceptions to this law, perhaps one in two thousand or three thousand."

Bauze says: "Reliable authorities report a second, and even more attacks, in the same individual."

Thomas collected reports of two hundred cases of a second infection, besides a few of a third, fourth, and even more infections, in the same patient. He quotes Richardson as having experienced scarlet fever three times in his own person, and mentions a case reported by Sir Gilbert Blane, of a young lady who had three undoubted attacks.

William Squire⁴ says: "Some persons have two or three attacks, or are liable to scarlet fever whenever they come in contact with it." As high a proportion of recurrence as six per cent. has been reported on good authority. As all careful observers agree with Trousseau that scarlet fever is more variable than any other of the contagious, exanthematous fevers, and as it would be difficult to classify together the severe and the mild forms of the disease, were it not for the fact that they may be equally contagious, it seems to me that there is a much greater danger of overlooking scarlet fever than of mistaking an erythematous rash for it.

There are many interesting points connected with this case:

Prodromal Rash. Whether the rash of three days' duration, preceding the second attack, was of erythematous or exanthematous character, cannot be definitely settled, but prodromal rashes may occur. Recently, I reported to this Society the case of a girl, ten years of age, whom I isolated on suspicion of scarlet fever, but dismissed her at the end of five days (when the rash disappeared), with a diagnosis of erythema. Three days later vomiting appeared, quickly followed by a typical attack of scarlet fever.

Pseudo-Relapse illustrated in our patient's third attack, when, on the tenth day of the disease, and fifth of desquamation, the rash reappeared for a few hours, accompanied by slight constitutional symptoms.

True-Relapses shown in the second attack by rash and desquamation, recurring soon after the disinfection of the house.

Family Predisposition to Recurrence. Murchison observed relapses of scarlet fever in two sisters. Triansky was able to establish the fact that, in two of

his cases of secondary scarlet fever, both parents had the disease twice, and in a third case, that, at least, the father had been affected twice. It is probably the rule that relapses and repeated attacks are less severe and less typical in character, yet this is not *always* the case.

REMARKS UPON REPEATED ATTACKS OF MEASLES.

The statement of most of the older writers, that susceptibility to measles was destroyed by one attack, has been disproved, and all modern authors agree that the disease has occurred two or three times in the same patient. Atkinson argues that it is illogical to insist upon a diagnosis of *rötheln*, in a doubtful case, *solely* because the patient has passed through one attack of measles, but has no doubt that many attacks of *rötheln* have been mistaken for measles. An accurate, differential diagnosis between measles and *rötheln* cannot be made. In illustration, I can relate a recent case:

A month ago, I found in my office a young man, twenty-one years of age, whom I had attended twenty-six months before for an undoubted attack of measles. Two days previously his eyes became inflamed, and he woke the following morning, early, with a chill and nausea. He attended to business in the forenoon, was feverish, complained of lassitude, and passed a poor night. When I saw him, the eyes were reddened and the lids greatly swollen, and there was a marked nasal catarrh and a dark-red dotting of the fauces. There was cutaneous hyperæmia of the cheeks, and small, mulberry patches, irregularly round and oval, about the ears and neck. On the body there was a measles-like rash, which was not confluent. During the following four evenings, the temperature rose from one degree to a degree-and-a-half above the normal. The pharyngitis became more marked about the fourth day, when the rash began to fade from the neck and body. The glands of the neck were not painful, and certainly not swollen to any extent.

When the blotches had disappeared and the rash had faded, there still remained the congestion of the cheeks and a pale marbling of the body, which are both natural to him in a state of health.

The mildness of the symptoms, and the short period of invasion suggested *rötheln*, but the catarrhal symptoms, and possibly the rash, favored the diagnosis of measles. The patient himself felt that his symptoms were similar to his first attack of measles, though of much milder form, and I felt it important to disinfect my office (as he had been waiting an hour), and to consider it a case of measles.

I believe that second attacks of measles *generally* are of a mild form, though it is stated that fatal second attacks occurred among Confederate soldiers in the early part of the late war.

Variola. Curschmann states that this disease has recurred as often as five or six times. He says that while the second attack is generally mild, there are exceptions to the rule, as in the case of Louis XV, of France, who, after passing through an attack of variola in his fourteenth year, died of the same disease in his sixty-fourth. The experience of some physicians in this city, who have seen much of variola, confirms the belief that repeated attacks are not of rare occurrence.

Varicella. Thomas says: "A true relapse, that is, a renewed appearance in its totality, as reported by

⁴ Quain's Dictionary.

Cassowitz, I have never seen." According to Trouseau and Canstatt, relapses of varicella are frequent.

Syphilis. There are unquestionable instances of second infection. Dr. Jonathan Hutchinson says that, while twenty-five years ago it was taught almost universally that one attack secures immunity from others, he himself has had not a few opportunities for observing the course of second attacks in patients whom he had seen during the first attack. These second attacks, he said, were generally modified.

Bäumler asserts that a second attack of the disease will be a modified one, and will be milder the earlier it takes place after the first.

Erysipelas. This is a recurrent disease. Pich, in "Heath's Dictionary," says: "A patient who has been once attacked by this disease is more prone to have it again than one who has never suffered—a marked contrast to the diseases we have been considering, where one attack generally confers immunity."

A CASE OF LABOR AT EIGHT MONTHS: SHOULDER PRESENTATION, VERSION; ADHERENT PLACENTA. CHILD WITH IMPERFORATE RECTUM: OPERATION, RECOVERY.¹

BY GEORGE G. HAYWARD, M.D.

Mrs. T., a young and rather delicate woman, under my care for her second gestation. This she was very anxious about, as the first had terminated unfavorably with a miscarriage at about the fifth month, brought about by fright. She became pregnant for the second time in the latter part of May (catamenia ceasing about the 25th, bringing the expected confinement early in March. Her general health had been very good throughout gestation, and she was able to take a proper amount of exercise, and showed her condition very little.

January 24th she was thrown from a sleigh, and not feeling any injury at the time, insisted upon walking home.

Two days later I was called, and found she had been talking the matter over with her friends, and had become very nervous. Rest was enjoined, and small doses of bromide of sodium given at night. No ill results followed, and she was soon able to be about again.

February 4th, she fell upon the sidewalk, and three days later began flowing slightly; this was increased upon movement. Rest was again enjoined, with careful watching, the flowing soon ceased.

February 11th, about noon she began to feel pains in the lower part of the abdomen, and was at first inclined to attribute them to the bowels. In fact, she had a movement of the bowels at about this time. But as the pains continued growing stronger and more frequent, she began to realize that it was probably something more serious. I was not called until about eight in the evening. Pains were at that time every ten to fifteen minutes, and not severe.

Abdominal and vaginal examination combined, revealed the following state of affairs, namely:

A small child, placed obliquely, with its head in mother's left iliac fossa, breech at fundus to the right, back anterior, membranes intact, os admitting two fingers, right shoulder presenting at the brim. Present-

ing part freely movable between the pains. Fœtal heart 150, regular.

The patient was now placed upon the left side, with the hope of inducing the head to engage. This, however, failed, and at nine, p.m., the condition of things was not materially altered. The os at that time would admit three fingers. The arm and shoulder presenting.

Fearing that the membranes would soon rupture, rendering version more difficult, and that the arm might be forced down, podalic version was at once determined upon (Braxton Hicks method).

Accordingly, the bladder and rectum having been previously emptied, and a vaginal injection of 1-3000 sublimate given, ether was administered, and the patient brought to the edge of the bed, in the left lateral position, thinking that this would rather facilitate the version. The right hand was introduced into the vagina, antiseptic precautions being fully observed. Three and finally four fingers were introduced within the os, and by so doing raising the presenting part somewhat, and passing behind it. The membranes were ruptured as high as possible, and by the combined method both feet were easily secured, and brought well down into the vagina. The dorsal position was then assumed, and uterine contractions soon followed, and with them came the breech and body, (dorsum anterior). No traction was used.

The arms were easily freed in the ordinary manner. External rotation was complete, the occiput came to the arch, and the head quickly descended into the inferior strait. Here some little difficulty was experienced in flexing the head, owing to the rigidity of the perinæum.

The pulsation in the cord up to this time had been good, but it now ceased. Perhaps a minute was lost before extraction by (Smellie's method) could be effected. 9.30 p.m. Preparations for forceps, on the aftercoming head, were made, and had the latter failed, would have been resorted to. The child (female) was asphyxiated. The mucus was expelled from the mouth and nostrils, artificial respiration, blowing in the child's mouth plunging it in hot and cold water alternately, and all the various methods were tried, during the half-hour spent in resuscitating it. The child was then wrapt in a warm blanket and cotton-wool, and placed in a deep basket over the steam-heater. Hot-water bottles were placed at the child's feet and body. And a very even, warm temperature was thus maintained.

On returning to the patient, the placenta was found to be firmly adherent, antiseptic precautions were again taken, and the right hand following the cord was passed up into the uterus, to the attachment of the placenta, which was found to occupy the upper uterine segment a little to the left side. The placenta was carefully detached and brought down at 10.20 p.m.

A vaginal injection 1-3000 sublimate was then given, and two drachms of the fluid extract of ergot, administered. The uterus contracted well, and remained so, and there was very little hæmorrhage. The antiseptic method being used the binder and pad were then applied. A little later the patient was given some warm beef tea, and she soon dosed off into a refreshing sleep. An uninterrupted convalescence followed, the temperature never rising above 98.8° nor the pulse above 80.

The milk appeared on the third day, but was thin and watery, and the child refused it. Nursing was

¹ Read, by invitation, before the Obstetrical Society of Boston, March 12, 1887.

abandoned, and the breasts were supported and rubbed.

February 12th, the day following the birth, an attempt was made to give the child some little nourishment. Breast milk and goat's were both tried, and rejected, nothing was retained. Later in the day, as no urine or meconium had been passed, an examination was made, and the child was found to have an imperforate rectum. The orifice of the anus was present, and through this the probe passed into a cul-de-sac, the depth of three-quarters of an inch.

Examining still farther, the urethra was not to be found. Dr. Porter was called in consultation, and verified my diagnosis; he advised deferring any operative measures until the next day, and quoted a case in his own practice similar to this, where the urethra could not be found, and subsequently showed itself.

On the next day, February 13th, during my visit, the child passed water from the vaginal orifice. The operation was performed by Dr. Porter in the afternoon, the details of which were kindly given by him, and will appear later on. Three large dejections of meconium immediately followed, and three more during the next twelve hours. All food was retained after the operation, and no farther difficulty presented itself. The bowel was dilated occasionally, and for this purpose the ordinary glove-stretcher proved to be a most useful instrument.

TABLE SHOWING THE FOOD.

Date.	Notes.	Teaspoonfuls.	
		Milk.	Water.
Feb. 12	Breast Milk and Goats tried. Will retain no Food.	....	....
13	Operation.	....	....
14	Goats Milk given. All Food Retained.	3	2
15	Food given every one and one-half hours. Few drops of Brandy added.	3	2
16	....	3	2
17	Brandy Omitted. Food every two hours.	2	4
18	All Food Retained.	2	4
19	....	2	4
20	....	2	4
21	....	3	5
22	Food given every two hours.	4	6
23	....	4	6
24	....	4	6
25	....	4	6
26	....	4	6
27	New Goats Milk given.	3	5
28	....	4	6
Mar. 1	....	3	5
2	....	3	5

TABLE SHOWING WEIGHT OF CHILD.

Notes.	Date.	Weight. lb. oz.	Notes.	Date.	Weight. lb. oz.
....	Feb. 11	4 7	....	26	5 4
....	12	....	....	27	5 5
Operation Performed.	13	....	Bowel Dilated.	28	5 6
Bowel Dilated.	11	1 2	....	Mar. 1	5 7
....	15	4 2	Bowel Dilated.	3	5 6
Bowel Dilated.	16	4 4	....	4	5 6
....	17	4 6	....	5	5 7
....	18	4 8	....	6	5 10
Bowel Dilated.	19	1 9	Bowel Dilated.	7	5 13
....	20	1 12	....	8	5 13
....	21	1 13	....	9	5 14
Bowel Dilated.	22	1 15	....	10	5 15
....	23	5	....	11	6 1
O.	24	5 1	....	12	6 1
T.	25	5 2	....	....	....

observe.

Triansky king into consideration the development of the
Qualn's Di¹ in the fetus, it seemed to me more proper to

term this variety imperforate rectum, rather than imperforate anus. This view is supported by Holmes² and others.

"Cases of imperforate rectum may be divided into two classes, namely, those in which no anus exists, (imperforate anus, properly so-called), and those in which there is an anus leading into a cul-de-sac (imperforate rectum in the narrower sense of the term).

"The former class, (imperforate anus), may be again subdivided into (1) Membranous obstruction of the anus. (2) Complete or partial absence of the rectum. (3) Communication of the rectum with the vagina in the female. (4) Communications with the urinary tract in the male. (5) External communication, or fistula.

"The latter class (imperforate rectum) may be subdivided into (1) Membranous obstruction. (2) Deficiency of the upper portion of the rectum.

"We have now to consider the cases of imperforate rectum in the narrower sense of the term, that is, cases in which the external parts are normal, but the anus leads into a small cul-de-sac, the rectum being totally obstructed above.

"The obstruction of the rectum may be due to a simple membrane stretched across the tube of the intestine, which in other respects is natural; or the upper tube (the rectal cul-de-sac, as it is called), may lay by the side of the lower (the anal cul-de-sac), or behind it; or the rectum may be impervious for a greater or less distance, so that the colon may terminate by a dilated extremity above the pelvis. In rare cases the sigmoid flexure itself, and more or less of the rest of the large intestine, may be absent; but as such infants are usually not viable, the cases present little practical interest. Practically, cases of imperforate rectum may be divided, as above, into two classes, that is, (1) Where the upper cul-de-sac is accessible from the lower. (2) Where it is not.

INJURIES TO THE BACK IN RAILROAD ACCIDENTS.¹

BY E. P. GERRY, M.D., JAMACA PLAIN, MASS.

In calling attention to this subject I am well aware that I can only give it an imperfect glance at this time. I shall divide my subject into topics; (1) The liability, in railroad accidents, of injury to the back. (2) The different ways a passenger may be injured. (3) Ways in which a passenger may perhaps prevent such injuries. (4) Some suggestions on transporting the injured. (5) Some of the injuries to the back received at the recent Roslindale accident. (6) Method of handling such patients in bed. (7) Difficulty of giving a correct prognosis as relates to damages.

(1) The liability and almost probability that a person will receive some injury to his back. To those who know and realize the conditions existing in any railroad accident, and especially that at Roslindale, the wonder is that more well-marked cases of injuries to the back have not presented themselves. The probability of such injuries is well known to the community at large, as are also the serious and sometimes permanent injuries received. The laity have become so impressed with this knowledge that the very heavy

¹ Read before the Norfolk District Medical Society, April 26, 1887.

² Holmes's Surgery, pp. 810 and 815.

damages awarded by juries for such injuries have made the expression "railroad spine" almost classical in our language as well as the *bête noir* of the companies themselves. To the injured, any injuries about back, hips or sides, render them fearful that something serious may develop even after years have elapsed. This possibility also opens a large field for the unscrupulous. From my knowledge of the persons injured near Roslindale, I should say that a large proportion received some injuries about the back, most of them probably temporary.

(2) That there are many ways in which a person may be injured, one may well imagine, when he thinks of what takes place, and in how many directions a person may be thrown, and with how many things he may come in contact. He may be thrown the length of the car, perhaps violently upon the floor or against the sides or the top, striking his back against the seats, or perhaps be pinned down by the *débris*. Two of my patients were sitting four seats from the front door, of course facing it. They think they jumped up when the alarm was given. When they came to themselves they found that they were up against the door facing the rear. Another, who was sitting next the rear door, on feeling the jar, rushed out upon the platform. He found his car tipping and saw that the smoking-car, which was behind, was coming upon him. He jumped and luckily escaped the smoker which came down near where he had fallen. His injuries were a comminuted fracture of the tibia and fibula, and a fracture of the astragalus, also a severe injury to the muscles of the lower back causing them to bunch up, resembling a Bologna sausage. The tendency is to jump up, as did another patient, who quickly crouched down in the aisle when he saw the top of the car sailing toward his head.

(3) It is very difficult to instruct a person what he had better do in case of a railroad accident. It is, however, highly important that some proper suggestions be given. It might be well to have an emergency lecture prepared in the most careful manner, and brought to the notice of the travelling public, so that the injuries received shall be reduced to a minimum. One cannot guard against missiles in the shape of flying beams, stoves and seats, but there should be certain simple rules impressed upon the minds of all, which they will act upon almost instinctively. It appears reasonable that if one can keep his place by clinging to his seat, he has the best chance, if nothing strikes him. I know of a case where a passenger was riding in the front part of a smoker. He was seated with his back square against the seat. He received no injury whatever from a rear collision that shook the passengers up and sprained one's back so that the patient laid abed two weeks. It is evident a square seat with the feet upon the rail is the best position to be in for an ordinary accident. One of my patients clung to her seat and although her car was carried into the street, she escaped with very little jarring and shock. The train hands usually have a better chance to see what is coming and may jump, but this is not considered good policy since the use of the Miller Patent platform and Westinghouse air-brake. An old rule among railroad men runs, "Don't jump till you can see the size of the gravel."

Perhaps it might be well to suggest to railroad authorities that the ordinary passenger coach should be provided with poles overhead similar to those seen in

some horse-cars, and such as are, or have been, in use in fast mail-trains, to which the clerks jump and catch hold, thus clearing themselves from the floor in case of derailment, as it is claimed that the trucks usually break up the floor; and then the passenger's attention should be called to the manner of using such poles. The clothing-racks should also be made strong enough to sustain a passenger's weight in case he wishes to use them for a similar purpose. The Roslindale disaster seems to demonstrate that the passengers fared best in the newer and stronger cars, as they usually do in the well-built Pullman. If this is true, railroad authorities should be constantly urged to build their cars as strong as possible consistent with other requirements.

(4) Next, regarding the transportation of the wounded, especially those with injured backs; I wish the good people in the vicinity of an accident, who grab their brandy bottles and rush to the scene, would also bring with them their strongest sheets. A patient could be carried on a sheet by men at the four corners or folded lengthwise and carried by two. It would be well to have the little seat at the end of the car fitted with a locker, containing among other things, narrow sheets, which in that case had better be of drilling or some strong material, and furnished with loops along the sides into which the poles before suggested could be run and thus an excellent stretcher made. Lay the wounded with their heads the highest, and keep them in that position all the time. When two men lift a wounded one, let the taller man be at the head, likewise when using a stretcher. Break step in marching with a wounded person on a stretcher. The cushions make temporary beds for the wounded, and the hair from the seat backs will do to pad up under injured parts.

(5) In speaking of some of the injuries to the back received, I shall include injuries to shoulders and those parts of the sides that are closely connected with the large muscles of the back. Although six of my eight patients received some injury to back or sides, it is confidently expected that all but two, and perhaps all but one, will completely recover. That there was considerable injury to the muscles in all the cases may be seen in the fact that although six weeks have elapsed, they all, with one or two exceptions, still are lame, some of them quite so, notwithstanding that the greatest care has been taken to keep them quiet. Luckily only one received injuries that resulted in serious and characteristic symptoms. Most of them were strains and contusions, somewhat severe, the result of being thrown violently several feet. They were in some cases not appreciated at first; one patient walked home, and then started for the doctor to visit his sisters, before he noticed any trouble himself. Some while they were in bed hardly realized that their back and sides were lame. Sitting up and walking about under careful supervision has in some cases made them much lamer. Some of them for the first ten days complained of chilliness and faintness, which did not appear to result from shock, but seemed to come from the injury to the back, not an unusual occurrence apparently in such cases. It was early ascertained in the patient who has undoubted serious injury that such was the case, although when first seen he was suffering from concussion of the brain, with snoring respiration, unconsciousness, etc. Some five or six of the vertebrae were injured, some of them

probably fractured about the cervico-dorsal portion, which is mentioned as one of the regions most frequently the seat of injury, there being two other portions equally liable, namely, the dorso-lumbar and the atlo-axial. The ribs attached to these vertebrae appeared dislocated, there was swelling and tenderness at this spot. Other symptoms were retention of urine, constipation and involuntary priapism when bed-clothes were raised. There was paraplegia, with loss of feeling in both legs, which has since continued, although there appears to be a slight return of feeling in one leg within a few days. In addition, there was a cystitis which was so active that the bladder had to be washed out twice a day for over a week. After the cystitis became better, the retention was followed by incontinence, which still persists. At the very first, there were bright-colored spots on both nates and lower back, which it was difficult to account for. It was thought they were bruises or burns, and they became dark-colored in a week or two, since then there have appeared on both legs similar spots with well-defined edges, whose centres are filled with red streaks. They are supposed to come from some defect of nervous influence due to some lesion of the spinal cord. There has been considerable pain in the back, a sensation of twitching of the muscles, and a feeling as if scissors were opening and shutting.

(6) One of the most important matters in the care of such a patient, is the careful handling which he requires and which in this case he has received from his nurse; who gives the following directions for lifting a person with an injured back: "Place a pillow under the shoulders and a draw or folded sheet under the back and hips, and if there is need a piece of rubber sheeting pinned by safety pins to the bed under the draw-sheet. To move patient to his right side cross the left foot over the right and the left arm across the chest: stand on the right side of the bed and pull the opposite ends of the draw-sheet and pillow slowly toward you, prop the back with pillows. To move him up on the pillows have assistance and lift with the draw-sheet and pillow; if alone, with the hands clasped under the shoulders. To move from one bed to another, place the empty bed lengthwise of the one occupied, and have four persons to lift at the four corners of the sheet, and the draw-sheet. Carry back in the same manner, and remove the soiled sheets which have been used in carrying him by turning him on his side and rolling the sheet lengthwise close to the body and remove by turning him on his back again. To make a good bed, place a comforter on the mattress, then a rubber sheet, then a bolster. Keep in place by pinning the under sheet on all sides to the mattress; over the middle of the bottom sheet place a piece of rubber sheeting, five feet long by three feet wide and over that the draw-sheet, as this is more easily changed than the under-sheet. By pinning securely to the bed with safety-pins wrinkles may be avoided."

(7) In speaking of damages, and the difficult position in which a physician is often placed in his endeavor to do his duty to all concerned, I am well aware of how perplexing a question I am bringing forward. Such questions have troubled many an honest surgeon, and there is little doubt but many a one's judgment in such matters has been questioned by some of his brethren in the profession. It would have been amusing, if it had not been fatiguing, to have answered the multitude of questions which have been asked by the friends

of patients relating to this point: many of them were of such a nature that in order not to be compromising to a physician's judgment, great deliberation would be necessary. In such an accident as that of the Buzzey bridge, it was especially difficult to give answers on account of the large varieties of injuries received. We would call especial attention, however, in this connection, to injuries of the back, for they are the ones that are particularly puzzling. The results of other injuries can usually be correctly prognosticated, but those of the back often render it almost impossible to form a correct judgment. This is often due to the fact that a physician cannot tell just what certain symptoms will lead to, and because he knows that what appears to be the most simple injury may in time develop into the most disastrous condition, in some cases many years after the original injury. It is this that makes railroad companies so fearful of what may develop from accidents, and the community as well is on the *qui vive*, for they feel that an appeal to the courts is often their surest way of gaining the largest damages. It is just here that the value of an honest and educated physician is clearly seen. There is a tendency among many to extract all they can from corporations who have injured them, and we believe that they should be paid every dollar that it is worth, as far as this is possible. It is known that they are often very successful in this, not only in this country but in England, for Mr. Bryant, of Guy's Hospital, told the writer that heavy damages were almost a foregone conclusion after railroad accidents, even if medical men almost demonstrated malingering. I will mention two kinds of malingerers, those who carry it on with consummate skill for the purpose of getting as heavy damages as possible, and those who from nervous shock, and especially where the menstrual function is disturbed, or from the uncertainty attending settlement which permeates the homes of such patients even where they do not mean to allow it to influence them. There has been malingering, it is said, in persons who claimed damages for accidents which never happened in connection with the corporations from which such damages are claimed. It often requires the greatest wisdom to detect such imposters. Injuries to the back offer a wide field from the known uncertainty of their results. "Holmes' Surgery" says "that a broken back is known generally to be one of the gravest of accidents. The location of the injury must be considered, remembering that if it be below the level of the second lumbar vertebra, it may be expected that the patient, although the displacement is great, will retain motor power and sensation in his lower extremities and will recover. Should the fracture be through either of the vertebrae in which the terminal portion of the cord, surrounded by the roots of the nerves, is situated, the paraplegia may be partial; although complete the patient may have some hope of recovery. Fractures in the dorsal region are always unfavorable, but more so the higher the fracture to correspond with increased number of intercostal muscles thrown out of action in breathing; in fracture of cervical vertebrae, the surgeon counts only by days how long a patient will live." Such being the result of fractures to the vertebrae the surgeon will be called upon to determine if certain injuries will produce such symptoms as may be expected from hidden fracture or some injury which will not reveal itself for years. All must remember that the honest surgeon may be called

upon to act as a referee between the injured and the corporation at fault; that he will decide according to his best judgment what opinion he will give; that he belongs to neither party, but will see to it as far as his opinion is asked that the injured shall be paid according to their injuries; that he will not be a party to anything but the strictest honesty, and will conduct the business as he would his own, according to the strictest business principles.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

PRIMARY NEPHRITIS IN INFANCY.¹

THE importance of examining the urine in the early months of life in cases where, although the exact diagnosis of the organ affected is somewhat obscure, yet the group of symptoms representing the disease point elsewhere, rather than to the kidney, and the fact that very little is known about the clinical aspect of renal diseases in infants, in comparison with diseases of other organs, makes the investigations on this subject, by Dr. L. E. Holt, of more than ordinary interest.

Dr. Holt reports twenty-three cases of primary nephritis under the age of two years, and most of them under ten months. Of these, the diagnosis in nineteen cases was without much doubt correct, and in the remaining four probable. In all of these nineteen cases there seemed to be satisfactory evidence that they were independent of infectious diseases, and this opinion takes into consideration, also, the fact that scarlatinal nephritis not infrequently shows itself when the primary disease has been overlooked. Diphtheria, as a primary cause, was also carefully considered in each case. Eleven cases out of the nineteen died, and eight recovered. Autopsies were held in ten of the eleven fatal cases. In the single fatal case without an autopsy, the diagnosis rested principally on scanty urine, with an abundance of casts, a large amount of albumen, dropsy, and death in a comatose condition. In the eight cases of recovery, the diagnosis was made chiefly from the examination of the urine.

It is not to be supposed that the mortality here given of eleven cases out of nineteen represents the real death-rate from these forms of nephritis: the truth, no doubt, is that a great proportion of the milder cases escape notice altogether; and it is a significant fact, also, that in six of the fatal cases the diagnosis was not made until after the autopsy, and that, in most of these cases, the nervous symptoms had been the engrossing ones during life. This fact alone shows how easy it is for even careful diagnosticians to overlook cases of this class, and, no doubt, a large number of them pass under other names, even when fatal, unless autopsies are made.

The symptoms of acute primary nephritis, as a rule, are misleading, and tend to attract the attention to the brain or digestive system, rather than to the kidneys, the diagnosis only being made possible by repeated examinations of the urine, it being fair to say that the urine is seldom examined in infants under ten months of age, on account of the difficulty of obtaining a sufficient amount for analysis, and the possibility, also, of one specimen being comparatively free from abnormal constituents, while a second might show them to be in such abundance as to make the diagnosis quite clearly.

The catheter is, of course, the most reliable means for obtaining the urine for diagnostic purposes, and importance should not be attached to the presence of a few blood-globules, as these will almost always be found.

A study of the cases reported by different writers brings out the fact that acute nephritis in infancy may declare itself by unusual symptoms, and by an absence of symptoms which are usually considered to point towards renal disease. Thus, according to Dr. Holt, dropsy was not found to be a prominent symptom: it was noted in only five cases, and in one of these was not present till late in the disease. The quantity of urine passed is a symptom of which much is made in adult cases, and, when taken in connection with the specific gravity, it is very valuable for diagnosis. In infants, the difficulty in collecting the entire amount for the twenty-four hours' urine are very great, and it is especially significant that in only seven cases it is stated that the urine was so scanty as to attract attention. In five cases, the disease was ushered in by gastro-intestinal symptoms. Vomiting was present with more or less frequency throughout the disease in four cases. In six cases, some looseness of the bowels existed. Fever is mentioned in ten cases: in two cases the pyrexia was remarkably great, and in five cases it was high for a period varying from three days to four weeks. The pulse presented nothing of special interest. It was usually rapid with the high temperature, and weak only towards the close. The respiration was peculiar in five cases: in one there was very marked irregularity; in two it was very rapid, independently of high fever or pulmonary symptoms; in two more there was decided dyspnoea: these symptoms were probably uræmic. Nervous symptoms were prominent in almost every case; in several they engrossed the attention of the attendants. Convulsions were present in five cases, usually at the onset, or, more correctly, this was the first symptom noticed. This emphasizes the importance of the examination of the urine in every case of convulsions in children. An extreme degree of restlessness and irritability was seen in several other cases where convulsions seemed imminent, but did not occur. In some, high fever accompanied these symptoms, but in others they were independent of this influence. In three cases marked drowsiness existed, but in only one case was there complete coma.

The other nervous symptoms present were delirium, rigidity of the muscles of the neck, and irregular and contracted pupils. In two cases there was, from the very beginning, marked prostration, without variation in temperature or other striking symptoms; and, in one case, this, with the very rapid respiration, were the really only positive symptoms, and yet the case proved fatal in three days. The quantity of urine obtained for examination was nearly always so small, that but few observations upon the specific gravity could be made. Casts in abundance were present in nine cases. In three of these cases the urine was taken from the bladder *post-mortem*, a fact, which however, does not invalidate the significance of the casts. Casts were found in every instance, except one, in which a microscopical examination was stated to have been made, and in this case it was examined but once; but so small a quantity of urine was obtained, that the result could hardly be considered conclusive that they were not present. Albumen was present in large amount in thirteen cases: in four of these the urine was taken from the bladder *post-mortem*.

¹ Archiv. of Pediatrics, January, 1887.

[Delafield, from a large number of observations, has ceased to attach any importance to a small amount of post-mortem albumen, supposing that it comes from the epithelium of the bladder. The presence of casts, however, is as positive evidence in post-mortem urine as in that passed during life, and the same may be said of albumen, when present in large quantities.]

The following cases were of especial interest, and were patients of Dr. Holt's:

CASE I. Male, seven months old. Attack sudden, without apparent cause.

January 16, 1886. High fever and marked restlessness. Tubercular history on father's side. Temperature, at noon, 104° F., pulse 160, respirations 40. No evidence of disease in chest or elsewhere. Antipyrine, six grains in three doses, given within an hour. 5 p. m. Quiet and sleeping; temperature 101°. 9 p. m. Temperature 104.5°, and remained high, excepting when temporarily reduced by antipyrine, until death. The infant would strike his head, tear at his mouth, and throw himself violently about. The bowels were rather loose; no albumen found in urine. General appearance serious, but took breast well until June 20th. After that not so well, and sometimes not at all.

January 23d. For the first time, fine râles were heard on both sides of the chest, but no dulness or difficulty in breathing, the respirations being only 40. During the next two days the infant became drowsy, and the general symptoms indicated prostration. He became very pale, with, at times, cyanosis of face. Pulse rapid and thready; peripheral circulation poor. A marked cough now first appeared, January 25th.

On the thirteenth day, January 29th, decided cerebral symptoms were present: The abdomen was retracted, head thrown back, and neck rigid; pupils small, and responding sluggishly to light; respirations shallow, and, at times, irregular; drowsiness almost continuous: râles in lungs more abundant, but no evidence of consolidation: no vomiting, and bowels still loose. In the next four or five days, there were almost continuous automatic movements of the hands and feet.

February 4th. There was diminished resonance in both backs, and, for the first time, apex outside of the nipple, and systolic murmur loudest at base of heart. Urine, up to this time, passed freely. Now less free, with a specific gravity of 1013. Albumen in large amount; granular, hyaline, and epithelial casts numerous; pus and blood-cells. Died, comatose, February 7th.

The autopsy revealed nothing of primary pathological importance in the brain or its membranes (tubercle was carefully looked for), nor in the heart, liver, or spleen. There was broncho-pneumonia in the lungs, corresponding to the physical signs which developed four days before death, and which, evidently, was not the cause of the general symptoms which occurred early in, and during the sickness. The kidneys were nearly twice their normal size. Their weight, together, two and three-quarter ounces; consistency succulent. Capsule non-adherent; surface closely studded with yellowish masses, slightly raised above the surface, from a pin's head to a pea in size. A few small hemorrhages beneath the capsule. Between the yellow nodules the surface was of a grayish-white color, and there was general cloudy swelling. On section, the yellowish patches were found scattered through the organ, in some places following the line of the tubes, in others forming irregular masses in the cortex

and the columns of Bertini. The largest were a fourth of an inch in diameter, situated at the apex of the pyramids, and two or three contained creamy pus. Striations of urates in some of the tubes, and a few hemorrhagic spots completed the gross changes present. There was slight congestion of the pelvis, but no other abnormal appearances. The ureters, bladder, and testicles were perfectly healthy. Dr. Francis Delafield examined the specimen microscopically, and reported that it seemed to present the lesions of an acute interstitial nephritis, with the production of pus. The pus-cells were infiltrated in the stroma between the tubes, in small numbers in some places, in large numbers in others, but no abscesses, properly speaking, were seen. There were, also, changes in the tubes, necrosis of the epithelium, and cast matter. No bacteria were found.

CASE II. Male, seven months old. Healthy parents. Taken suddenly ill on Saturday evening, and died on the following Tuesday morning. The symptoms were crying, restlessness. Respirations sixty per minute; temperature never rose above 99° F.; pulse not especially frequent. Vomiting present in the beginning, but not severe, and did not continue; bowels regular. No cerebral symptoms, no paralysis, no convulsions; no physical signs of disease in the heart, lungs, or abdomen. The urine was passed moderately freely, and was examined once, with negative results. There were no positive symptoms, except a steadily-increasing weakness and rapid respirations. It died quietly and easily. The autopsy showed the organs to be anemic, but otherwise normal, with the exception of the kidneys, which, microscopically, showed marked congestion, and, under the microscope, well-marked parenchymatous nephritis, with crystals of urates in the tubes and pelvis. The urine found in the bladder, on examination, contained so much albumen as almost to solidify on boiling, and numerous casts were seen under the microscope. It is worthy of mention that, during the last months of the infant's life, transient attacks of marked pallor were noticed while it was sleeping.

A third case, of a girl, three and one-half months old, was diagnosed as acute nephritis, and recovered. The history of the case is of a good deal of interest, and seems worthy of being reported: The infant was admitted to the New York Infant Asylum, August 17th, with pertussis, for which a two per cent. solution of resorcin was applied by a swab to the throat, five times a day.

September 23d. She was noticed to be very drowsy, sleeping much of the time, and the mother reported the child's urine to be green in color.

An examination, on September 25th, showed the urine to be olive-green, and give a decided reaction for albumen. The first marked elevation of temperature was noticed at this date (103° F.). The infant continued in the same dull, stupid condition, taking the breast poorly. The discharges were a little greenish, but not frequent, and there was no vomiting.

September 27th. Six ounces of urine were obtained, which contained a large amount of albumen. Hyaline and epithelial casts quite abundant; leucocytes and many uric-acid crystals; reaction strongly acid. The resorcin was discontinued, as being a possible factor in the disease, although, in fifteen or twenty other cases treated in this way, urine of this character had not been observed.

September 29th. Temperature rising irregularly to 101° or 102°, pulse rapid and weak, respiration, at

times, irregular, and always rapid. No enlargement of liver or spleen; albumen and uric acid as before, but no casts. There was very feeble breathing over the left upper lobe, and high-pitched, with a few râles. A diagnosis of pulmonary collapse was made, and stimulants, oxygen, and acetate of potash were given. The urine was thus kept alkaline, and the albumen became less, and the uric acid disappeared, the temperature also rarely reaching 101° F. Still, the pulse and respiration were frequently irregular, the abdomen was tympanitic, and the head was drawn back much of the time.

October 9th. The albumen was reduced to a mere trace, the nervous symptoms subsided, and the case went on to steady convalescence.

Dr. Holt states that chronic nephritis scarcely exists in infancy, but that the acute variety, especially in its lighter forms, is not rare, so that the urine should be examined in every case of convulsions, unusual prostration occurring in the course of other diseases, persistent vomiting, without apparent cause, in the stomach, rapid or irregular respiration, without any evidence of pulmonary disease, or sudden high temperature, without evidence of local disease.

INTERNAL SUPPURATION, WITHOUT FEVER.²

Dr. West reports a number of rare cases illustrating this point, and among them the following ones, occurring in children :

(1) *Suppurative Pericarditis*. Boy, aged sixteen. Pericardium twice tapped and laid open; complete recovery. Temperature, neither before or after the operation, was raised above the normal.

(2) *Suppurative Peritonitis*. Girl, aged ten years. Case very acute; abdomen opened, and foetid pus evacuated. Patient did not rally after operation, and the autopsy showed a primary peritonitis. Temperature not elevated throughout the disease.

(3) *Empyema*. Boy, thirteen years old. Case tapped twice, and twenty-four ounces removed; afterwards, ten ounces. The chest opened freely; recovery. No elevation of temperature at any time. In the last case, the pus formed very rapidly. Collapse was absent in all the cases.

SCARLET FEVER.³

Bokai⁴ has discussed the various forms of inflammation of the joints occurring during the course of scarlet fever. He divides them into two classes, serous and purulent. In serous inflammation there may be either an acute or sub-acute and chronic course ending in white swelling of the joint, and in two cases the formation of pus was noticed. Two cases of purulent inflammation were noticed and were considered as symptomatic of pyæmia.

Julius Pollock⁵ has published a case presenting unusual symptoms. Twenty days after the beginning of an attack of scarlet fever, there appeared swelling of the cervical glands and over the surface of the body a rash like a non-scaly psoriasis, which ultimately became dark in color. Acute cystitis supervened with swelling of the whole of the left leg below the knee, due to thrombosis of the femoral vein. The patient recovered completely.

Jabowitsch⁶ has reviewed the present state of our knowledge as regards scarlatinal uræmia in children. Uræmic symptoms in his cases began either with a marked diminution in the amount of urine excreted, or with amblyopia and headache.

CEREBRO-SPINAL MENINGITIS.⁷

Under the name of cerebro-spinal meningitis, Henoch describes a particular form of simple non-tuberculous meningitis which is of more frequent occurrence in childhood than is usually admitted. Its study is of the greatest importance from a diagnostic point of view, and its characteristic consists not only in its long duration but also in its alternate periods of improvement and deterioration, which leave the physician in suspense for a long time. The usual course of the disease is as follows: children who have been in apparent health are suddenly seized with high fever, which continues several days with morning remissions, with intense headache, vomiting, pain along the nucha and in rare cases contractures of the muscles of the extremities and cutaneous hyperæsthesia. At the end of about two weeks the fever ceases, the other symptoms disappear and everything seems to go on favorably with the exception that the pain in the nucha continues and indicates that the trouble still persists. After an interval of from one to several days, the fever reappears, the general condition becomes very bad and the pains in the head and nucha resume their original intensity. These remissions and exacerbations may be repeated several times in the course of the same week, leaving the physician in doubt as to the accuracy of his diagnosis. Tuberculous meningitis is taken into consideration, but after eight or ten weeks or even longer, the patient finally recovers. The true nature of the disease is not yet fully known. Treatment has no influence on its progress, and this point is particularly insisted upon by Henoch, who has never seen a case terminate fatally. From the standpoint of pathological anatomy it would appear from the symptoms that the disease was one which involved the meninges of the brain, and, to a lesser degree, those of the spinal cord. The etiology of these cases is also very obscure, and their relation to epidemic cerebro-spinal meningitis not known. The latter disease may present the same symptoms, but it is believed that it would not be possible to consider all the cases, which present the phenomena described, as cases of infectious cerebro-spinal meningitis. The disease does not always follow this slow course. In connection with this paper, the author describes the "symptom of Kernig," which he has observed in several patients with meningitis; it consists in a contracture of the flexor muscles of the knee-joint while the thigh is flexed upon the pelvis.

PERIOD OF INFECTION IN CONTAGIOUS DISEASES.⁸

In connection with the investigations made by the British Medical Association, Ransome has reported the following data in a paper on this subject:

Measles was shown to be infectious in five cases before the appearance of the rash; in two cases at least two days before and in one three days before; in one also four days before the rash came out. Scarlet fever was communicated in four cases from twelve to twenty-four hours before the beginning of the rash.

² British Medical Journal, April 2, 1887. Archiv. Pediat., April, 1887.

³ London Medical Record, March, 1887.

⁴ Pester Med. Chir., Presse, November 14, 1885.

⁵ Lancet, March 6, 1886.

⁶ Archiv. für Kinderheilk., Band. viii, Heft. 2.

⁷ Charité Annalen, xi, 1886; Archiv. Pediat., April, 1887.

⁸ British Med. Jour., January 29, 1887.

Mumps was conveyed in one case one day before the swelling of the gland appeared. Mumps was also found to be communicated by the patient two weeks after cessation of the fever, or three in all: measles thirty-one days after the invasion; scarlet fever four to seven weeks, longer in case of complication such as otitis, suppurating gland, etc. Diphtheria in one case was seen to be directly infectious after six weeks.

INCUBATION AND TRANSMISSION OF EPIDEMIC PAROTITIS.⁹

Three cases are reported by Dr. Roth¹⁰ which aid in establishing the time of incubation and the manner of transmission of mumps: the period of incubation in all three cases was eighteen days. The first case was caused by actual contact, in the second the infectious material was apparently brought by the physician himself from a patient in the hospital to another patient in his home. In the third case the patient used the same bedding which had previously been used by a patient with parotitis.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 11, 1887, the President, Dr. O. F. WADSWORTH, in the chair.

Dr. JAMES B. AYER read a paper having for its title:

THIRD ATTACK OF SCARLET FEVER, WITH REMARKS ON THE RECURRENCE OF ERUPTIVE DISEASES.¹

Dr. C. E. STEDMAN asked if other inmates of the household were infected from this case, to which question Dr. Ayer replied that there were no unprotected members of the household. Dr. Stedman mentioned some patients who had an ill-defined eruption, resembling scarlet fever, and slight sore throat, there being a child in the neighborhood with scarlet fever. He could not feel sure about these cases, but had isolated them, and they might be second attacks. Every one knows that measles and röteln recur. He had known a baby to infect all the other children in a family with measles, and to have a second attack as the others were getting well.

Dr. C. P. PUTNAM said that he had never happened to see a second attack of any one of the eruptive diseases. He, however, not only believes that they do recur, but he knows of a case, not his own, in which there had been a third attack of scarlet fever, with no possibility of question. He had, that day, seen a second attack of mumps. Although a second attack of whooping-cough is rare, he had met with a case of it in an adult, who was said to have had the disease as a child. The chief question of interest in this connection is not: why does the disease ever recur, but rather: why does it not always do so upon exposure. The first man who made up his mind that one attack commonly protects against another, was certainly a greater observer than he who first decided that second

attacks sometimes take place. We do not know more than the fact that one attack of certain diseases commonly, but not always, protects against a second. It is possible that the first attack commonly uses up all of the material in the system proper for the nutrition of a particular germ, but that sometimes some of it escapes.

Dr. T. M. ROTCH remarked that, although the recurrence of scarlet fever is known to take place, yet this case of Dr. Ayer's is of unusual interest and rarity. He also said that while allowing that there was a distinct disease, röteln, he believed that the diagnosis of röteln was often made on insufficient evidence, owing to the symptomatology of the disease not yet having been clearly settled; different physicians enumerating different symptoms as diagnostic of röteln, where, on careful investigation, it seemed to him that these very symptoms had nothing to do with the disease röteln, but were simply occurring accidentally in the course of the especial case.

Dr. RUSSELL STURGIS mentioned cases reported at Philadelphia two years ago as röteln, in which there had been sore throat at night, without prodromal symptoms, and the next day a measles-like eruption. This was during an epidemic of measles.

Dr. JAMES AYER mentioned a case which he had supposed to be one of röteln, the symptoms being unlike those of measles, although the eruption rather resembled it, the absence of fever being especially noted. This case occurred at a time when other men were reporting cases of röteln. He believes that the incubation period of röteln is longer than that of either scarlet fever or measles.

Dr. PUTNAM said that the final test is the contagion of measles or scarlet fever from these attacks of röteln, for it is well known that the contagion from mild cases may give rise to severe ones. The diagnosis may be in doubt at first, yet he has had but two cases in which he could not make it at some stage, and he has never known röteln to give rise to either of the other diseases. He had seen cases in which the eruption was so like that of scarlet fever, that, judging from the eruption alone, he would not have been able to say that the child was not sick with scarlet fever; but there was no perceptible sore throat, and the rash disappeared on the second day, to be followed, after a period of exactly fourteen days, by an outbreak in the family of what was clearly röteln. The typical eruption of röteln has larger spots than that of measles. They are redder, flatter, and do not begin so decidedly on the face. If the eruption lasts over sixty hours, or better, say forty-eight hours, he should hesitate to call the case röteln. The incubation period is precisely two weeks.

Dr. FRANCIS MINOT said that he was surprised that no one had called attention to a glandular swelling in the neck behind the ear as occurring very often in röteln.

Dr. J. H. MCCOLLON said in reply to a question, that he had seen three unquestionable cases of recurrent small-pox although second attacks are doubtless comparatively rare. One was an intelligent man of about forty-five; who twenty-five years before had had small-pox as was shown by his description of it, and also by his being marked. One was a woman of sixty who was not reported until the disease was well advanced. When she recovered, however, it was easy to distinguish between the old

¹ See page 465 of the Journal.

⁹ Archiv. Pediat., April, 1887.

¹⁰ Münch. Med. Wocher, 1886, No. 20.

pale pits and the new red ones. The third was a man who had had small-pox in infancy and who had a second attack a short time ago. It is reported in Aitken's practice that a certain physician always had fever and the characteristic eruption every time that he attended a case of small-pox.

Dr. McCollom expressed surprise at the remark of Thomas in "Ziemssen's Cyclopaedia," that he had never seen an adult with varicella, and also at the remark by the same author, that the constitutional disturbance in most cases of this disease is comparatively slight. He said that he himself had seen a great number of cases of varicella in adults; and also that he had never seen a case of varicella, where there was not a greater or less amount of constitutional disturbance. In making the differential diagnosis we should never be guided by the severity of constitutional symptoms for a mild case of small-pox may be ushered in by very little constitutional disturbance, and, on the other hand, we may have a case of varicella in which there is headache, pain in the back, and a certain amount of nausea, which the authorities have taught us to believe is present only in cases of small-pox. The appearance of the eruption is the only thing upon which we can make a positive diagnosis.

He had seen four or five cases of measles in which the disease had recurred in two or three years. One was a child of two years, who had it very severely; and two years later had it moderately, this time communicating it to his brother and sister. He had never himself seen a second attack of scarlet fever, but thinks that there can be no doubt about Dr. Ayer's case, and believes that such cases happen more often than is generally supposed.

He had no doubt but that these diseases are more likely to recur during an epidemic.

Dr. STEDMAN spoke of the eruptive diseases of childhood as being milder in his experience than during the earlier years of his practice. Before 1870 he had met with greater mortality. He had then known of schools being closed because of the prevalence of these diseases. It is possible that in time, as the soil for them becomes less fresh, that they will be generally milder.

Dr. F. C. SHATTUCK said that ten years ago, when he had a dispensary district he saw a sufficient number of bad cases of scarlet fever such as now he did not encounter in a different class of persons. He then suggested that there are some reasons for thinking that this, in common with other infectious diseases which have existed for a long time, may have a gradual tendency to run out. There seems to be no doubt that syphilis is a much milder disease than it was formerly; it certainly does not appear in the virulent form which history tells us it assumed shortly after the discovery of America. The ravages which syphilis produced after its introduction into the Sandwich Islands, and the thirty thousand deaths which measles caused in the Fiji Islands not many years ago, suggest that civilized people, so called, gradually acquire a relative immunity against infectious diseases.

It does not seem far-fetched to suppose that the change in the organism, whatever it may be, which renders an individual insusceptible to a second attack of some particular disease, may, in the course of time, be transmitted in a measure to descendants, and result in a modified form of the disease. There can be no question that the treatment of infectious, and, indeed,

of all diseases, is, on the whole, much more rational than it was; and this factor must have its due weight.

Dr. JAMES AYER remembered that in making the diagnosis of chicken-pox, he had been in the habit of attaching great importance to the shape of the vesicle; which is often triangular or irregularly square, especially upon the back of the neck. He would like to have Dr. McCollom's opinion as to this point.

Dr. MCCOLLOM said that he thought it a valuable diagnostic mark, and he also alluded to the great difference in the size of vesicles in a given case of chicken-pox, and called attention to the fact that the vesicle of varicella can be very easily ruptured, and when ruptured, empties itself completely, or in other words, the vesicle of varicella is unilocular while that of small-pox is multilocular. One should bear in mind that in variola the deeper tissues of the skin, and in varicella, the more superficial are involved.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MARCH 12, 1887, the President, Dr. WILLIAM L. RICHARDSON, in the chair.

Dr. G. G. HAYWARD reported, by invitation,

A CASE OF LABOR AT EIGHT MONTHS: SHOULDER PRESENTATION, VERSION: ADHERENT PLACENTA. CHILD WITH IMPERFORATE RECTUM: OPERATION, RECOVERY.¹

Dr. C. B. PORTER saw the infant first twenty-one hours after its birth; at that time no urine and no fæces had been passed. The most careful examination with small flexible bougies failed to find the meatus. The anal orifice was present, but on passing a large probe was found to terminate about one inch above the orifice in a cul-de-sac. The bearing-down efforts of the child were very feeble, and operative measures were advised to be postponed for twenty-four hours, in the hope that the rectal cul-de-sac would become more prominent, and the bearing-down efforts more vigorous. The wisdom of this course was fully demonstrated on the following day when a second examination was made. In the meantime the child had passed urine. Stretching the anal cul-de-sac and watching carefully it was seen that there was at varying intervals a rather uncertain bulging which seemed as though it might be the rectal cul-de-sac pressed down by the straining of the child.

Operation: A sharp-pointed, small, grooved needle was pushed from the apex of the anal cul-de-sac upwards as near as possible towards the centre of the prominence of the superior cul-de-sac. No fluid followed, but the point of the needle moved about as though in a cavity. A pair of sharp-pointed scissors was run along the groove of the needle and the blades opened, when alongside of them the meconium very thick and tarry followed. The child had three discharges within a short time, each stimulated by the introduction of the little finger. Dr. Porter saw the child twice after the operation, and each time dilated the passage by the introduction of the little finger: but there was no marked tendency to contraction. The vomiting which had persisted up to the time of the operation was completely relieved.

¹ See page 467 of this number of the Journal.

The points tending to the successful issue in this case, which was unfavorable from the fact that it was an eight months' child, were:

First: The delay for expulsive efforts to become more vigorous, to give an indication as to the location of the rectal pouch.

Second: The use of a small, sharp, grooved needle, instead of a trocar or knife, which would penetrate more easily a pouch which was not fully distended and not forced downwards by violent, expulsive efforts as is sometimes the case.

Third: The use of sharp-pointed scissors instead of the knife, as thereby not a drop of blood was lost and the size of the rent in the upper cul-de-sac was made to exactly correspond with the one in the lower, which could not have been as accurately affected by the knife.

There is always more or less danger of subsequent cicatricial contraction; but the amount cannot be foretold, and in this case there has been so little that it is not probable that any trouble will result therefrom.

DR. STRONG asked if colotomy could not be performed as a temporary expedient to relieve the child, and whether later the blind intestinal end would not pouch down, so as to be reached *per anum*.

DR. PORTER replied, that inguinal colotomy might be performed for relief of the symptom of obstruction, but not with the hope that the rectal cul-de-sac would later become more prominent. But with an opening in the groin it might be possible to introduce a sound or some stiff instrument through the opening downwards into the rectal pouch and make it prominent in the region of the anal cul-de-sac, and thereby enable the surgeon to complete the artificial anus at that point and subsequently close the inguinal one.

DR. SINCLAIR inquired if imperforate rectum was found more frequently in girls than in boys.

DR. PORTER replied that he recalled at the moment only three cases in which he positively remembered the sex, and two of these were girls and one a boy. Dr. Porter subsequently contributed the following addition to his remarks on this subject:

In the catalogue of the Warren Museum the late Prof. J. B. S. Jackson makes this statement as the result of his examination and observation of post-mortem specimens of imperforate rectum and anus.

"In cases of imperforate anus, an opening into the 'bladder' or 'urethra' is occasionally reported; but so far as I have seen an opening into the membranous portion of the urethra is always found in an ordinary case of imperforate anus in the male subject. In extraordinary cases or where there is great malformation of the internal organs the opening may be into the fundus of the bladder, or there may be a great deficiency of the large intestine, and no opening at all. The opening is usually small but easily demonstrated, if the rectum is inflated under water."

"When the anus is imperforate in the female, the rectum opens into the vagina; and this opening seems to correspond to that in the male subject, the membranous portion of the urethra being the genital portion of the urinary canal."

In an analysis, by Mr. Curling, of one hundred cases of "Congenital Imperfections of the Rectum," with reference to an operation,² he gives twenty-six in which the intestine opened into the urethra or neck of

the bladder, and he remarks that there "were very probably more; as the opening is sometimes so minute as to prevent the free escape of meconium during life."

In an analysis of 104 cases of "Imperforate Anus and Rectum," by Dr. George H. Gay,³ he states that there was an operation in 77 cases: cures 25; deaths 52.

DR. GREEN had seen two cases of imperforate rectum in his Dispensary Obstetric Clinic. One case was in a boy, and there was a fistulous connection with either the bladder or the urethra. Dr. Beach operated on this case at the Massachusetts General Hospital and established an opening *per anum*; but the child died in thirty-six hours. The second case was in a girl, and was successfully operated on by Dr. Gay at the City Hospital: the infant passed feces easily for several days, and undoubtedly would have lived, with proper care; but it was neglected by the family and pined away.

Apart, however, from the presence and successful treatment of imperforate rectum, Dr. Hayward's case was one of great interest; not only as a triumph for antiseptic obstetrics, with speedy, non-febrile recovery after version and manual removal of an adherent placenta, but also on account of the successful care of a premature child.

The great desideratum in the care of the premature infant is the maintenance of bodily heat. This may often be accomplished by hot-water bottles and heaters; but the most effective apparatus is the hot-water cradle, or the convulse of Tarnier. When these cannot be obtained, a very good substitute can be improvised by the use of two tin pans or foot-tubs of such relative size that one can be placed in the other and surrounded by hot water, as described by Worcester in his Manual on "Monthly Nursing," page 212.

DR. W. L. RICHARDSON said the case seemed one of exceptional interest. The fact that the temperature during the convalescence never exceeded 99° bore testimony to the efficient manner in which the antiseptic method of treating such cases had been carried out. He agreed with Dr. Reynolds that the great majority of cases of so-called adherent placenta were not cases in which there was any morbid attachment of the placenta to the uterine wall. Cases in which such attachment exists are rare, in comparison with the number of cases reported; but they do occur, and oftentimes are extremely difficult to manage. In cases where a patient has had, during her pregnancy, a threatening miscarriage with hemorrhage, it is very common to find the placenta morbidly adherent over the area, where, evidently, the previous placental separation had taken place. The partial separation, with its accompanying hemorrhage, seems to set up an inflammatory action sufficient to cause an adhesion. The necessity of keeping a premature child sufficiently warm is also well illustrated in the result of this case. The popular saying, that seven months' children live, while eight months' die, is, unfortunately, entitled to some weight, if we only look at statistics. The reason, however, is to be found in the neglect to properly keep up the animal heat, the loss of which is badly borne by premature children. A seven months' child is, of itself, a curiosity, and is most carefully watched, while an eight months' child so nearly resembles one at full term, that, after the first few days, the novelty is over,

² Med. Chir. Trans., Vol. xlii, p. 276.

³ Boston Med. and Surg. Jour., Vol. lvi, p. 397.

and the child is very apt to die from a neglect to keep it sufficiently warm.

An eight months' child requires just a much care for four weeks, as a seven months' child does for eight. The neglect of such precaution is apt to allow of a loss of animal heat, and a convulsion not infrequently closes the scene. Since the introduction of so-called "incubators" at the Boston Lying-in Hospital, the mortality among the premature babies has very decidedly improved. The result of the operation by Dr. Porter was most successful. At the Lying-in Hospital, there have been five cases of imperforate rectum in about 3,500 births. Four of the children were males, and one was female. One of the cases was still-born, and was the result of a pregnancy complicated with hydramnios. Three of the babies were operated upon by surgeons. Two of these lived twenty-four hours, and one for three days after the operation. In one case the malformation was not operated upon, the child dying on the third day. In the three cases which were operated upon, the babies all presented symptoms of intestinal obstruction, such as vomiting, colicky pains, and evident distress, with abdominal bearing-down efforts. These symptoms were at once relieved by the operation. The case which died without any operation showed no symptoms of any intestinal obstruction.

Dr. SINCLAIR had seen several cases in which, on attempting to empty the uterus *post partum* on account of hæmorrhage, the placenta was found adherent and sometimes had to be removed piecemeal. In Sir James Simpson's Edinburgh collection is a fine specimen of adherent placenta, presented to the museum by the patient's husband, as a warning against the practice of pulling on the cord by midwives. Calcareous placenta are not necessarily adherent; but the children in such cases often die in utero on account of impaired nutrition.

Dr. BLAKE said it was not uncommon to find degenerative changes and calcareous deposits in the placenta, with adhesions in some cases. In one case the connection was very intimate, of a fibroid or cord-like nature.

THE SURGICAL TREATMENT OF UMBILICAL HÆMORRHAGE IN THE NEW-BORN.

Dr. REYNOLDS inquired if there were any peculiarities in the technique of the surgical treatment of hæmorrhage from the umbilicus in the new-born, referring to a case with hæmorrhagic diathesis, which Dr. Porter had treated successfully.

Dr. PORTER replied that it was well recognized that, in cases of hæmatophilia, all cut, wounded, or abraded surfaces bleed; that, in this case, the cord was transfixed crucially at the umbilicus by two large grovers' needles, and an ordinary silk ligature tied around and behind them, the surface dusted with iodoform, a pad of borated absorbent cotton placed over them, and the whole held in place by a broad band of adhesive plaster, which nearly encircled the infant's waist. There was complete arrest of the bleeding for twenty-four hours, when the ligature commenced to cut through, and from the cut surface the blood to ooze.

The ligature was removed, the needles readjusted, and a narrow piece of ordinary cotton bandage, twisted into a cord, and tied behind the needles just sufficiently tight to control the bleeding. This cord of bandage was so soft and broad that it did not cut, and was left

in place for nearly a week, and there was no subsequent bleeding, the umbilical cicatrix forming naturally. During the local treatment by ligature, the infant was medically treated by Dr. W. L. Richardson, the attending physician, by large and frequent doses of tinct. ferri chlor. The child recovered. It seemed to the speaker that the successful issue was due to two causes: the use of a narrow, twisted cotton bandage, as the ligature under the transfixing needles, and the free exhibition of iron.

NORFOLK DISTRICT MEDICAL SOCIETY.

S. A. POTTER, M.D., SECRETARY.

MEETING, April 26, 1887, the President, Dr. WILLIAM P. BOLLES, in the chair.

THE ROSLINDALE DISASTER.

Dr. C. W. SPARHAWK spoke upon

THE NATURE OF THE INJURIES.

The external injuries were due chiefly to bruising and crushing. The number of such wounds upon a single body was often surprising. It was a noticeable fact that patients often failed at first to refer to injuries of very serious character which appeared later, so that a person's assertion that he was not wounded, or but slightly, was of no value whatever without a complete physical examination. External wounds have not healed as satisfactorily as is usual, and in some cases owing to the imperfect early dressings, and the depth of the crushing, wounds had to be opened and allowed to heal from the bottom. Internal injuries were very obscure. Most of the patients suffered about the ribs or spine. There were fractures of the ribs near the vertebrae, and injuries to the costal cartilages.

Brain symptoms, as vertigo, impairment of the memory, disordered mental action, occurred chiefly in the aged.

Nervous symptoms were very prominent in the majority of patients, and took the form usually of "nervousness" or emotional irritability. Those without serious injury appeared to suffer the most from this cause. The menstrual function was affected in many. As a rule the gravity of the cases was underrated.

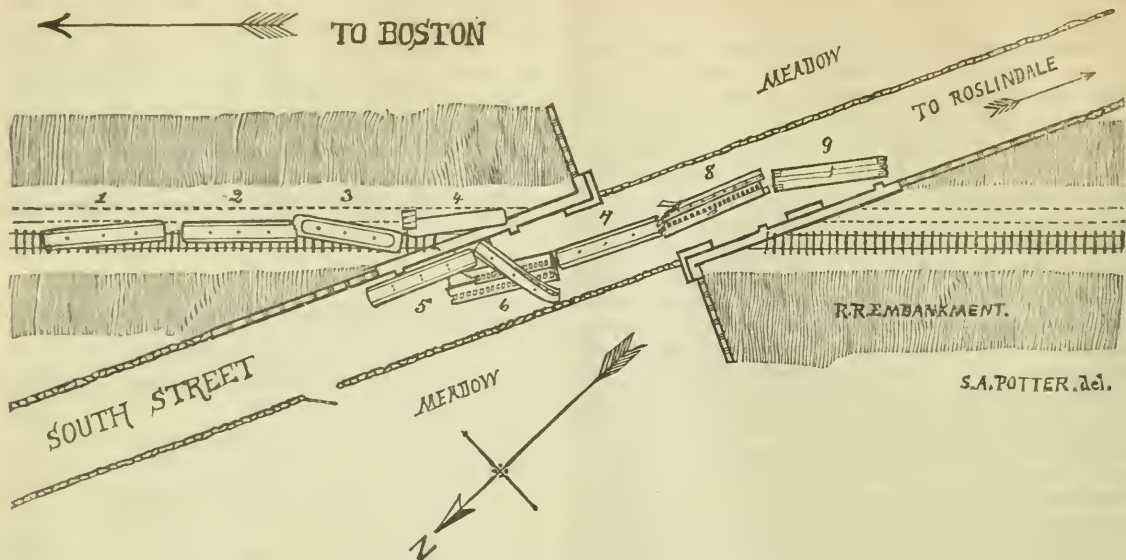
Dr. O. H. HOWE, speaking of the wounded brought to the Boston City Hospital, confirmed Dr. Sparhawk's observation in regard to the symptom "nervousness," and mentioned cases in which it had persisted for several days. Pain in the back, usually without obvious lesion, had also been complained of by most of the patients, in some instances even until they left the hospital.

Dr. J. A. TANNER, who had been in several minor accidents, had experienced the irritability to which reference had been made, and it had lasted in his case for several days. He had noticed that ladies were more strongly affected than men; also, that when an accident happened upon the water, these nervous symptoms did not appear. He explained their absence by the fact that an accident upon the water is accompanied by neither the suddenness nor shock which characterizes a railroad disaster.

Dr. E. P. GERRY read a paper upon

INJURIES TO THE BACK IN RAILROAD ACCIDENTS,¹ and also made remarks upon the influence of the dis-

¹ See page 468 of the Journal.



BIRD'S-EYE VIEW OF ROSLINDALE DISASTER.

EXPLANATION.

The parallel continuous lines upon the embankment, represent the existing track; the dotted lines, a projected track. The bridge was built to accommodate two tracks, but was actually crossed by one.

The train was composed of nine cars, and was moving toward Boston.

The report of the Railroad Commissioners states: "The original cause of the disaster was the breaking of the hangers at the joint-block at the north end of the Hewins truss (the western truss). The strain which broke the hangers was probably given when the engine driving-wheels passed over them, and there was a slight depression of the bridge when the engine left it. This depression had increased when the first car left the bridge, so that, as it went up off the bridge, it jumped the track to the east; and its rear truck was torn from it. The second car dropped still farther, receiving a much more severe concussion at the end of the bridge; but the train of seven cars behind it crushed into its rear and threw it up over the edge of the

abutment, displacing both its trucks and leaving them under its rear end. When the second car struck the abutment, the third car was driven against it with such force—that car being just upon the point of leaving the solid part of the bridge at the middle of the truss—that its Miller platform was crushed on top of, and into the platform of the second car, and became inextricably entangled with it. This may have saved the third car from going into the street, as it must have formed a very strong and close connection between the two cars, and must have greatly helped to carry the front end of the third car over the chasm."

The fourth car struck the abutment, its upper part sliding forward onto the embankment, the remainder falling into the street. The top of the sixth car was separated from its sides, and thrown across them. The eighth car lay upon its side, partly telescoping the seventh. The ninth car rested upon its top.

The remains of the bridge and track lay chiefly along the southern abutment.

aster upon the menstrual function. He had no doubt that such accidents profoundly affected the female. Of twelve cases, in regard to which he had made special inquiry, eleven had anticipated their period by from seven to ten days, and one, (a sister of one of the injured,) who was menstruating at the time of the accident, stopped, and began again after two or three days.

Dr. T. A. DEBLOIS stated that in conversation with a Pullman car conductor, as to the wisest thing for a passenger to do in case of a railroad accident, he had been advised, if he were riding in an ordinary car, to cling to the seat, but, if in a Pullman, to catch hold of something at the top of the car. The top of an ordinary car may come off, that of a Pullman never does; in addition to which the upholstering of the seats in the Pullman not being fixed would move.

Dr. E. G. MORSE had under his care a young woman of between eighteen and twenty years, who went down in the fourth car. The chief injury was to her back. There was tenderness over the spine, headache, tingling and prickling in both lower limbs. At first she would probably have fainted, had she attempted to walk. Her menstruation was unaffected, and she is now apparently recovering.

Dr. J. H. MURRAY reported the case of a man who when extricated from the car was unconscious, but, soon recovering, assisted in the removal of the wounded, went to Boston the same day, and also the next. On the second day after the accident, he presented the following symptoms: dilated pupils, painful respiration, a pulse of sixty beats to the minute, irregular,

intermittent, and excited to one hundred upon the least exertion, tenderness over the dorsal, lumbar, sacral, and coccygeal regions, pain in the ankle, knee, and hip of the right leg, diminution of sensation and motion in the same limb, and an inability to bear weight upon it, restlessness, sleeplessness, and emotional irritability.

His condition remained constant for seven or eight days, and then began gradually to improve. He now shows every indication of ultimate recovery.

Dr. P. C. KNAPP said that it was interesting to see how few of the cases reported injured in this accident, showed symptoms of injury to the central nervous system. In the individual, where injury has caused some gross lesion, such as laceration or fracture, it is rare to find also present, that group of obscure nervous symptoms, erroneously classed under the heading of railway spine. Perhaps it might be also true that in an accident where the results were so severe and caused so many fatal injuries, the number of cases of milder injury such as give rise to these nervous symptoms, might be small. Most cases of so-called "railway spine," however, have nothing to do with the spine, although many serious affections of the vertebrae and cord may arise from such injuries. Among these affections are true spinal concussion,—a rare and transitory disorder—fracture of the vertebrae, spinal hemorrhage, myelitis, and strain of the muscles and ligaments of the vertebral column. Beside these true spinal disorders, there is a large class of obscure chronic cases, which, following the dictum of Charcot, it has been the fashion

of late to call hysteria. Functional disorders of the nervous system are not uncommonly produced by railway injuries—neurasthenia is not infrequent, but hysteria is distinctly rare. It is generally believed now that many of these more chronic disorders are organic and are caused by a slight sclerosis of the central nervous system. Even in hysteria the prognosis is grave, and in organic disease the patient rarely recovers.

DR. H. C. ERNST considered that we should wait from six months to a year in order to see the characteristic symptoms of "railroad spine," and recommended that the cases now under discussion be reported again at the end of a year.

DR. KNAPP believed that a careful study of just such cases as those resulting from this accident was what was required to dispel the obscurity at present involving the whole subject of "railroad spine," and hoped that such a study would be made.

DR. ERNST inquired if it was not as yet too early for even an expert to diagnosticate between a malingerer and a case of "railroad spine."

DR. KNAPP replied that although the symptoms of the true spinal affections he had spoken of—strain, fracture, concussion, hæmorrhage and myelitis—might be looked for soon after the accident, the more chronic conditions, such as hysteria, functional disease, or sclerosis were of slower development, and it was now a little too early for them to manifest themselves.

THE PRESIDENT raised the question as to whether the determination of damages in railroad accidents came properly before the physician or lawyer.

DR. ERNST, considered that a physician when acting as such, should confine himself to medical questions entirely.

DR. E. G. MORSE cited a case of damages recently settled by the Old Colony Railroad, in which the road chose one physician, the patient a second, and these two a third. The three physicians determined the amount of damages.

DR. G. W. GAY said that while acting in the capacity of attending physician or surgeon, it is wiser and better to express no opinions, and to give no advice in regard to the financial part of the case. In the great majority of cases an expression of opinion on this subject will incur the displeasure of the patient, from the fact that his ideas of compensation are naturally much higher than those of an outside party. Should the physician see fit to name a sum as being, in his judgment, proper for settlement of the claim, he should not hesitate to declare it openly and freely to both parties, and, if need be, he should give his reasons for his conclusions.

DR. GAY had been told that the superintendents of two railroads in this vicinity had expressed the opinion, that cases of personal damages are settled more reasonably and fairly by the arbitration of physicians, than in any other way.

Physicians not only have their knowledge and experience upon which to base their opinion, but, as a rule, their training prevents their judgments being very much warped by their sympathies. They, of all men, can form an intelligent idea as to the permanency of an injury, as well as to the degree of disability imposed upon the injured party. No one will deny that the physician is the proper person to decide as to the genuineness of the symptoms complained of by the

patient. This is one of the most important, as well as most difficult parts of cases involving suit at law for personal injuries. Are this man's complaints consistent with his appearance and his actions? Are similar cases met with in which there are no legal complications? As a rule, the two classes of cases present a marked contrast, and physicians are, other things being equal, the proper persons so decide these questions, and also, it would seem, to award the amount of damages.

DR. F. W. DRAPER said that while, in a broad, legal sense, all men are equal, yet in assessing damages, as in the cases under discussion, the elements of vocation and station in life should be considered. In the matter of the relation of the physician or surgeon to his patient, he thought that the less the medical attendant meddled with his patient's legal affairs the better; but that as a duly commissioned referee, he might properly act in any case that presented, his more accurate knowledge of the claimant's condition and prospects, rendering him peculiarly competent to make a just award.

DR. H. C. ERNST spoke upon

APPLIANCES USEFUL IN SUCH AN EMERGENCY.

In thinking of what appliances may be useful in case of such an accident as this, there are two considerations to be borne in mind; first, that the physician will be in a hurry, and, consequently a thing to be of use must be small in bulk and easily carried; second, that the physician must know where his apparatus is, and not be obliged to hunt for it.

In a railroad accident the injuries to be dealt with are all such as belong to acute surgery: fractures of all kinds, cuts, bruises, spinal injuries.

One of the greatest difficulties is to find splints which will answer all demands. A patient is often injured by transportation as well as by the accident. The splints which best fill the requirements of compactness and portability, are those known as Levis'. They are of copper, nickel-plated: are perforated, flexible, of all sizes, and easily applied to any limb. A set of them comes in a box of moderate size, which can be easily carried.

Next to that of splints is the question of the treatment of wounds. Believing, as I do, that suppuration is caused by the activity of bacteria alone; that bacteria always come from without, and that if they do not obtain an entrance, a wound will invariably heal by first intention, the prevention of such entrance becomes a point of cardinal importance. One of the few unquestioned facts regarding germicides is that corrosive sublimate is the most powerful. The error committed by most surgeons is that they use it in too great strength. A 1-1000 solution will destroy bacteria instantly. But such a strength is appropriate to the laboratory experiment in which a test-solution is used containing multitudes of bacteria in full vigor, rather than to a wound where there are but few bacteria. For the latter purpose, a 1-10,000 or 1-15,000 solution, repeatedly applied, is all that is necessary, and, if repeated, is, I believe, just as effective as the stronger. The stronger solution hurts the tissues and may readily produce poisoning.

Corrosive sublimate is easily carried in the form of compressed tablets, one tablet (such as those of Wyeth) to a pint of water making a 1-1000 solution.

As suppuration often starts from stitches, it is a

matter of consequence to have needles and thread aseptic. Efforts have long been tried to make them so. Many receptacles have been made, but none ever do or can prevent the exposure of the thread to the air.

A method used by the speaker in laboratory work, is to expose needles and thread in a bottle stoppered with cotton-wool, to moist heat, employing the same principle as is used in sterilizing fluids. The bottle, or test-tube, containing the needles and thread may be placed in some vessel, as a small tin-pail, containing a moderate quantity of water. Upon the vessel is to be placed a loose-fitting cover. The water is to be raised to the boiling point and a steam bath maintained for fifteen minutes. Needles and thread thus prepared can be kept indefinitely, will not occasion pus, and the needles do not rust, except after some time. But the method is extremely easy of application to hospital use. If dry heat is used, the same essential principle is carried out, and the time when the needles and thread become sterilized is marked by the cotton-wool plug turning a light brown. (But the moist sterilization is much the better.) The needles and thread must, of course, remain in the bottle or test-tube until used.

Bandages are necessary. There are the ordinary roller, of which, however, it is difficult to carry a large supply, and the Esmark triangles, the applicability of which is almost endless.

It should be said that great credit is due the people in the neighborhood of the accident for the promptness of the assistance rendered. Thirty-five minutes after the catastrophe occurred, the last wounded man was being taken from the train, and the dead, with one or two exceptions, had been already removed.

Dr. B. E. COTTING, on being called upon, said that after an accident, like that under consideration, the first thing to be done was to relieve at once the injured from immediate danger and distress, and then to put them in a suitable condition for removal to places where they could be properly and thoroughly cared for, their homes, hospitals, or other permanent shelter. To this end severe hemorrhages should be checked at once, fractured limbs stayed up, wounds covered, bruises bound up—those most dangerously off first attended to so far as practicable. All this need be temporary only, to render transportation as little dangerous and painful as possible. At the place of the accident, for most temporary purposes, anything that comes to hand may be made use of, strips and fragments of cloth, towels, handkerchiefs, etc. (a young lady once tore up her petticoat for him to make a tourniquet of, for an injured friend bleeding dangerously). Strips of bark, of boards from fences, bundles of twigs, or of straw even, will answer for temporary splints (he had used such), and hay or moss may do for padding. In short, whatever one can lay hands on; precisely as he would adjust for removal a wounded man in a street accident. Loammie Baldwin said that "to be a good engineer one should know how to bore with a jack-knife, and to whittle with a gimlet"; so should a practitioner be ready to avail himself of whatever falls in his way; and above all, keep himself calm, even at the risk of seeming indifference.

On arriving at destination the injured should be given up to their chosen attendant, who will make all required re-adjustments, and supply all previously unavoidable deficiencies.

Dr. Cotting would add that he had been surprised to hear the use of triangular bandages attributed to Esmarck. The use of handkerchiefs, triangular, square, and oblong, for all kinds of fractures, or injuries where bandages are required, was a hobby of Dr. Mayor, of Lausanne, introduced by him half a century ago.¹ The practice became noted everywhere in this country as well as abroad. The number of applications made by him was truly surprising, and his methods are in reality worth studying. As temporary resorts they are invaluable.

AMERICAN SURGICAL ASSOCIATION.

ANNUAL SESSION OF 1887.

THE annual meeting of the American Surgical Association was held in the reading-room of the Army Medical Museum, Washington, D. C., May 11, 12, 13, and 14, 1887.

FIRST DAY, WEDNESDAY, MAY 11.

MORNING SESSION.

The Association was called to order at 11 A. M. by the President, Dr. HUNTER MCGUIRE, of Richmond, Va.

PRESIDENT'S ADDRESS.

THE NEED AND VALUE OF CO-OPERATIVE WORKS IN SURGERY.

To preside over a body of men, each one of whom is daily, almost hourly, doing something to lessen human suffering, and to add to the life and comfort of his fellow-men, is indeed a proud distinction. I shall venture to occupy your time briefly, not with a discussion of some surgical subject, for the programme shows how rich the supply of material will be in this direction, but with some remarks concerning the need and value of coöperative work in our profession, and afterwards, in suggesting some changes in the management of the meetings of this Association. Nearly every advance in whatever is accomplished by human enterprise is secured by coöperative effort. Every department of life is full of illustrations of the power of association in the accomplishment of great purposes, while the illustrations are almost as numerous of the failure of individuals to attain those ends, because they work unaided and alone. (Many illustrations of the beneficial results of coöperation in other departments of labor were cited from history.) Advance in surgery can be more surely made by associations such as ours, than by any individual efforts of man. The day has passed when the dictum of one man, no matter how exalted he may be, is received without question. The difficulties which beset us are numerous. Disease presents problems difficult of solution. We cannot apply to the human machine the fixed rules by which inanimate bodies are governed. The result of the work of the surgeon in private houses and in public hospitals must be different. Besides this, it is necessary to get rid of the rubbish with which we are too often flooded by ignorant, but ambitious, contributors. This is an easy task; but it is more difficult to know when to reject the material presented by skilful, but unscrupulous workers, who, to gratify their own personal vanity, make false returns of their labors.

I have mentioned only a few of the difficulties by

¹ Nouveau Système de Deligation Chirurgicale, Paris, 1838.

which we are surrounded. Their influence over the true man, the true surgeon, should be to make him more patient, inspire him with more zeal, and teach him more plainly the value of coöperative industry. For the developments yet awaiting us, we must be indebted to the contributions which every patient and conscientious laborer may bring to the common stock of ascertained knowledge, and we shall accomplish this best by the cultivation of a broad and generous appreciation of each other's work, from which every particle of envy at the success of others has been eliminated, by the hearty commendation which we give to all who have enlarged the boundaries of surgical science, or who have improved its art.

In concluding his address, the President made the following suggestions:

(1) The formation of a business committee, to prepare the work of the Association. The committee should select two general subjects in surgery, to be discussed at the morning sessions of the first and second days.

(2) The address of the President should be limited to half-an-hour, readers of papers to the same time, and those who take part in the discussions to fifteen minutes.

(3) I venture to suggest the abrogation of Article 9 of the Constitution. This will allow us to admit to Fellowship some men in this country who are really needed in the Association. While I believe in the rigid observance of the code of ethics of the American Medical Association, and the absolute necessity of its enforcement in that body, there is no need for it in our Association. The only code that we should have is scientific work.

(4) That the report of the Committee with reference to the American Congress of Physicians and Surgeons be adopted.

(5) That the Constitution be so amended that propositions for membership shall lie over for one year. The qualifications for Fellowship should be age, experience in surgical work, scientific attainments, with general culture.

A committee of five was appointed to take into consideration the suggestions offered by the President. The Committee consists of Drs. S. A. Gross, C. H. Mastin, D. W. Yandell, Moses Gunn, and C. Johnston.

The Association then went into executive session.

AFTERNOON SESSION.

THE EXPLORATION OF THE BLADDER BY THE SUPRA-PUBIC METHOD,

by F. S. DENNIS, M.D., New York.

The supra-pubic operation of to-day is practically the same as the old operation; the only improvement has been improvement in technique. A brief historical account of the operation was given. The first reported operation was that of Franco in 1851. From that period to 1879 the operations were not numerous, but from 1879 to the present time the operation has been done with such success as to attract attention throughout the world. The time is not far distant when practically the only two operations will be supra-pubic lithotomy and litholapaxy. Supra-pubic lithotomy is simple in technique, safe in execution, free from injury to the reproductive organs, radical in results, curative in application and brilliant in statistics. The many serious accidents attending the lateral operation are avoided.

Technique of operation. For a few days before opera-

tion a milk diet should be employed. The day previous to operation the bowels should be moved with castor oil. The morning of the operation an enema should be used so as to empty the rectum for the introduction of the rubber bag. The parts should be washed with anti-septic solution. After the patient has been etherized, the surgeon should introduce a rubber bag into the rectum so as to be above the internal sphincter. Into this twelve ounces of warm water is to be introduced. This quantity will have to be increased or diminished according to circumstances. The danger of rupture of the rectum in elderly people and young boys, should be borne in mind. The urine should be withdrawn and six ounces, more or less, of an antiseptic solution introduced into the bladder. The catheter may be left in the bladder and stopped with cork, and this will serve as a guide to cut upon. The distention of the rectum and bladder increases the distance from the pubes to the anterior cul-de-sac of the peritoneum to three inches. The incision should be made in the median line and should extend for three or four inches above the pubes; when the transversalis fascia is reached the use of retractors on the principle of the eye-speculum facilitates the operation. Having divided the fascia the end of the catheter can be felt and cut upon as a guide. The bladder may then be seized with two tenacula and opened. Where free exploration is desired, sutures are introduced on each side of the incision. The stone is removed either with the fingers or forceps. The bladder may then be washed out. A catheter should be introduced through the urethra, but not left longer than twenty-four hours, on account of the danger of exciting traumatic urethritis. In the majority of cases the wound of the bladder should be left open. In cases of calculi, the condition of the tissues is such that primary union is unlikely. In certain other conditions such as rupture, the wound may be closed, for here the condition of tissues is different. The abdominal opening is to be closed and a tube introduced.

This operation is indicated (1) for hard, large calculi, and in persons suffering with paraplegia and deformities rendering lateral lithotomy difficult. (2) For removal of certain foreign bodies such as hairpins, etc., and for the treatment of chronic cystitis. (3) In cases of tight stricture, fibroma of prostate, tumors of the bladder, and for rupture. In its extraordinary simplicity, its reduced mortality, its freedom from danger and safety for the general practitioner, it compares well with litholapaxy.

The speaker had collected one hundred and twenty-four cases of supra-pubic operation for stone, done since 1879. Previous to this date, the rate of mortality was thirty per cent. Since then the mortality has been reduced, there being eighteen deaths, a mortality of fourteen per cent. Seven of these deaths may be justly excluded, giving a mortality of nine per cent. According to Sir Henry Thompson's statistics, the death-rate from the lateral operation is twelve per cent. According to the same authority the mortality of lithotomy is six per cent. In considering the mortality of this operation, two facts are to be considered. The mortality may be improved by more rigid antiseptic precautions. The second fact is that the operation has been limited to the largest stones. When the smaller stones are included, the death-rate will be reduced. Specimens showing the position of the bladder under various conditions were then shown.

SUPRA-PUBIC CYSTOTOMY FOR OTHER PURPOSES
THAN THE REMOVAL OF CALCULI,

by JOHN H. PACKARD, M.D., of Philadelphia.

He referred at length to the history of the operation as it appears in cases recorded from 1750 to 1886. The opinions of authors in regard to the hypogastric operation in general, and especially with reference to the evacuation of urine, was next given. In regard to the anatomical relations of the peritoneum to the bladder and abdominal walls, much diversity of opinion was found to exist.

In 1833, the speaker removed by supra-pubic cystotomy, a piece of shawl-pin, five inches in length, which had been passed through the urethra. Since then he has done this operation a number of times. In cases of retention of urine from stricture, where a fair attempt to pass an instrument fails, he draws the urine by aspiration. In a short time an instrument can usually be passed. He did not recall a case in which it was necessary to repeat aspiration. The following cases were cited:

July 7, 1865. Mr. G., eighty-five years old, had retention due to large prostate. The bladder was greatly distended. The urine was drawn off with a long catheter, but he desired more permanent relief, supra-pubic cystotomy was performed, and a glass ovariotomy tube, bent like a tracheotomy tube was introduced. The patient improved decidedly, but suddenly died July 9th, from heart failure, the result of sudden exertion.

J. C., aged forty-three, came under observation January 21, 1885, at Penna. Hospital, with a history of retention, the result of old stricture. The bladder was greatly distended and no instrument could be passed. There were frequent chills and profuse sweats. The next day Dr. Thomas G. Morton made a perineal incision, opening an abscess, the catheter then passed into the bladder. The following day the bladder was again distended; supra-pubic incision was then done. A catheter passed through the abdominal opening and the neck of the bladder escaped through the perineal wound. On February 7th, a large mass of slough came from the abdominal wound. The patient then rapidly improved and was discharged cured, April 21st.

H. F., forty-three years old, had retention for four days. The penis, scrotum, and skin of abdomen were swollen, tense and rigid. Free incisions were made. The bladder was opened and a tube introduced. On June 4th, an instrument was passed by urethra. On July 13th the patient was discharged and has continued well.

Mr. S., age sixty-three, admitted with enlarged prostate and frequent attacks of retention. August 13, 1886, supra-pubic incision was performed and the bladder opened. Although the condition was improved the patient died of exhaustion August 29th.

The next two cases occurred at Penna. Hospital, within past few weeks. W. E., age seventy, was admitted April 24, 1887, with retention due to enlarged prostate, supra-pubic cystotomy was performed and a large quantity of putrescent urine removed. A rubber tube was passed into the bladder. The urine contained albumen to the amount of one-half its bulk. Granular casts were also found. A typhoid condition developed and the patient died on the fourteenth day after admission.

R. W., age forty, was admitted the same day. He

had double inguinal hernia and double hydrocele. He had passed no urine for fourteen hours. Catheterization was attempted without success. Supra-pubic incision was then performed and a rubber-tube introduced. He has done well since then, and is beginning to pass some water by the urethra.

Method of Procedure. The fullest antiseptic precautions should be observed in these cases. In most of the cases on which the author had operated the question whether or not the bladder should be distended had not presented itself, as the bladder was already over-distended. The bladder should never be more than moderately distended, not more than six or eight ounces of a boric acid solution being employed. To retain the water in the bladder a convenient method is to bend the urethra on itself and hold it in this position. There seems to be more advantage and less risk from distension of the rectum. Many writers recommend that the bladder be steadied by an assistant, but this was regarded as needless and objectionable.

The incision through the skin should be free enough to give ready access to the deeper parts. When the bladder is reached it is desirable to secure it in some manner before puncturing. For this purpose a small double hook may be used. A small tenaculum may answer. When a large opening is to be made a double ligature is perhaps the best device. In cases of retention the curved trocar and canula may now be at once used. The canula should afterwards be substituted by the tube. The speaker's custom is to make the opening in the bladder just large enough for the tube. The proper point for making the opening seems to be about at the middle of the exposed portion of the wall of the bladder, which would be about one inch or one-and-one-half inches above the pubes.

The drainage-tube should go well into the bladder, and have lateral openings only near its extremity. The external end may be closed with a cork or clip or by bending it. In old men with atonied bladders he had sometimes used glass tubes. If a large opening has been made in the bladder it may be closed around the tube with a few cat-gut sutures. The tendency of the wound is to close quickly except where the tissues as well as the general system are in bad condition. The edges of the wound in the skin can be apposed with sutures of cat-gut or silk-worm gut.

In concluding, the speaker asked, "If the supra-pubic section had been first tried, and generally adopted, is it likely that the perineal operation would have been afterwards performed on account of its greater ease, simplicity, and efficiency?"

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? WITH A REPORT OF CASES AND REMARKS ON THE DIFFERENT METHODS EMPLOYED,

by A. VANDER VEER, M.D., of Albany, N. Y.

After a few preliminary remarks, the speaker gave detailed histories of forty-one cases which he had operated on. The various methods employed were lithotomy, rapid dilatation of the urethra, and Bigelow's operation (litholapaxy).

There were seven cases of perineal lithotomies, with two deaths and five recoveries, the former being very old men, with large stones. Of attempted litholapaxies and an immediate perineal lithotomy, there were two cases, both resulting in death, one occurring in the speaker's practice, the other in the practice of a friend.

Both were severe cases of large stone, the patients presenting a history of much suffering through many years. Of dilatation of the urethra in the female, and washing out of fragments or removal of stone entire, there were six cases, all recovering with no complication whatever. Of urethra-calculi in the male, there were four cases, all recovering. Of simply lithotripsy in the male there was one case, followed by recovery.

Of attempted litholapaxies, but which were not completed, there were four cases, three ending in death, and one, the stone hiding in a sac, later underwent perineal lithotomy and recovered. One was probably complicated with some form of tumor of the bladder, and a history of chronic disease of the kidneys. One was a case of chronic alcoholism, one was complicated with sacculated bladder, and the last two were cases of surgical kidney of the very gravest kind.

Of the litholapaxies in the male, there were eighteen patients having twenty-two operations, four requiring a second operation. Of the number, sixteen recovered and two died. Of the latter, one after the first and one after the second operation.

With reference to supra-pubic lithotomy, the author said that, with the excellent results we are ever likely to obtain from rapid lithotripsy, the operation must necessarily deal with severe cases of large, and, in some instances, sacculated stone. He did not believe that we should ever expect from it as great a per cent. of recoveries—it is hardly possible. A table of reported cases of supra-pubic operations was given, showing in 142 adult cases a mortality of 22 per cent.; in children under fifteen years of age 113 cases gave a mortality of 10.5 per cent.

The operation of litholapaxy is certainly indicated where the stone is small or of moderate size, and, contrary to the teachings of a few years since, can be done in very young male children, with proper instruments. In male adults, if there is severe chronic cystitis, no matter what is the size of the stone, the supra-pubic or some form of perineal lithotomy seems best. The cystitis can then be successfully treated, and there is less danger of a reformation. The speaker thought that it would be found by future statistics that cystitis has much to do with the necessity for a second or third operation. He thought that contracted bladder in the male, with adhesions, had not received the attention which it demanded. This must, in some instances, embarrass supra-pubic lithotomy. On anatomical grounds, the supra-pubic operation will be much simpler in the youth, as the bladder is much higher in the pelvis at this time of life. In girls, rapid dilatation or supra-pubic lithotomy will undoubtedly reach all cases. In adult women, vaginal lithotomy may be added.

The discussion of these papers was postponed until Thursday morning. Adjourned.

(To be continued.)

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting April 18, 1887.

DR. WM. T. LUSK reported a

SUCCESSFUL CASE OF CÆSAREAN SECTION.

The patient was twenty-four years of age, and a native of Ireland. On March 21, 1887, she was sent from the Mothers' Home, on Staten Island, to his ser-

vice at Bellevue Hospital, on account of deformity of the pelvis resulting from hip-disease. The latter dated from the age of eleven, and on account of it she had at this time been sent to a Dublin Hospital for treatment. She was discharged cured; but during her pregnancy she noticed some suppurative discharge from the old sinuses which had formed at this period.

On March 22d, Dr. Lusk visited the hospital and made an examination of the patient, when much to his surprise he found that she was already in the early stage of labor. The pelvis was ascertained to be of the type known as the Nægele oblique, and having given its diameters, which showed very marked contraction, he said that with the sanction of Drs. Isaac E. Taylor and H. J. Garrigues, who saw the case in consultation, he determined to perform Säger's operation. Craniotomy, he went on to say, was generally considered comparatively simple; but, with the pelvic dimensions that were present in this case, he had no doubt that the danger from it would be greater than that from Cæsarean section, provided the latter were performed sufficiently early. Dr. Taylor was of the opinion that the case was nearly identical with one in which Dr. Lee performed craniotomy, and where the patient died. Dr. Lusk also referred to a similar case in the practice of Dr. Studley, where the pelvis was fractured in the effort to deliver the child.

As the patient was already in labor, no time was to be lost, and he determined to operate at once. Both the private pavilions of the hospital being occupied, he was obliged to perform the operation in one of the wards. It was commenced at 3.30 P.M. The abdominal incision was made through the linea alba, and extended from just below the umbilicus to a point two or three finger's breadth above the symphysis pubis. The peritoneum having been slit up, the uterus was everted by the hands over the abdomen. When the organ had been thus turned out, the intestines were placed behind it, and both the intestines and uterus wrapped in warm towels; a solution of bichloride of mercury, 1 to 10,000, being used. A rubber-tube was then placed around the uterus, in order to prevent hæmorrhage. In opening the uterus an incision two inches long was made near the lower segments, and with the scissors afterwards increased to five inches. Owing to the pressure upon the vessels secured by the elastic ligature, the incision was nearly bloodless.

The child was found with the head presenting in the left occipito-anterior position, and on being extracted, was in a cyanotic condition, from the pressure caused by the rubber; but through the efforts of Dr. A. B. Ball it was successfully resuscitated. With the finger the membranes and placenta were readily detached from the uterine walls, and the delicate structures described by Leopold was at this time beautifully exhibited. All through the operation the intestines were held back by warm towels. The uterus remained of a pale waxy color, on account of the elastic ligature.

In closing the uterine wound, thirty-four carbolized silk sutures were employed, of which sixteen were deep, and the rest superficial. In the deep sutures, he said, special pains should always be taken to avoid the mucous membrane of the cavity. The Lembert suture was used in making the superficial sutures. When the rubber-band was removed from the uterus the blood slowly returned to the pallid organ. At first it assumed a delicate rosy hue, finally a deep purple. A

slight oozing was then observed at one point. The uterus was then returned to the abdominal cavity, and a drainage-tube inserted behind the organ. Silver-wire sutures were employed to close the abdominal wound. At the end of the operation, which lasted one hour and fifteen minutes (twenty minutes of this time being taken up in endeavoring to stop the oozing referred to), the patient was in excellent condition.

For three days after the operation the temperature did not go as high as 100°. Then there was a little tympanites, and it went up above 101°; but a Seidlitz powder had the effect of promptly reducing it again. On the fifth day the drainage-tube was removed. Immediately after the operation the discharge from it was stained with blood, but it soon became colorless. Dr. Lusk said that the tube was not, in fact, needed in this case; but at the same time there was a certain feeling of security in knowing that it was in position. On the day following the removal of the drainage-tube there was some oozing from the opening left by it. At the end of a week the abdominal sutures were removed. At this time the temperature would usually go up to about 100.5° in the evening, and then fall again by morning.

On the ninth day some fluctuation was detected in the line of the abdominal wound, and a little pus was evacuated; after which the temperature became nearly normal. At the end of two weeks, however, the temperature went up suddenly to nearly 103°. Still, no trouble whatever could be discovered about the abdomen, and as the patient complained of pain in the right hip, an examination was made which revealed an accumulation of pus in the site of the old sinuses which had given trouble during pregnancy. Since that time the patient had continued in most excellent condition. Ever since the second day, by which time she had recovered from the effects of the ether used for the operation, she had been able to take abundant nourishment. She passed her water freely, was comfortable in every way, and on the whole seemed to think it was quite an easy way of having a baby. There had, indeed, been no question of her recovery at any time. The infant now weighed ten pounds, and was also doing perfectly well.

Dr. SILVA, lately house-surgeon in Bellevue Hospital, who had had charge of the case, stated that the patient did better altogether, than any other case of laparotomy that he had the opportunity of observing during his service at the hospital.

Dr. T. J. KEARNEY inquired whether it would not have been better in such a case as this to perform Porro's or Tait's operation, in order to prevent the woman's becoming pregnant again.

Dr. LUSK replied that statistics showed that with the Sanger operation (more or less modified from the procedure as originally proposed), there were over seventy per cent. of recoveries, while in Porro's operation there were only forty per cent. of recoveries. It was, therefore, unquestionably a more dangerous operation. In regard to Tait's, it seemed to him that the additional risk to which it subjected the patient was by no means advisable; the extremely vascular condition of the parts constituting a serious objection.

At all events, he should not like to attempt this, in addition to Casarean section, unless he had time to consider the matter very fully beforehand, and in the present instance the operation was undertaken in very

an ill manner, as he had no idea that he would find

labor actually commencing when he made his first examination of the patient.

Dr. J. R. MACGREGOR said that he had been with Dr. Studley at the time the fracture of the pelvis referred to by Dr. Lusk occurred. The patient had ankylosis of the right hip, with a projection inwards of the ramus of the pubes on that side; but it was thought that she could be delivered *per vias naturales*, with the aid of artificial assistance, until the accident occurred. The patient died, though not immediately.

Dr. SILVA said that in the *American Journal of the Medical Sciences* for 1878, Vol. II, Dr. Robert Harris, of Philadelphia, had published statistics of one hundred cases of Casarean section, and out of nineteen of the cases, all of which occurred in dwarfs, only one mother and five children were saved. In all these cases the operation was only undertaken as a last resort, when the patient was utterly exhausted; and the results certainly afforded ample proof of the importance and desirability of early surgical interference.

Dr. C. S. WOOD said that in the course of his experience he had had to perform craniotomy three times, and he thought that this class of cases was without doubt as disagreeable and repulsive as one could possibly meet with. If, therefore, by this operation it was possible to save more mothers than by craniotomy, it would be a great boon. Thus far, however, statistics unfortunately showed that it saved a far smaller proportion of mothers. In two of the cases of craniotomy that he had met with, the mothers recovered, while in the third the mother was lost. Yet in one of the successful cases he labored under great disadvantages, as, not expecting to be called on to perform craniotomy, he had no instruments for the operation, and was so situated that none could be obtained on short notice. Under these circumstances he resorted to the device of manufacturing such rough instruments as he could from some shoemaker's tools; and he thought the case was of interest as showing what might be accomplished by very simple means sometimes, in an emergency.

There seemed at present to be gaining ground a sentimental notion that it was of the greatest importance to save the child; but he was one of those who believed that the mother should be saved at all hazards, whether the child was sacrificed or not; and as long as it could be shown that more mother's lives were lost by the Casarean section than by craniotomy, he thought the latter should be given the preference.

Dr. KEARNEY said that he could not agree with the views expressed by the last speaker. Dr. Bedford, he thought, had given the most rational statistics, and if, as was undoubtedly the case, it could be shown that in the aggregate more lives (of mothers and children taken together), could be saved by Casarean section, it should without doubt be preferred to craniotomy. The matter was not merely one of sentiment; it was more than that, and involved a question of deep ethics. By simple logic alone, the justice of the Casarean operation could be established, and he had never yet seen the objections against craniotomy adequately answered by any author with which he was conversant.

Dr. LUSK said that if, in speaking of Casarean section, was meant the old operation, as it had usually been performed, unskillfully or carelessly, and when the patient was already practically moribund, the mortality was undoubtedly very heavy. It was a fact that in most of the cases it was resorted to only when

the woman was in a dying condition, and after all other methods of delivery, craniotomy included, had been tried in vain. When it was remembered, too, that a rough and careless way of operating had also been the rule, it was no wonder that the patient died, and that such cases bore heavily against the value of the procedure. But, even under all these disadvantageous circumstances, a few cases had recovered.

At the present time it was getting to be understood that the operation should be performed, whenever this was possible, under more favorable conditions and in the same careful way as any other surgical procedure involving the abdominal cavity. The operator should take sufficient time to make out the pelvic diameters and consider fully the risks that would be encountered in performing craniotomy. If, having done this, he decided that the Cæsarean section offered the best chance of success, he should make his preparations as deliberately as the circumstances of the case would admit of, and perform the operation by methods in accordance in every particular with the precepts of modern antiseptic surgery. When this course was pursued, the results were infinitely more satisfactory than those met with in the old operation, as was shown very clearly by the cases of Leopold, for instance, who had operated ten times, with only one death. In the light of his later experience, Leopold thought that he would now have been able to save even the one that proved fatal. Very few obstetric surgeons, Dr. Lusk remarked, could show a result of ninety per cent. of recoveries in their cases of craniotomy. Within the last eighteen months Harris had collected forty cases of Cæsarean section, with seventy-three per cent. of recoveries; while the best results of craniotomy in these difficult cases showed only sixty per cent. of recoveries.

While he was quite aware that too implicit reliance should not be placed on statistics, other operators besides Leopold had reported four, five, or six consecutive cases, without a death. One great reason for the gratifying success of the modern operation was, he believed, to be found in the use of the rubber ligature, which so effectually prevented hæmorrhage from the severed uterine structures. When this was employed, the surgeon could go to work very deliberately, and bring the edges of the wound together with the greatest accuracy. In his own case, there was absolutely no symptom during the lying-in period which was referable to the uterine wound. In conclusion, he would only say that if we were to wait until the woman was dying, instead of interfering early, as in this instance, we should only have the old statistics repeated.

DR. W. S. GOULEY inquired what Dr. Lusk thought of the operation of laparo-elytrotomy in these cases.

DR. LUSK replied that this procedure was particularly adapted to a special class of cases, namely, when the head was arrested at the brim of the pelvis, and the cervix was already dilated, or in a dilatable condition. If, however, we were obliged to pass the forceps through an undilated cervix, it was a very serious operation. In case, therefore, we desired to operate early, we had to do it at a time when the conditions favorable to laparo-elytrotomy did not exist. Of the twelve cases of this operation which had been reported, six had resulted in recovery, and six had proved fatal, the latter being cases in which success was impossible, from the conditions existing at the time.

(To be continued.)

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PHAGOCYTES AND BACTERIAL INVASION.

LATELY, attention has been directed to the part played by certain cells, chiefly derived from the white blood-corpuscles, in the removal of dead tissue and foreign substances from the animal economy by process of intra-cellular digestion. Prominence was first given to this by Metschnikoff, a Russian investigator, from the direct observation of the lining of the digestive track of certain of the lower, transparent, aquatic forms of animal life. Later, cells having a similar function were found at the place of separation of the tadpole's tail. For all these, he proposed the name of phagocytes. Subsequently, their sphere of action has been extended in a recent article from his pen, on "The Fight between Cells and the Micrococcus of Erysipelas."¹

From the very first, the presence of bacteria in leucocytes had been noted, but they were regarded as holding the same relation as any other fine molecules which might happen to be present in the circulation. Koch thought the cells served simply as a good nutritive soil, laying special stress on the presence of anthrax bacilli in the cells of frog's blood, although the animal itself was exempt from the disease, while in the death of the tubercle bacillus in the giant cell was seen simply an expression of its naturally short life. For him the excretory organs, above all the kidneys, were the active agents in removing the parasites from the organism. Then, too, the inflammatory reaction exercised a healing influence, although his conception of the exact manner is a little vague.

Our writer has chosen erysipelas in which to study the subject in the higher animals, since it is a disease produced by a well-characterized micrococcus, and usually ending in recovery. The action of the cells cannot be seen here in situ, as in the transparent animals; but still, if they are active therapeutic agents, changes indicative of this should be found in them and their relations after removal from the body and proper preparation.

¹ Virch. Archiv., Bd. 117, s. 209.

The description of Fehleisen, who first demonstrated the bacterial origin of the disease, seems to substantiate this. Three zones are distinguished by him: The outer shows nothing to the unaided eye, but, microscopically, the lymph spaces are found to be filled with micrococci in active multiplication. Into this runs the second zone of reddening, where the inflammatory reaction is manifested by the presence of numerous wandering cells, which have taken up the micrococci and replaced them more and more. In the third zone the bacteria have entirely disappeared, the small cell infiltration is extreme, and the reaction may be said to have reached its highest point. In the paler parts of the skin, the return to normal has already begun by the re-absorption of the inflammatory products, and is accomplished with great quickness.

In further support of the theory, Metschnikoff himself examined preparations from fatal cases and from those which recovered. In the former, he found a marked accumulation of the erysipelas cocci in the cutis and subcutaneous tissue, always lying free in the lymph spaces and never in the interior of the cells. In the latter cases there was a very different picture. Here the inflammatory infiltration was much more marked, and many of the leucocytes contained bacteria. These lay included in the protoplasm of the cell, partly as streptococci, and partly as isolated round cocci. Occasionally they were surrounded by a clear vacuole, suggestive of the digestive process seen in the cells of the protozoa. All of these phagocytes did not seem to possess an equal power to take up bacteria, since, of contiguous cells, some were loaded and others entirely free. Closer examination revealed, in the former, the presence of granules of varying size and irregular outline, but deeply stained. Between these and the cocci all possible gradations were to be seen, and the conclusion was justified that these finest granules were fragments of the ingested bacteria. In gangrenous parts of the skin, on the other hand, the bacteria were found in abundance between the cells, while the leucocytes were seen to be destroyed, their nuclei transformed into small, irregular granules, not staining, and the cell-bodies into homogeneous, scale-like masses. Thus it appears that between the micrococcus of erysipelas and the leucocytes there is carried on a bitter struggle, which ends in the victory of one or the other.

These, however, are not the only actors in the scene, for the fixed connective-tissue cells also have a rôle. These are distinguished as somewhat spindle-shaped, epithelioid-looking elements, larger than the leucocytes, provided with protoplasmic projections, and having a simple round or oval nucleus, with evident nucleolus, staining but slightly in methylene blue. For these, the name of *makrophyte* is proposed, while that of *microphyte* is used to designate the small amœboid cells with deeply-stained, lobulated, or fragmentary nucleus, and pale protoplasm.

These two kinds of cells have an entirely different function. The *makrophytes* do not possess the power

to eat up a single bacteria; that is the exclusive privilege of the *microphytes*. Their function is to take up the weakened or dead elements, and to dispose of them. Often they are so filled with these small cells and fragments, that they look like round or oval conglomerates, in the midst of which the pale nucleus is only to be found on diligent search.

Naturally, these observations must be substantiated by others. But they point in the direction towards which modern thought tends, and give food for reflection as to the possibility of translating into known terms the expression of cellular activity.

SUPRA-PUBIC CYSTOTOMY AND OTHER OPERATIONS FOR THE REMOVAL OF VESICAL CALCULI.

AMONG other interesting communications presented to the American Surgical Association at its late meeting in Washington,¹ are three papers upon genito-urinary subjects, which we take pleasure in referring to as excellent contributions on matters which have occupied much attention recently in this department of surgery. The first two, by Drs. Dennis² and Packard,³ deal with the operation of supra-pubic cystotomy, the former treating especially the technique of, and indications for, the operation, the latter detailing some of its uses for purposes other than the removal of stone, and containing, also, the account of several cases.

The account of the improved modern technique is in the main good, and it only occurs to us to offer a few criticisms and additions to it. We cannot agree with the unmodified statement of Dr. Dennis, as reported, that by the distension of the rectum by the rubber bag, and of the bladder by an antiseptic solution, the peritoneum is raised three inches above the symphysis, the fact being that the elevation varies considerably in different cases, sometimes attaining a greater distance, and sometimes being so little removed that it has been wounded by the incision into the bladder. There is but little reported mention in either communication of the attempts with, and successes of, the bladder suture after supra-pubic cystotomy. Dr. Dennis thinks that the wound should be left open in the majority of cases, while Dr. Packard speaks of the use of a single drainage-tube.

In an editorial article appearing in our issue of July 16, 1885, we said, in reference to this subject, at a time when bladder suture had been less perfected, and less often successfully applied than now: "Of vesical suture, then, it may be said that, although it has not yet attained perfection, it is the thing to be sought. Its employment after the extraction of stone or the removal of new growths is still *sub judice*, however, bladder drainage being on trial in competition with it." Since then, the cases followed by immediate

¹ See page 480 of the Journal.

² The Exploration of the Bladder by the Supra-pubic Method.

³ Supra-pubic Cystotomy for Other Purposes than the Removal of Calculi.

union of the bladder wound after application of the suture have multiplied, and the procedure has a strong band of advocates, among whom may be mentioned Ultzmann, Zesas, Von Bergmann, Czerny, Zancarol, Sklifossowski, Rauh, Miculicz, Van Antal, and others; while in this country, Keyes, Stein, Lange, have had successful cases.

It is only fair to say, however, that there are many who think, with Dr. Dennis, that the open treatment is the better method. Trendelenberg is the most extreme advocate of this view, which also numbers among its adherents most of the French surgeons, and Sir Henry Thompson. The value of any form of drainage-tubes, however modified, is beginning to be more and more doubted, and it has been recently shown, in an interesting article by Marc Sée,⁴ that they, for the most part, totally fail to prevent the contact of the urine with the wound and surrounding tissues, and are, consequently, better omitted.

In regard to the success of bladder-suture, Schmitz's and Meyer's statistics give its numerical standing. The former's cases include all those published up to 1886, in which the bladder-suture had been applied, fifty-five in number, primary union occurring in seventeen, or thirty-one per cent., of these. The latter shows forty-one cases, with sixteen first intentions, or thirty-nine per cent., of successes, and the number has been largely added to since then. The success of the suture is by no means destroyed by preëxisting cystitis, although its chances may be said to be less good under this condition.

We find no mention in the abstract before us of a step in the technique which is, perhaps, as important as any in averting one of the disasters of the operation, namely, the necessity for leaving undisturbed so far as possible the relations of the tissues about the neck of the bladder. Great care should be taken *not* to try to pull the prevesical fat away from its position, or to bore down beneath the symphysis with the finger or with instruments. The prevesical fat should be divided *in situ*. The neglect of these precautions gives rise to opportunities for the formation of pools of stagnant urine in the pockets so formed, and these are the origin of septic phlegmon, which has always constituted one of the gravest dangers of the operation. We do not think too much stress can be laid upon this point.

The remark made by Dr. Dennis, "That the operation is indicated in cases of tight stricture," seems to us somewhat too liberal, without further modification. There are no doubt cases of stricture in which this procedure will be useful as an ultimate resort. Certainly, however, the attempt might be made of attacking the stricture *in situ* by perineal section, even without a guide, before resorting to the supra-pubic incision. It is not very often that one is obliged to desert the perineal route into the bladder through the stricture on account of insuperable difficulties. Valuable time may be gained also by the well-recognized practice of

aspiration of the bladder in cases of critical retention, as Dr. Packard points out.

It may be worth while also to call attention to one accident that *has* happened and which may be avoided by emptying the rectal balloon previous to incising the bladder, after it has been fixed by tenacula or by a stitch. In the case we have in mind the bladder was pushed to one side by the rectal bag, the rectum presented in the wound, and was incised by the operator, under the impression that it was the bladder.

We are glad that Dr. Packard has brought into prominence the uses of supra-pubic incision for purposes other than the removal of stone. In this aspect the operation has the additional interest of novelty and of a wider field of usefulness, and will tend to make more firm the belief that the operation after the many vicissitudes which it has undergone in the last hundred years has come this time to stay.

The third paper, by Dr. Vander Veer,⁵ deals with the classification of calculi with reference to choice of operation. The conclusions reached are, that litholapaxy should be applied to stones of moderate size, but discarded in favor of lithotomy where severe chronic cystitis coexists, no matter what the size of the stone. The author does not think that supra-pubic cystotomy will ever compete favorably with lithotripsy, on account of its greater mortality, but acknowledges that it is the best method with which to deal with very large calculi and with some cases of sacculated stone.

The tendency to welcome with injudicious enthusiasm the resurrection of supra-pubic cystotomy, to make its application all but universal, to the detriment of litholapaxy, and we believe also to that of many patients, was becoming so marked in some quarters — especially in Germany, where at Magdeburg, Volkmann said that litholapaxy henceforth would only possess an historic interest, and Koenig and Kramer, at Berlin, though less sweeping in their judgment, seemed to share the same opinion — that we have been glad to notice what seem to us the more just views which have been presented from time to time since these declarations. Guyon has undertaken the defence of lithotripsy,⁶ in an article, in which after an exhaustive review of the supra-pubic operation, with its modern improvements, and of litholapaxy, his concluding sentence is this: "I shall have attained my end, if I have contributed in common with others, in showing that rapid lithotripsy deserves to retain the first place in the treatment of stone in the bladder, and that all surgeons should assist in maintaining it there."

Dr. Vander Veer has brought out the fact again, that with the best showing the mortality statistics of supra-pubic lithotomy cannot be reduced to much below fifteen per cent., while those of litholapaxy vary from two per cent. to six per cent. Until this difference, therefore, is more equalized than at present, the burden of proof will continue to remain with the advocates

⁵ To what extent can we classify Vesical Calculi for Operation, with a Report of Cases and Remarks on the Different Methods employed

⁶ Annales des Maladies des organes Génito-Urinaires, December, 1886. (Des indications et contre indications de la lithotritie rapide.)

⁴ Révue de Chirurgie, No. 1, January 10, 1887.

of the supra-pubic operation, certainly so far as anything like a universal application of it is concerned.

With the main conclusions of Dr. Vander Veer's paper we are therefore quite in accord, and his statements seem well and carefully considered.

CUTANEOUS ERUPTIONS PRODUCED BY BROMIDE OF POTASSIUM.

GRELLEY has recently read a paper before the Société de Thérapeutique, in which he calls attention to the cutaneous affections which he has often witnessed as a sequel to the administration of bromide of potassium. These are acne, impetigo, eczema, furuncles, ulcerations, etc., often of a severe and obstinate nature; the cutaneous lesion is often accompanied by gastric disorders and great nervous depression, especially in dyspeptics or diabetics, where the kidneys perform their function badly. In cases where the medicine is imperfectly eliminated by the kidneys, it accumulates in the sudoriparous glands and provokes tegumentary lesions; where there is irritation of the mucous membrane (as in bronchitis), the irritation is sure to augment under the use of the bromide, while any existing dyspeptic troubles are sure to be aggravated, especially when the preparation is taken on an empty stomach, or insufficiently diluted. Arsenic is considered the best antidote of bromide, and Besnier is accustomed in his practice to give the two medicines together, that is, three, four or five drops of Fowler's solution with every three, four or five grammes of bromide.

Among the various eruptions produced by prolonged use of bromide of potassium, one of the most annoying is the furuncular, which is especially prone to follow the administration of large doses of bromide in diabetics. In diabetes the secretory function of the kidneys is always damaged, hence it is a mistake in the opinion of this therapist, to give bromide to diabetics, especially when along with glycosuria there is albuminuria.

Grelley concludes that it cannot be too much remembered that there are conditions which render bromide of potassium almost a poison, and that before prescribing it, it is well to be certain that the remedy is not contra-indicated by the constitution, or the peculiar predisposition of the patient. The state of the lungs and the circulation, of the skin, of the digestive tube, and of the kidneys, is to be taken into account before the treatment is prescribed. In patients who perspire little, or whose renal functions are badly performed, bromide should be interdicted altogether.

MEDICAL NOTES.

— The *American Analyst* publishes a list of "thirty-nine articles" non-theological, which it obtained from a member of the White-house family, these articles having been recommended, epistolarily, by sympathiz-

ing friends, during the President's late illness with rheumatism. Of course many of these are patent medicines, and others homœopathic remedies, mostly in high dilutions. Many of the others were external applications and included "crude petroleum, and equal parts of skunk oil, rattlesnake oil and camphor spirits."

— One hundred deer, inhabiting the famous Richmond Park, in England, have been killed by order of the official veterinary surgeon, as being infected with rabies. No cause for the disease, in the way of the bite of a dog known to have been mad, is clear, and the grounds for the diagnosis have not yet been given to the public.

— The duration of infectiousness in the acute infectious fevers is placed by Dr. Frederick Pearse (*British Medical Journal*), as follows: Measles, from the second day, for exactly three weeks; small-pox, from the first day, under one month, probably three weeks; scarlet fever, at about the fourth day, for six or seven weeks; mumps, under three weeks; diphtheria, under three weeks.

— Instances are occasionally coming under medical observation, of accidents from the explosion of "siphon-soda" bottles. Whether the casualties are most frequently due to a defect in the quality of the glass, or to the water being too highly charged with carbonic acid gas, or to both conditions combined, is not known. But some very ugly little wounds have been caused in this way.

— On the 17th of April, a memorial ceremony, in honor of the late Professor Schroeder, instituted by the Society for Obstetrics and Gynæcology, was held in the Aula of the University of Berlin, at which were present Minister von Gossler, Ministerial Director Lucanus, the Professors of the University, and many others. Schroeder's widow with her nine children and a brother took the place of honor near the marble bust of the deceased, which was encircled by palms and evergreens. The ceremony began with the singing of the choral, "Herr Gott Du bist unsere Zuflucht für und für," after which the memorial address was given by Privat-docent Dr. Löhlein.

— *Science* says that while the assumed fact that plumbers escape disease and infection from the inhalation of sewer-gas is often referred to as indicating the harmlessness of this air or gas, yet were all the facts known, this view would undoubtedly be much modified. A recent occurrence in England would seem to prove that men who follow this trade are not so exempt as is generally supposed. An inquest was held during the past month, in Liverpool, on the body of a plumber's apprentice who had been engaged during the previous week in repairing pipes which connected with a sewer. Quantities of gas came through these pipes, and at the time the young man complained of pain and sickness; in forty hours he died. The medical evidence was to the effect that death was due to the inhalation of sewer-air, and the jury rendered a verdict to that effect.

—The profession of medicine is so overcrowded in Germany, that the general union of physicians has sent a circular to all the directors of gymnasia urging them to dissuade their pupils from a career in which the chances of success are now so limited.

—The United States Consul, at Catania, in his dispatch to the U. S. State Department, dated April 8th, in reference to cholera, states "I am now glad to be able to report that the malady has ceased. The disease was first declared to be cholera on the 28th of February last. Soon after quarantine was established against the island of Sicily by the government of Italy. The people were greatly alarmed, and those who could get away fled. . . . At no time did the disease assume alarming proportions. The greatest number of cases reported in any one day was only seven. The disease seemed to be without epidemic features. The cause was attributed to the water of the wells, which was declared to be infected. The municipal authorities ordered the wells closed. The aqueduct for conducting water to the city from the slopes of *Ætna* was completed by the 15th of March . . . and after the 22d of March no more cases of cholera were officially reported. The whole number of cases officially reported was eighty-three, and the number of deaths fifty-one."

The United States Consul, at Callao, in his dispatch dated April 1st, encloses copies of cable messages from Chili, showing that the ravages of cholera in that republic have almost ceased.

—Quarantine officers are warned by the Supervising Surgeon-General, Marine-Hospital Service, against admitting vessels from South America or the West Indies, except on the most rigid scrutiny. The bureau is informed that in two instances vessels have left an infected South American port (and one of these vessels had cholera on board) and put into a West Indian port without quarantine detention. Such vessels usually do not take bills of health.

—The circuit court sitting at Lebanon, Ohio, May 4th, in the case of Dr. Darby against the State, brought up on error, affirmed the decision of the court of common pleas. It will be remembered that the doctor was imprisoned and fined some months since for refusing to testify as an expert in a certain case unless guaranteed the fee of an expert, and the action created an absorbing interest among the medical fraternity throughout the country. The circuit court upheld the decision of that of the common pleas upon technical grounds, and without touching the important question as to whether a physician could be compelled to testify as an expert without receiving the fees of an expert. The fact that the doctor voluntarily attended the examination by the coroner, made him liable to summons as a witness, in the opinion of the court, without regard to whether his evidence should be in the nature of a knowledge of facts or of a professional opinion. The attorneys for the doctor except to the decision, and will carry the case to the Supreme court.

BOSTON AND NEW ENGLAND.

—The recent course of lectures on the "History of Medicine," delivered by Dr. J. S. Billings before the Harvard Medical School, was well attended by physicians as well as by students, and proved of much interest. There are reports that Dr. Billings may be heard before the Lowell Institute on a similar subject next winter. While in Boston he also gave two lectures to the students of the Institute of Technology.

—The Committee on Education of the Massachusetts Senate, have reported a resolve granting \$100,000 to the Massachusetts Institute of Technology, provided that institution shall secure an equal sum in addition to its present property before December, 1887, when the first half of this grant becomes payable. In consideration of the grant the institute is required to maintain twenty free scholarships, and each senatorial district in the State shall once in eight years, in such alternate order as the Board of Education may determine by lot, be entitled to one scholarship for a period of four years, preference being given to candidates otherwise unable to bear the expense of tuition. In case no candidate appears from a senatorial district, a candidate may be selected from the State at large.

—The Committee on Charities has recommended a grant of \$10,000 to the Carney Hospital, South Boston, and \$10,000 to the Baldwinville Cottage Hospital for epileptics.

—Springfield, Mass., has raised \$130,000 for a General Hospital.

—About fifty cases of a fever, presenting in general most of the characteristic symptoms of typhoid, have occurred among the emigrants recently landed in Boston, from the Allan line steamship *Prussian*. There were several cases on the steamer during the voyage.

—The full bench of the Supreme Court of Massachusetts gave an important decision May 13th, in the suit of Samuel P. Train, *et al.* vs. the Boston Disinfecting Company, holding that a lien exists upon rags for charges of disinfecting when so ordered by the board of health. This was a suit of replevin to try the title to a lot of rags which had been disinfected by the defendant by the order of the board of health for this city, under their well-known regulation of June 15, 1885, since rescinded. The defendant claimed a lien for its charges. The plaintiffs, who are importers of rags, in December, 1885, entered into an agreement with the defendant, whereby the defendant was to disinfect all rags which the said board of health might order to be disinfected at ten per cent. discount from the regular rate of \$5 per ton on the first 500 tons of rags disinfected; fifteen per cent. discount on the first 1000 tons and upward; that the lighterage charges should be deducted from the amount of discount allowed, etc. It also appeared that the rags in suit were imported February 18, 1886, and were ordered by the said board of health to be disinfected by the defendant at the said works, and were received by the defendant for disinfection in accordance with the said order, and were disinfected at or about said date under

a protest by the said plaintiff, in the form of a letter to the board of health, in which the plaintiff says: "In view of all this, and the absence of any evidence or cause to suspect the said goods of infection, we hereby respectfully request of you a permit, duly authorizing the landing of the same, such as we are obliged to produce at the custom-house, under treasury department circular of June 1, 1885, and we respectfully protest against your requiring those rags to undergo any process of disinfection which shall put upon us delay and expense, because the rags are not infected, nor is there any cause to suspect them of infection. But if, notwithstanding, you require these rags to be submitted to some process of disinfection, we respectfully protest against your turning them over to the Boston Disinfecting Company, to be treated by them according to the process heretofore applied by that company to former importations of ours, for the following among other reasons: Because the process of alleged disinfection, as applied by them heretofore, is worthless as a disinfectant of the rags (supposing them to be infected), as adequate and proper tests will clearly show." In overruling the plaintiff's demurrer to the defendant's answer and ordering judgment for the defendant, the court says: "It was competent for the board of health to make the order by which the plaintiff's rags were subject to disinfection, and to impose the expense thereof on the plaintiffs and to subject the rags to a lien thereof."

NEW YORK.

— During the week ending May 14th, there were reported eleven new cases of small-pox, and five deaths from the disease.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held May 12th, Professor Jarvis S. Wight, of the Long Island College Hospital, read a paper on the "Legal Responsibility of Surgeons." In the discussion which followed it was the universal sentiment that trials of cases involving questions of this kind should be heard only before juries composed of medical men.

— The untimely death of Dr. E. Darwin Hudson, is a serious loss to the profession. He was cut off by an attack of pneumonia of only a few days' duration, and no man of his years, in the city, had acquired a more enviable reputation as a consultant and clinical teacher; while his character was such as to make him widely beloved and respected. He was graduated from the College of Physicians and Surgeons in 1867, and at the time of his death, (which occurred May 9th, at the age of forty-three years), he was Professor of General Medicine and Diseases of the Chest, in the New York Polyclinic, and Attending Physician to Bellevue and St. Elizabeth's Hospitals.

— The Annual Commencement of the College of Physicians and Surgeons, the medical department of Columbia College, was held at Steinway Hall, May 12th, when degrees were conferred upon 106 graduates. The first Harsen prize of \$500, for proficiency

in examinations was awarded to Ellsworth Eliot, Jr., and the Cartwright Alumni Prize of \$500, for the best medical essay, open to universal competition, to Dr. B. Farquhar Curtis, of New York; subject, "Injuries to the Abdomen and Rupture of the Intestines." Drs. J. Gardner Smith, of New York, and Hobart Ham, of Philadelphia, received honorable mention for their essays. The address to the graduating class was delivered by Gen. Stewart L. Woodford, who said that he wanted all the alumni of the college to feel it their duty in the future years to assist Columbia in the development of the true idea of a university.

Correspondence.

A LONG OBSTETRIC RECORD.

PLATTSBURGH, N. Y., May 11, 1887.

MR. EDITOR,— The following "Obituary," taken from the *Vermont Centinel*, of June 4, 1806, published at Burlington, Vt., may interest some of your readers:

"At Somerset (Con.) the Widow Mary Sexton, in the 91st year of her age. She practiced Midwifery fifty-five years, and by her records she was at the birth of 3,500 children; was the mother of 11 children, nine of whom are living; grand children and great grand children 121 living to mourn their loss."

Yours truly,

D. S. KELLOGG, M.D.

A SUGGESTION FOR THE PREVENTION OF SEA-SICKNESS.

HARVARD COLLEGE,

CAMBRIDGE, MASS., May 12, 1887.

MR. EDITOR,— Some years ago, whilst studying the feeling of dizziness, I was led to discover the singular immunity from it which deaf mutes, as a class, possess; and in an article published in the *American Journal of Otolgy*, for October of that year, I ascribed this immunity to the destruction either of the auditory nerves or of their labyrinthine termination. I found, moreover, in deaf-mutes what seemed signs of a possible immunity from sea-sickness; and ventured the suggestion that the semi-circular canals were probably the starting-point of that affection also, and that its symptoms in an ordinary sufferer might perhaps be alleviated by blistering or otherwise counter-irritating the skin around the ears. Later, I thought, that in crossing the English Channel I had prevented an attack of sea-sickness in myself by simply rubbing my mastoid processes with my fingers. I have been unable to get any one else (such is the inertia of the human beings amongst whom our lot is cast!) even to try the experiment—which I should think might succeed in a short voyage even if it failed in a long one. Later, a New York physician (whose pamphlet I have mislaid, and whose name I am ashamed to say I cannot momentarily recall) defended the same theory in a very interesting manner, and, if I remember aright, drew from it similar therapeutic consequences. My present object in writing is to take advantage of a newspaper article which has been sent me, to bring the matter once more before the attention of the profession, and to stimulate experimentation, if possible. The editor of the *Gulf View*, of Cedar Key, Florida, in the number for April 2d, of that Journal, gives the following interesting account of his own case:

"In the year 1859 he received a blow from behind on the mastoid process, just behind the right ear, crushing the outer table of the skull and destroying the delicate nervous portion of the internal ear, including these same semi-circular canals, alluded to, as being absent or negative in deaf-mutes. The immediate consequences of the injury

were, first, the most distressing nausea of a character identical with that of seasickness, which lasted with intervals of ease for two or three days, and secondly, complete destruction of the function of the organ, the ear of that side being totally dead ever after. Shortly after convalescence, the writer made a voyage to Cuba and back, in rough weather, exposed to a very rough sea for six days on the voyage over, and the same time returning, and to his agreeable surprise, though previously very susceptible, he found himself to be proof against seasickness, and the immunity has continued to this day, nearly, twenty-eight years."

This editor adds, having seen some chance allusion to my suggestion in another paper, that, "It would be queer, if from these incidents and inductions, we should arrive at a knowledge of a sure means of obviating the horrors of

the *mal du mer*, which seems not improbable, and the suggestions made by Dr. James of the use of friction, or counter irritation as a remedy, is surely worthy of careful and extended trial, coupled with such other remedies as our improved knowledge of the causes of the disease may suggest. We shall await the result with interest."

Will not you and other leaders of opinion give publicity to this subject and urge travellers to try so simple an experiment? The yachting and travelling season is about to begin. It would seem, if public attention were well attracted to the matter, that by next autumn we ought to have enough cases of trial either to prove or to disprove what at present remains a mere hypothesis. I need not say how glad I should be to receive information either of distinct failure or distinct success.

Very truly yours,
WM. JAMES.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 7, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhœal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	760	279	16.25	13.00	2.47	7.93	.52
Philadelphia	993,801	468	191	17.22	14.91	1.05	3.57	7.77
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	123	34	4.86	13.77	—	—	—
Boston	400,000	193	55	9.18	27.54	—	5.67	.81
New Orleans	242,750	121	52	27.39	10.79	22.41	.83	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	91	25	12.09	12.09	1.82	1.82	1.82
Pittsburgh	210,000	86	37	18.56	13.92	—	5.80	6.96
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	58	30	13.76	15.48	1.72	1.72	—
Providence	121,000	38	16	21.04	10.52	7.89	10.52	—
Richmond	100,000	39	23	10.24	64.00	2.56	—	7.68
Newport	19,566	5	3	20.00	40.00	—	—	—
Nashville	65,000	16	7	18.75	12.50	—	—	6.25
Charleston	60,145	25	7	20.00	4.00	12.00	—	8.00
Portland	40,000	6	3	—	16.66	—	—	—
Worcester	68,383	18	4	16.66	22.22	—	16.66	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	22	7	4.55	18.20	—	—	—
Fall River	56,863	28	10	17.85	14.28	7.14	—	—
Lynn	45,861	14	1	—	14.28	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	2	26.66	—	—	—	—
Somerville	29,992	9	1	11.11	11.11	—	—	—
Salem	28,084	13	5	7.69	30.76	—	—	—
Holyoke	27,894	9	6	44.44	22.22	11.11	—	11.11
Chelsea	25,709	7	4	28.56	14.28	—	—	28.56
Taunton	23,674	15	6	26.66	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	9	2	11.11	11.11	—	—	—
Brockton	20,783	6	3	16.66	16.66	—	—	16.66
Newton	19,759	12	4	16.66	8.33	8.33	—	—
Malden	16,407	8	2	12.50	12.00	—	—	12.50
Fitchburg	15,375	7	2	—	28.56	—	—	—
Waltham	14,609	10	2	—	20.00	—	—	—
Newburyport	13,716	6	0	—	16.66	—	—	—
Northampton	12,896	1	0	—	—	—	—	—

Deaths reported 2,538; under five years of age 843; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 354, consumption 337, lung diseases 333, diphtheria and croup 102, diarrhœal diseases 64, measles 61, typhoid fever 33, scarlet fever 26, cerebro-spinal meningitis 17, malarial fever 16, erysipelas 12, whooping-cough nine, puerperal fever seven, small-pox (New York) seven. From typhoid fever, Philadelphia 12, Boston five, Pittsburgh three, Baltimore and Milwaukee two each, New York, District of Columbia, Nashville, Fall River, New Bedford, Somerville, Salem, Holyoke and Newton one each. From scarlet fever, New York 14, Philadelphia three, Boston two, Taunton four, Pittsburgh, Milwaukee and Holyoke one each. From cerebro-spinal meningitis, New York eight, Philadelphia and Fall River two each, District of Columbia, Milwaukee, Cambridge and Worcester one each. From malarial fevers, New York and New Orleans, five each, Philadelphia, Baltimore and District of Columbia two each. From erysipelas, New York eight, Philadelphia two, Boston and Milwaukee one each. From whooping-cough, New York three, Baltimore two,

Philadelphia, Boston, District of Columbia and Pittsburgh one each. From puerperal fever, New York and District of Columbia two each, Philadelphia, Milwaukee and Nashville one each.

In the 17 cities and greater towns of Massachusetts, with a population of 895,741 (population of the State 1,941,465) the total death-rate for the week was 22.46 against 22.44 and 24.38 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 23d, the death-rate was 21.6. Deaths reported 3,825: infants under one year of age 893; acute diseases of the respiratory organs (London) 337; measles 291, whooping-cough 134, scarlet fever 47, diarrhœa 40, fever 24, diphtheria 21, small-pox (London) one.

The death-rates ranged from 14.9 in Birkenhead to 36.4 in Manchester; Birmingham 23.4; Brighton 16.3; Hull 22.3; Leeds 22.7; Leicester 15.7; Liverpool 28.7; London 18.9; Newcastle-on-Tyne 20.6; Nottingham 15.8; Sheffield 22.8; Sunderland 26.6.

In Edinburgh 20.0; Glasgow 25.4; Dublin 31.3.

The meteorological record for the week ending May 7, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, May 7, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 1	29.92	58.0	66.0	46.0	44.0	70.0	35.0	50.0	N.W.	N.W.	N.W.	23	20	8	C.	C.	C.	—	—
Monday, ... 2	30.31	54.0	60.0	49.0	44.0	54.0	53.0	50.0	N.E.	E.	S.	6	14	4	F.	F.	C.	—	—
Tuesday, ... 3	30.29	64.0	74.0	47.0	67.0	91.0	62.0	73.0	S.	S.	S.W.	1	13	13	C.	O.	C.	—	—
Wednesday, ... 4	30.00	69.0	82.0	51.0	78.0	53.0	26.0	52.0	S.W.	S.W.	S.W.	8	16	12	O.	C.	F.	—	—
Thursday, ... 5	30.04	64.0	70.0	55.0	49.0	44.0	54.0	49.0	N.W.	S.E.	S.	4	8	6	F.	F.	F.	—	—
Friday, ... 6	30.25	51.0	61.0	48.0	78.0	81.0	87.0	81.0	E.	E.	E.	4	5	4	C.	C.	C.	1	†
Saturday, ... 7	30.33	48.0	53.0	40.0	78.0	80.0	96.0	85.0	E.	E.	E.	8	5	10	T.	T.	R.	4	.12
Mean, the Week*	30.306	57.7	67.0	49.0				63.0										5	.12

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 7, 1887, TO MAY 13, 1887.

ALEXANDER, C. T., lieutenant colonel and surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887.

HARVEY, P. F., captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

BIART, VICTOR, captain and assistant surgeon. Ordered for examination by Army Retiring Board at Fort Leavenworth, Kan. S. O. 107, A. G. O., May 10, 1887.

ELBERRY, F. W., captain and assistant surgeon. Ordered for examination by Army Retiring Board at Washington, D.C. S. O. 109, A. G. O., May 12, 1887.

SOCIETY NOTICES.

ANNUAL CONGRESS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.—The Ninth Annual Congress of the American Laryngological Association, Academy of Medicine, New York, May 26, 27, and 28, 1887. May 26th. Morning Session at ten o'clock. Roll-call, Reception of Guests, etc. President's Address. Reading of Papers. Evening. Theatre Party (Casino) and Supper (Delmonico's) by invitation of Dr. George M. Leferts. May 27th. Morning Session at ten o'clock, promptly. Business Meeting: Open to Fellows of the Association only. At eleven o'clock, the doors will be opened and the reading of Papers commenced. Afternoon Session at three o'clock. Discussion. Evening. Annual Dinner of the Association at Delmonico's, at seven o'clock. May 28th. Morning Session at ten o'clock. Reading of Papers. Afternoon Session at two o'clock. Reading of Papers. Election of Fellows. Ballot for Officers, 1887-8, and their induction into office. Adjournment.

D. BRVSON DELAVAN, M.D., Secretary.

INTERNATIONAL CONGRESS ON INEBRIETY.—The Council of the English Society for the Study and Cure of Inebriety, have completed arrangements for an International Medical Congress, to be held at Westminster Hall, London, July 5, and 6, 1887. The object of this Congress is to present and discuss the problems of Inebriety Medically, and from a purely scientific standpoint, by the best authorities, thus laying the foundation for a broader and more exact study of this subject. Papers and addresses are promised from a large number of the most distinguished Physicians.

T. D. CROTHERS, M.D.

Chairman American Committee.

ASSOCIATION OF AMERICAN PHYSICIANS.—The Second Annual Meeting of the Association of American Physicians will be held in the Army Medical Museum Building, at Washington, D.C., June 2d and 3d, 1887. Sessions at 10 A.M., 2.30 P.M., and 8 P.M.

GEORGE L. PEABODY, M.D., Secretary.

57 West 38th Street, New York.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.—The next annual meeting will be held in Baltimore, May 31st and June 1st, 1887.

J. B. WALKER, M.D., Secretary.

1617 Green Street, Philadelphia, Pa.

MASSACHUSETTS MEDICAL SOCIETY. One Hundred and Sixth Anniversary.—The Annual Meeting will be held at 9 o'clock, A.M., Wednesday, June 8, 1887, in Huntington Hall, at the Institute of Technology, Boylston Street (between Berkeley and

Clarendon), Boston. The usual arrangements have been made for the preceding day, Tuesday, June 7th.

FRANCIS W. GOSS, M.D., Recording Secretary.
BOSTON, May 9, 1887.

TUESDAY, JUNE 7, 1887. 10 o'clock, A.M.—The Fellows of the Society are invited to visit the Massachusetts General Hospital, on Blossom Street; the Boston City Hospital, on Harrison Avenue; and the Children's Hospital, on Huntington Avenue.

2 o'clock, P.M.—Meeting in Huntington Hall. Papers will be read as follows: "Tumors of the Bladder," by George W. Davis, M.D., of Holyoke. "Cases of Burns, with special Reference to Complications, Sequelæ and Treatment," by James E. Cleaves, M.D., of Medford. "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," by John C. Irish, M.D., of Lowell. "Fracture of the Spine: its Immediate Treatment by Rectification of the Deformity and Fixation by Plaster-of-Paris Jacket," by Herbert L. Burrell, M.D., of Boston. "Observations on the Puerperal Pelvic Ligaments," by Stephen W. Driver, M.D., of Cambridge. "The Relation of Tea Drinking to Disorders of the Nervous System," by William M. Bullard, M.D., of Boston. "Pulmonary Tuberculosis as a Sequel to ordinary Pleurisy with Effusion," by Herman F. Vickery, M.D., of Boston. "The Surgical Treatment of Chronic Empyemas," by Maurice H. Richardson, M.D., of Boston.

EXHIBIT.—At the Institute of Technology, during Tuesday and Wednesday, there will be an exhibition of official pharmaceutical preparations, instruments, surgical appliances and apparatus.

WEDNESDAY, JUNE 8, 1887, 9 o'clock, A.M. The One Hundred and Sixth Annual Meeting.—I. Secretary's Record and Report. II. Treasurer's Report. III. Medical Papers and Communications: "A Contribution to the Study of the Etiology of the Summer Diarrhea of Infants," by Henry C. Haven, M.D., of Boston. "Sepsis and Antisepsis in Summer Diarrhea," by S. Allen Potter, M.D., of Roxbury. "Training Nurses," by Alfred Worcester, M.D., of Waltham. "The Value of Public Health Measures to the State," by Samuel W. Abbott, M.D., of Wakefield. IV. Introduction of Delegates. (Intermission of fifteen minutes).

12 o'clock, M.—The Annual Discourse, by George J. Townsend, M.D., of South Natick. The hall doors will remain closed during the delivery of the discourse.

1 o'clock, P.M.—The Annual Dinner will be served in the Skating Rink, on Clarendon Street, near Boylston, to which place the Fellows, called in order of seniority, will walk in procession.

COUNCILLOR'S MEETINGS will be held during the ensuing year at the Medical Library, No. 19 Boylston Place, Boston, as follows: I. The Annual Meeting, at 7 o'clock, P.M., Tuesday, June 7th. II. A Stated Meeting, at 11 o'clock, A.M., Wednesday, October 5th. III. A Stated Meeting, at 11 o'clock, A.M., Wednesday, February 1, 1888.

THE ANNUAL CONFERENCE OF CENSORS will be held at 2.30, P.M., Tuesday, June 7, 1887, at the Medical Library, No. 19 Boylston Place, Boston.

CENSOR'S MEETINGS.—The Censors for Suffolk District, officiating also for the State Society, will meet in Boston, for the examination of candidates on Thursday, June 2, 1887, and on the Third Thursday of September and of December. But they cannot examine any candidate who is already a resident, or in practice, in any District other than Suffolk. Their meetings will be duly advertised in the *Boston Medical and Surgical Journal*. In the other Medical Districts the Censors will hold their meetings for the examination of candidates residing in their respective Districts, and none other, at the same place and on the same day as the stated meetings of the District Societies.

Original Articles.

CASES OF MULTIPLE NEURITIS.¹

BY CHARLES F. FOLSOM, M.D.,
Visiting Physician, Boston City Hospital.

ALTHOUGH primary, multiple, degenerative neuritis has been recognized and described for twenty years or more, very little attention has been given to the disease until within five years. The first cases fully recognized in Boston, or, at least, reported, so far as I know, were four years ago, when there was quite a number of idiopathic cases in this city, and the disease prevailed also in several stables, among horses.

Among the cases which I have seen there have been three types: (1) Idiopathic, in regard to which the opinion now prevailing is that the disease is of infective origin, analogous to beri-beri. (2) Toxic. (3) Purely rheumatic, like Bell's palsy. I will describe only a few typical cases, alluding briefly to others.

C. R., a Swede, thirty-eight years old, married, a rigger and sailor, entered the Boston City Hospital, in my service, July 6, 1886. A week previous he was on deck, in an exciting yacht race, in his stocking-feet, and got his feet and legs thoroughly wet. In the evening he thought that he had taken cold. The next day his legs felt heavy, and he could not go aloft, but worked on deck. The following day he went home and took to his bed, complaining of severe pain in the small of the back, knees, ankles, and feet, moderate headache, loss of appetite, nausea, and excessive thirst. He had, also, a slight chill. He complained of a dead feeling in his legs, and said that he could not walk. He could not sleep from pain in his limbs and joints, and restlessness. Two days after the trouble in his legs his hands felt numb, and his arms were observed to be weak; and still two days later, he began to have difficulty in drinking, on account of inability to tightly close his mouth. He thought that his speech was altered, being somewhat thick. He had perspired excessively.

The patient was a strong, well-developed, and well-nourished man, without ascertainable hereditary predisposition to disease, a moderate drinker, and, according to his statement, without a previous history of syphilis.

On examination, there was no evidence of disease of the thoracic, abdominal, or pelvic organs, nor of the brain and spinal cord. Temperature was 99.4°, pulse 96, respiration 32. Tongue slightly coated, moist; protruded straight, but only as far as about one-quarter of an inch beyond the line of the teeth. The eyelids failed to close by about the space of one-half an inch, and the lips by one-quarter of an inch. No affection of the motor muscles of the eyeballs; pupils not abnormal. Speech decidedly thick, cheeks puffed out a little, eyebrows cannot be raised. The grasps of both hands were weakened and nearly equal. The arms could be moved freely, but not used. The legs could be moved only very slightly.

There was some sensation of prickling, very slight, in the feet, and a numb or "dead" feeling in hands and legs. Superficial sensation was somewhat impaired in the feet, and very slightly in the legs; elsewhere unimpaired, except for some cutaneous hyperæsthesia in thighs, arms, trunk, and face. No diffi-

culty in respiration. The disease was very nearly symmetrical; if any difference, the left side was slightly more affected than the right.

The urine was normal, of specific gravity 1026. The bowels were constipated, micturition normal, spleen not manifestly enlarged; no pain or swelling in any joints. On lying still in bed, there was no pain anywhere, but motion of the legs was painful, and pressure, even moderate, over the nerve-trunks, and in the course of the nerves in the legs and thighs, gave rise to exquisite pain. There was no evident muscular atrophy. The chin-arm-and-knee-jerks were absent, and there was no response from the plantar, epigastric, and abdominal muscles; very slight from the cremasteric.

In the course of the disease, the pain became so extreme that subcutaneous injections of morphia and laudanum externally were used freely for three months. The tenderness on pressure over the course of the nerves, from the shoulders down, became everywhere excessive. There was also great pain in opening and closing the jaws, and tenderness on pressure over the motor branch of the fifth pair. The paralysis gradually reached a point where the patient could not turn in bed from his back to his side, or move his legs. The fingers closed only faintly in the motion of grasping. The wrist-drop was not very marked. The paralysis of the extensors of the feet was absolute, so as to require the use of foot-splints. There was extreme loss of flesh in the legs, and generally considerable quantitative lowering of electro-muscular contractility, and, finally, lack of response in extensor muscles and some others to either current, faradic or galvanic. The bowels became most obstinately constipated. There was troublesome retention of urine, but not sufficient to require the catheter. There was also a small bed-sore.

The mental condition was of a mild stupor, approaching delirium, to the extent that, for a few weeks, the patient's statements with regard to anything which had happened several hours previously could not be depended upon. The aspect was distinctly typhoidal. The spleen was not found to be enlarged at any time. A very mild degree of anaesthesia, just noticeable, extended, in time, over the thighs, trunk, and arms, and it increased in the legs and feet.

At the end of the first month the tongue was nearly clean, and slight improvement was observed in the hands and face.

At the end of the second month, the patient could move his arms pretty well and close his fingers in a grasp, but not exert force. He had very little trouble in eating, as he could close his lips, and there was no pain in chewing. There was some tenderness on pressure over the motor branch of the fifth pair, but scarcely any over any of the nerves of the arms, chest, trunk, abdomen, or thighs, but excessive over those of the legs. He could almost close his eyes, and could move from side to side, but not sit up. There was no soreness on motion, but the pain in the legs still required opiates, especially at night. The flexor muscles of the forearm reacted to the faradic current: the extensors, the quadriceps femoris, and all of the leg to neither current. Massage was begun, and, three weeks later, galvanism, beginning where extreme tenderness on pressure had disappeared, galvanism following massage, until both were gradually extended over the whole body.

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, April 13, 1887.

At the end of the third month, marked and steady improvement had been observed everywhere, except in the legs. There was complete ankle-drop; and the muscles of the thighs and arms, but especially of the legs, were very much wasted, soft, and flabby. There was still great tenderness on pressure over the calves, but there seemed to be no well-marked diminution of sensation, except in the feet, and that not very great. Two weeks later he was sitting up daily, and in another week there was scarcely any tenderness anywhere on pressure in feet or legs.

A little after the close of the fifth month, the foot and toes were seen to move, for the first time, on the right side, and the tibialis anticus and gastrocnemius muscles contracted. In a few days, similar observations were made of the left foot and toes; but, at the end of the sixth month, he was still unable to stand. A week later he began to walk, with support, and two weeks after that he could walk alone. Two weeks later still, he was discharged at his own request, that is, about a week after the seventh month of treatment. All the muscles, at that time, reacted to galvanism, although in degree considerably below the normal in the legs and feet, less so in the arms. He could raise his feet and toes, although they dropped somewhat in walking.

At the end of the ninth month he had regained his usual flesh, and, except in his legs, he said, his usual strength. He could walk perfectly well on a level, but, going up or down stairs, or over curbstones, needed a cane or some similar support. I found him, after some difficulty, on the street, and could not make a full examination. The knee-jerks were still absent, but the patient expects to go to work soon.

In accordance with my previous experience in such cases, I found very little benefit from salicylic acid or the salicylates in treatment, but the pain always diminished after using quinine in full doses.

As regards diagnosis, the muscular wasting and electrical reactions exclude Landry's paralysis, which is, I believe, now accepted to be a rapidly fatal form of myelitis; the gradual invasion of one group of muscles after another, with sensory disturbances, and the pain and tenderness on pressure, exclude anterior poliomyelitis, and no other diseases would suggest themselves. After admission to the hospital, the temperature did not exceed 100° F., nor the pulse 102. But the febrile symptoms, and typhoid appearance and mental condition, place the case among the infective diseases, and, therefore, in the first group of idiopathic, primary, multiple, degenerative neuritis.

Although there was a previous history of exposure to wet and cold in this case, there has not been such in my other cases. Judging from previous experience, the prognosis in this case seems to me favorable for the reappearance of the knee-jerk and ultimate greater improvement, if not entire restoration of function in the legs, but probably not for some months, and possibly, not within a year or two.

I have not been able to make out any distinct enlargement or hardness of any of the nerves in these cases. Indeed, the exquisite pain prevented an examination careful enough to settle these points.

Of the toxic cases, I am not sure that I have ever seen arsenical multiple neuritis. At least, the diagnosis was not confirmed, or otherwise, by chemical examinations of the wall-paper or urine. Those due to lead are readily diagnosticated by the usual methods

of testing for its presence in the urine. A previous history of syphilis, especially after a rapid relief by mercury or iodide of potassium, of course, justifies the assumption that the case is syphilitic. Cases after the infective diseases, especially typhoid fever and diphtheria, are reported, and have been probably seen by most of us. In the course of chronic disease of the lungs and kidneys, especially in the late stages, they are not very uncommon. One of the most distressing forms of multiple or general neuritis, and perhaps the most hopeless, is due to the long-continued abuse of the preparations of opium. Where it exists the abandonment of the opium habit and its continuance are so nearly equally painful and fatal that there is little choice between them. By far the most frequent source of toxic general neuritis, however, is alcohol; and cases occur in all degrees of severity, of which I shall report two, one at each extreme.

Mr. —, a literary gentleman, just beyond middle age, born in Europe, came to this country with the habit established of drinking a pint of claret with his dinner. Under the press of heavy work, he increased his pint of claret to a quart, and drank a half-tumbler of whiskey at bed-time. He also used tobacco freely.

On account of some failure in eyesight, not excessive, impaired facility of using the legs, which was troublesome in going up and down stairs, etc., but otherwise not considerable, a dull pain in the thighs and legs, disappearance of the knee-jerks, and marked swaying of the body with the eyes closed, the confident diagnosis of locomotor ataxia had been made. There were some slight anesthesia and paraesthesia. I could not find any symptoms that seemed incapable of explanation from the alcoholic history, although the patient had never been intoxicated in his life and had never been conscious of taking alcohol to excess. There was some, though slight, tenderness on pressure over the course of the nerves in the legs. The alcoholic habit was given up; in a year the knee-jerk had re-appeared and the symptoms suggesting the diagnosis of posterior spinal sclerosis were gone. This mistake is, I think, a not very infrequent one, and occurs, too, in multiple neuritis due to syphilis or lead. I have also seen cases of locomotor ataxia where there seemed to me to be symmetrical peripheral neuritis, to the relief of which I attributed great temporary improvement in the symptoms.

M. H., single, twenty-six years old, employed in a bar-room, entered the Boston City Hospital, August 12, 1886. His father died of rheumatic fever. Eight years previous to admission patient had typhoid fever and once fell unconscious in a fit after drinking heavily. He had been a hard drinker for many years, and for a week past had been sleepless and without appetite, drinking steadily. After sleeping in a cellar, drunk, he awoke with severe pains in his head, back, and entire left side.

On entrance he appeared well developed, and fairly nourished. Temperature 100.4°, pulse 104, respiration 28. Tongue rather dry, slightly coated. Bowels constipated. Urine, a trace of albumen. The examination of thoracic, abdominal and pelvic organs was negative.

Pupils of moderate size, right somewhat larger, both react fairly well; marked nystagmus on looking to either side; motion of left eye outward somewhat limited. Some tremor of fingers, left grasp weaker than right. Coördination good. Sensation unim-

paired in head, arms and trunk. In both legs below knee are one or two areas of diminished sensation. Left knee-jerk nearly, if not quite absent; right very weak. Superficial reflexes well marked. Slight tenderness along nerve-trunks in both legs and right thigh, possibly somewhat in forearms. Mental condition not remarkable.

13th. Increase of pain in arms, legs, chest and abdomen. Marked tenderness over course of nerves in legs, arms and intercostal spaces. Complaints of numbness in hands, but there is no diminution of sensation. Both grasps distinctly weak. Considerable loss of power in extensors of feet and toes. Knee-jerks absent.

14th. Last night became very delirious and actively violent, requiring restraint, and during which he became unconscious of pain or tenderness. Somewhat quieter this morning, but still delirious and constantly talking. Excessive muscular tremor. Takes nourishment fairly well.

15th. In a mild semi-delirious state, picking clothes, etc.; very weak, with feeble pulse. Extreme sensitiveness to pressure over course of nerves everywhere but in the head and neck; screams with pain with the least touch or movement of the body and limbs.

18th. Is still quite delirious, complains of soreness and pain all over; marked anaesthesia especially in legs.

21st. Marked loss of power in legs and some in arms. Toes drop. Over both buttocks are abrasions of skin, superficial, size of dollar. Urine and faeces passed in bed. Mental condition quite suggestive of the final stage of general paralysis.

25th. Loss of power in arms and legs seems greater.

28th. Complete wrist- and toe-drop. Is more delirious, the delirium frequently being of a tearful and painful character; often shouts in imaginary conversation. Eats well. Extreme sensitiveness on pressure over the nerves; muscles very flabby, with very little power of movement in muscles of arms, legs and trunks.

September 2d. Constant hallucinations of sight and hearing. Has no idea where he is, and most of the time recognizes no one about him; has been seen to put faeces in his mouth. Cannot turn over in bed without help.

5th. Bed-sore over right buttock, irregular in outline, superficial, about two inches in diameter. Small abrasion over left buttock. Habits very filthy. Distinct nystagmus noted at times. Sleeps but little.

8th. Can now turn himself in bed and feebly extend right wrist. Mental condition no better. Sleeps poorly. Takes any food given him.

18th. Is delirious all the time when awake, and thinks he spends his time in the woods, down by the wharves, and on long walks in the country. Last night restless and noisy, and rolled out of bed. Cannot walk on hands and knees.

23d. Less noisy. Bed-sores improving.

29th. In general, seems to be improving somewhat.

October 6th. Is able to extend right wrist slightly. Grasps very weak, but growing stronger. Still marked sensitiveness over nerve-trunks, especially in legs. Feet completely dropped, but there is some power of voluntary motion in toes. Very marked general wasting; flabbiness of muscles. Mental condition decidedly better; eats and sleeps well without opiates. Can turn in bed. Anaesthesia very moderate and chiefly in the feet and lower part of legs.

13th. Quieter and more rational; eats and sleeps well.

17th. Memory extremely poor, but shows no delusions.

22d. In general, is improving physically and mentally, and in good spirits.

27th. Gaining both in motion and sensation of extremities. Tenderness over nerve-trunks much less.

31st. Still some tenderness over nerve-trunks. No evident impaired sensation. Knee-jerks absent. Feet and toes dropped, but both can be moved and raised a little. Grasps weak but about equal. Elbow-jerks present. Muscles of limbs thin and very flabby.

November 24th. Gradually gaining; still considerable tenderness in legs and pain on motion. Some motion in both feet and toes.

December 21th. Improvement continues; can walk a few steps without assistance.

January 10th. Quite comfortable; complaining of some pain in lumbar region and left hip. Otherwise pain and tenderness on pressure gone.

16th. Improving rapidly, is up and dressed daily, and can walk quite well. Muscles react fairly well to galvanism.

18th. Discharged at his own request, and I have not been able to learn anything of him since that time.

The treatment in this case consisted of rest in bed, abundant food, opiates very freely, the actual cautery and small blisters over the course of the most painful nerves, and, later, after the soreness on pressure had nearly disappeared, massage and galvanism. The reaction to both currents in this case was decidedly diminished, but the reaction of degeneration was not found.

As illustrations of what I supposed to be purely rheumatic cases, and, perhaps, throwing some light on the question of pathology, I will very briefly report two cases:

The first was of a young man, who got drunk, lost his way, and slept in the woods in the snow, his shoulders having been particularly exposed. On awaking, he had severe pain in his shoulders and arms, which gradually increased, so as to become most intense, and increased by motion of the arms, with tingling and numbness in the hand and fingers. There was almost entire paralysis when I saw him, a few days later, diminished reaction to the faradic current, and extreme tenderness on pressure over the nerve-trunks. With rest, warm anodyne fomentations, quinine in large doses, and later, rubbing and electricity, there was complete recovery in six weeks.

The second was a young carpenter in Newport, kindly sent to me by Dr. Engs, of that city. After working all the afternoon, wet through in a cold rain, he spent the evening with his wet shirt on, after having changed his other clothing. The next morning he had severe pain in his arms, which soon increased to a degree which was quite excruciating, and lasted for several weeks. Whether there were other sensory symptoms or not then, I could not ascertain: I saw him three months later, and found marked atrophy and extremely limited power of motion in both shoulders and arms. The pain had subsided so as not to be especially troublesome, and there was not marked tenderness on pressure over the nerve-trunks. There was some reaction to the faradic current, and no marked sensory disturbance, that is to say, inflammation had subsided, and processes of recovery or of degeneration were to begin.

At the time of the examination, the patient's condition might have been explained by a diagnosis of an-

terior poliomyelitis: but, with the history, considering it a case of neuritis, I gave a favorable prognosis. He was sent to the Massachusetts General Hospital for convenience of treatment, and in three months returned home somewhat improved. He gained steadily at home, and when I saw him, a year later, there was scarcely any atrophy of the arms, and he had very good use of them. His hands were still not sufficiently recovered to resume his trade, although he could use them freely in eating, dressing, and plain work. The extensors of the hand were mostly at fault, but as they were capable of contraction and some usefulness, I gave as a prognosis that, in a couple of years more, the patient would be likely to have quite useful hands, so as to be able probably to resume his trade.

The pathology of these various cases has not yet been so far investigated as to place it on an entirely substantial basis. That they have many features in common is evident.

So far as I am able to learn, post-mortem examinations in cases of primary multiple neuritis have not thus far shown disease of the brain or spinal cord, which has not been acknowledged to be insufficient to produce the symptoms, and in most cases there has been no central lesion found; the evidence being that the disease is primarily an interstitial peripheral neuritis, that in mild cases the disease goes no farther, and that in severe cases there is also parenchymatous inflammation, and more or less degeneration of nerve-fibres. Both processes are capable, in time, of a great degree of regeneration, or, at least, of restoration of function. The distinct sensory symptoms with which the disease is commonly ushered in usually soon nearly disappear, except pain and marked anæsthesia is a rare exception in the disease. We are driven, therefore, to suppose (1) that there is an undiscovered central lesion; (2) that there is a functional central disease giving rise to the neuritis, as Erb holds; (3) that Leyden and Oppenheim are right that the central lesions thus far observed result from ascending neuritis, or form a part of the morbid process in the nerves, without giving rise in themselves to any special symptoms; or finally (4), with Strümpell, that primary multiple neuritis affects chiefly the motor fibres—a supposition analogous to Westphal's theory that the motor fibres or cells in the cord may be sensibly diseased without affecting those governing nutrition of the muscles.

Alcohol has an affinity, so to speak, whether from a common microorganism or not, for the brain and spinal cord, as well as for the nerves, and clinical evidence, supported by a certain number of autopsies, supports the theory that many, at least, of the cases of alcoholic and lead neuritis are complicated with more or less cerebral or spinal disorder, or both. That a central lesion, cerebral or spinal, may not ultimately be found to be a necessary factor in the idiopathic and other forms of the disease, of course, I am not prepared to say.

There are cases, also, doubtless, which are primarily subacute or chronic parenchymatous degeneration of the nerve-fibres, without marked symptoms, except loss of power, or impaired sensation. Perineuritis also occurs, and there are mixed cases.

There are now four cases of leprosy in Minnesota as against six in 1884.

FOUR HOSPITAL CASES.¹

I. TUBERCULAR PERITONITIS, WITH PERFORATION OF THE ABDOMINAL WALL. II. CIRRHOSIS OF THE LIVER. III. HÆMOPHILIA. IV. TETANY.

BY F. C. SHATTUCK, M.D., BOSTON,
Visiting Physician, Massachusetts General Hospital.

I. TUBERCULAR PERITONITIS; SLOUGHING OF THE UMBILICUS AND FISTULA.

P., TWENTY-FOUR years of age, entered the hospital, June 21st. A sister died of phthisis. About a year before entrance the patient began to suffer from attacks of abdominal pain, distension and tenderness, lasting five to ten hours, and relieved by bilious vomiting. These attacks recurred at intervals of about a month. The last was four weeks before entrance; he did not rally from it but felt poorly, lost flesh and strength, and had moderate diarrhœa much of the time. He had no cough or other pulmonary symptoms. Pulse 100.

Physical examination showed slight consolidation at the right apex without softening. In the umbilical region a rounded cake-like tumor with irregular surface, four inches in diameter, and apparently covered over by intestine, was felt. On the right side of the tumor and in the right iliac fossa, tenderness was marked. Diagnosis: tubercular peritonitis.

July 3d. The patient was evidently weaker. Moderate fever was constant with evening exacerbations. The abdomen was more distended, peritoneal crepitus could be felt; night sweats, occasional vomiting, and abdominal pain were noted. The scanty sputum was examined for bacilli with a negative result.

July 14th. Several days before this date it was noticed that the skin about the navel was getting red and œdematous. On this date a small perforation took place through which with each inspiration was emitted offensive gas, on deep inspiration offensive greenish fluid; during the act of vomiting this fluid was ejected with force.

July 18th. The fistula gradually enlarged, and the patient was transferred to the surgical side.

July 19th and again on the 22d, dejections of normal consistency passed the rectum, the only discharges of any kind through that outlet between the appearance of the perforation and death, which took place July 28th, from exhaustion.

Autopsy. The right pleural cavity was obliterated by old adhesions, a few of which were also found on the left side. The apex of the right lung was thickened, shriveled and dense; on section, numerous small gray tubercles, and some pigmented fibrous tissue were seen. Throughout both lungs there were occasional cheesy patches, a half-inch or more in diameter, some of them partially softened, surrounded by deeply injected borders containing milary tubercles.

A fistulous opening through the umbilicus contained a drainage-tube entering the peritoneal cavity partially obliterated by old adhesions. This encysted cavity extended upwards beneath the right lobe of the liver, and downward on the right to the pelvis, containing masses of necrotic fat tissue (omentum), and several ounces of offensive fluid; it communicated with the rectum above the internal sphincter by an opening in the anterior wall half-an-inch in diameter. The intestines contained tubercular nodules and ulcerations, chiefly in Peyer's patches.

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, April 10, 1887.

The pathological diagnosis was then as follows: Chronic pulmonary tuberculosis, acute bronchitis, tubercular peri bronchitis, chronic tubercular peritonitis and enteritis, umbilical fistula, perforating ulcer of rectum.

The special reason for reporting the case is the comparative rarity of spontaneous perforation of the abdominal wall in tubercular peritonitis. The seat of the perforation was also somewhat remarkable, the strong fibrous structures of the umbilicus being completely destroyed.

II. CIRRHOSIS OF THE LIVER; ASCITES ABSENT UNTIL A FEW DAYS BEFORE DEATH.

A widow, forty-nine years of age, entered my service October 9, 1886; she was the mother of nine children, the youngest thirteen years old. She had never had any special illness, but had overworked herself from time to time, and been obliged to go to bed for several days to rest. The past two or three years these periods of overstrain had been more frequent.

About three months before entrance she had an attack of "dysentery" with pain, bloody discharges, and tenesmus. The blood in the stools was quite abundant and persisted for three weeks; during the first week of her illness she vomited blood several times in considerable quantities; she was six weeks in bed. Since she got up there had been no recurrence of hemorrhage; but the blood loss was not made up and she steadily lost in flesh and strength, and was entirely unfit for any work; nausea and vomiting after taking even small quantities of food, unattended by any pain, had been prominent symptoms. The two days before entrance vomiting was still more frequent, and she again passed blood from the bowels, but this time without pain and the blood in clots.

The patient was very anæmic, very slightly jaundiced, and the skin over the neck, arms, and body contained capillary dilatations. The hepatic dulness was increased in width both upwards and downwards, and the edge of the liver was distinctly felt an inch and a half below the ribs; its surface was lacking in smoothness. The abdomen was distended with gas, but no ascites could be positively made out. The spleen was not enlarged. The urine contained a small trace of albumen and a few casts. A very loud systolic souffle was heard over the heart, loudest in the pulmonic area; over the apex a thrill could be felt, but there seemed to be no enlargement of the organ. Diagnosis: cirrhosis.

October 10th. Passed a large blood clot and about ̄iii. of fluid blood with fæces.

October 11th. There was now unmistakable ascites, the liver could no longer be felt, the diaphragm was pushed up, and there was slight œdema of the abdominal wall and feet. The vomiting continued from time to time, but there was no recurrence of hemorrhages of any kind.

October 14th. The ascites had increased rapidly, and caused so much distress that she was tapped. After the withdrawal of the fluid the roughness of the liver surface was distinct, and the contour of the lower edge of the organ could be well made out. Considerable relief followed the tapping, but the patient gradually failed in strength and October 16th, six days after entrance, she died.

A full autopsy could not be secured, but my efficient house-officer, Mr. L. T. Stevens, succeeded in ex-

tracting the liver, in two portions, and some of the other organs through the rectum.

The heart was normal and showed no anatomical explanation for the very loud murmur heard during life. The lower portion of the ileum and upper part of the colon were full of black, tarry material. The liver was not materially altered in size and was eminently cirrhotic. The spleen was increased in density, though not in size. The kidneys showed moderate chronic interstitial changes.

It is a matter for regret that it was impossible to make the autopsy in the usual way. To remove the liver through the rectum it was necessary to cut it in half, and the precise condition of the portal vein and its main branches was thus impossible to make out. The extreme rapidity with which ascites appeared and progressed suggests the possibility of its dependence on thrombosis of the portal vein. The severe intestinal hemorrhages showed that great portal congestion had existed for some months, and it also seems possible that in the occurrence of free bleeding is to be found an explanation of the late advent of ascites, the hæmorrhage relieving the stasis.

III. HÆMOPHILIA.

H., a clergyman, fifty-two years of age, entered the hospital, July 12, 1886, for tonsillar abscess, of which he had had several previous attacks. The first was treated by incision, which was followed by hæmorrhage that did not finally cease until six weeks had elapsed. In a day or two after entrance the abscess broke, and the day after this he began to pass bloody and smoky urine, the source of which the microscope showed to be the kidneys. He reported that hæmaturia had followed each previous attack of parenchymatous tonsillitis, and was also brought on by unusual mental excitement or exertion. In all, he thought he had had as many as one hundred and fifty attacks. If he kept quiet, and drank large quantities of water, the bleeding generally ceased in five or six days, but if he worked, it lasted from twenty to thirty. When a child, slight knocks produced large, black-and-blue, painful swellings, which were slow to subside. When twenty-one years of age he had an epistaxis which threatened life, but bleeding from this source has never recurred. The tendency to bleed has, he thinks, diminished as he has grown older, but slight cuts are still followed by free and persistent hæmorrhage. No history of hæmophilia in either parent or grand-parent could be obtained; all were long-lived. Of his seven brothers and sisters, one brother shows this tendency, and a sister's son exhibited the hæmorrhagic diathesis to a marked degree, finally dying of persistent hæmaturia.

Hæmophilia, like color-blindness and pseudo-hypertrophic paralysis, is transmitted through the females of a family, the females themselves generally escaping. The tendency can thus oftentimes be followed through many generations. My patient is an unusually intelligent man, and the fact that he cannot trace the diathesis behind his own generation is one reason for reporting the case.

IV. A CASE OF TETANY (?)

A stable-boy, nineteen years of age, of good family and previous personal history, entered the hospital September 30, 1886. He was muscular, well built, and ruddy. He said that for the past year there had

been slight, but constant, stiffness of the jaw, which had not hindered speech or mastication, but had been sufficient to give him a constant desire of moving the jaw from side to side, and this had now become a habit.

The day before entrance, without any assignable cause or any warning, the stiffness of the jaw increased very much, the hands and forearms became numb and rigid; also the legs, to a less degree. This was soon followed by general tremor. The whole attack lasted some twenty minutes. During the attack he had a dull feeling in the back of his head, whence the numbness and stiffness seemed to start. There was no loss of consciousness or disturbance of vision. He had three such attacks yesterday, and two to-day. In the intervals between the attacks he felt perfectly well.

On entrance, the patient was in the midst of an attack, and was reported as having a chill. The temperature was 99.4°. By the time the house-officer reached him the attack had nearly passed, and his condition was as follows: He was much excited, free from pain, but complained of a disagreeable, indescribable sensation over the whole body. The pulse was rapid and strong, the breathing quickened. The expression of the face was peculiar, suggesting the *visus sardonius*. The masseter muscles were hard to the touch; speech was difficult; there was marked stiffness of the arms and hands, the fingers being semi-flexed. Efforts to straighten the fingers encountered resistance, and caused slight pain. The legs were also somewhat rigid.

October 1st. I saw him for the first time. During the night he had had an abortive attack. Examination of the internal organs gave entirely negative results. As I finished testing the reflexes, which were not remarkable, an attack came on, preceded, for a few moments, by discomfort, slight mental excitement, and forced respiration. Stiffness then came on in the hands, arms, and fingers, which were all semi-flexed: the thumbs were held firmly between the first two fingers. The spasm was tonic, with slight tremor at times, and forcible attempts to counteract it caused pain. The mind was perfectly clear, and the patient was positive that he had no real pain, though decided discomfort was caused by the rigidity of the muscles. After fifteen or twenty minutes the stiffness disappeared entirely. Whether this result was furthered in any way by the inhalation of a little ether, I cannot say.

He was put on a full dose of bromide and chloral, every three hours, for several days. Slept nearly all the time, and had no more attacks, either spontaneously on testing the reflexes and the electrical reactions, or during pressure on the brachial artery and nerve. There was no increased electrical reaction of the muscles, the current being passed through the nerve.

October 9th. The patient was discharged, apparently well in every respect, except that slight stiffness in the jaw persisted.

The diagnosis seemed to involve the consideration of only three affections: tetanus, hysteria, and tetany.

The feature of the case which is chiefly suggestive of tetanus is the stiffness of the jaw, but this had been present for a year: this fact, with the absence of rigidity of the neck and back muscles, and the transitory character of the attacks, with entire freedom from symptoms in the interval, warrant us in excluding tetanus.

Hysteria is not so easily, and I do not feel that it

can be positively excluded, especially as Dr. Weir Mitchell, to whom I very briefly stated the case, thought it probably of that nature. But, apart from the attacks, there was nothing whatever about the boy to suggest hysteria. He dreaded the attack, as, indeed, do hysterical women oftentimes, for that matter. During the attacks he was perfectly reasonable, and he was glad to be discharged from the hospital. In the diagnosis of hysteria, the impression which the individual makes upon the observer counts for something, and this impression was, in the case before us, opposed to such a diagnosis. Moreover, the diagnosis tetany, in a mild form, explains very well the symptoms.

Tetany is a disease which is so rare with us—I can find no mention of it in Pepper's "System of Medicine"—that I may be pardoned for the following brief description of it: First described by Dance, who called it "intermittent tetanus," the term "tetany" was first applied to it by Corvisart, and later, adopted by Trousseau, who also called attention to its comparative frequency in nursing women. It is classed as a neurosis, affects young adults by preference, and is characterized by intermittent, tonic contractions, rarely of the trunk and face, most frequently of the upper extremities, and chiefly of the flexor muscles, the intellect always remaining clear. It is bilateral. The attacks are generally preceded by somewhat ill-defined prodromata, and recur at variable intervals during periods of a few days to months. In the intervals between the attacks, patients appear well. Trousseau first showed that attacks may be brought on at will by pressure on the nervous and arterial trunks, the spasm ceasing as soon as the pressure is relieved. Erb has shown that the muscles are stimulated with undue ease by means of electrical currents through the peripheral nerves. As long as these two phenomena are present, there is a liability to the recurrence of the attacks. Attempts to elicit the phenomena in my case failed, but the patient was already under the influence of chloral and bromide when the attempts were made—a fact which may or may not be of importance. The affection nearly always passes off without leaving any trace behind it.

After carefully considering all the facts in my case, I repeat that I am inclined to consider it as one of tetany of a fairly mild form, and very short course—three days. At the same time, I am far from wishing to suppress the points opposed to this diagnosis, namely, the trismus of a year's duration, and the failure to bring out the signs of Trousseau and Erb, on which the books lay considerable stress.

MYOSITIS UNIVERSALIS ACUTA INFECTIOSA, WITH A CASE.¹

BY HENRY JACKSON, M.D., BOSTON.

I SAW last spring in Strassburg the following rare case, and though I had hoped to be able to give a more detailed account of the case, think that the few notes taken at the time, may be of interest to the members of the society. The above diagnosis, made by elimination during life, by Prof. Kussmaul, was sustained by the result of the autopsy performed by Prof. von

¹ Read at Section for Clinical Medicine of Pathology and Hygiene, of Massachusetts Medical Society, April 13, 1887.

Recklinghausen. The case entered the hospital May 18th, and was demonstrated in the clinic May 22d.

Woman, aged thirty-six; family history good; she has two healthy children; lives in a district apparently healthy; no one else sick in the house. Was never sick before so far as she knows.

Six weeks ago first felt sick (unwohl). Malaise, inability to work; had a red, papular eruption on the face, pain in the neck, pain in swallowing. She was treated for a sore throat. The eruption disappeared in a week's time without special treatment.

After the disappearance of the eruption, first noticed swelling, accompanied by pain in the shoulders, legs, and sacral region; the swelling in legs soon passed off, appearing in the arms. Last two weeks pain in the neck, swelling less marked. The pain, which was at first sharp, has become dull. Pain has always been in the muscles and not in the joints. Throughout the sickness appetite fair, thirst marked, sweating, moderate fever, constipation, no vomiting, urine scanty and high-colored.

On entrance, May 10th, slight fever, mind clear, slight œdema of face and extremities, muscles of extremities flexed and rigid; extension caused pain. Paresis of soft palate, electrical reaction in general diminished, reflexes absent. Examination of chest and abdomen negative.

During last few days high fever, rapid respiration, pulse 140. Several small patches of pneumonia.

Prof. Kussmaul considered the diminished electrical reaction as due, in part, at least, to the œdema, the abolition of the reflexes as of peripheral, not central origin; he considered the pneumonia as very probably due to particles of food which got into the lung on account of the difficulty in swallowing. Mind clear to the last; no symptoms pointing to disease of the abdominal organs. Death on May 24th; ultimate cause, broncho-pneumonia.

Trichinosis was first thought of; eliminated by the history (her husband did not allow her to eat raw sausages), by the absence of the gastro-intestinal symptoms as prodromata in this disease, by the fever in present case. Prof. Kussmaul said the case reminded him clinically of one in which thousands of miliary aneurisms were found all over the body.

The fever, the widespread muscular pain and œdema pointed to a diffused myositis without any discoverable local cause, hence the diagnosis was as stated.

Autopsy, May 25th. Brain and spinal cord presented nothing abnormal. Veins of abdominal cavity very full of blood. Spleen soft, enlarged. Stomach and intestines presented nothing abnormal.

Stricture at the entrance of the pelvis of right kidney into the ureter, which had caused hydronephrosis of right kidney with almost total disappearance of the substance of the right kidney. Left kidney much enlarged, otherwise not abnormal. Heart pale.

In both lungs several small patches of pneumonia. The muscles, throughout the body especially in the extremities, the trunk and the face (orbicularis), pale in color and moist; many small hæmorrhages in sheaths of the muscles; rupture of left rectus abdominis, with hæmorrhage.

Under the microscope muscles showed waxy and granular degeneration; fibres broken; small cell infiltration in the interstitial tissue, in no place amounting to the formation of abscesses visible to the naked eye. Nuclei of the muscles increased markedly, showing a real

proliferation of muscular tissue, as well as a degeneration.

I heard no report of a bacteriological examination, but, reasoning by analogy with diseases which have been studied, we may say that bacteria were most probably associated with the inflammation.

Prof. von Recklinghausen told me that when he was an assistant of Virchow's, he had seen two similar cases, but I have been unable to find a report of them.

We have here some acute disease of a febrile nature, rapidly ending in death. At the autopsy a widespread myositis is found, otherwise no pathological lesions which can be considered as a primary cause of the severe symptoms existing during life.

Dr. Blodgett kindly called my attention to a similar case published lately in the *British Medical Transactions* (December 18th, 1886, p. 1215). Acute myositis, (Mr. Treves.)

After exposure to severe cold, the following symptoms were manifested: chill, malaise, fever, loss of power in arms, cramp-like pain. Similar pains in legs. Gradual recovery in six weeks. Mr. Treves divides myositis into: (1) Simple, due to injury. (2) Myositis from cold. (3) Infectious boil or osteo-myelitis. (4) Attending various infectious diseases. (5) Trichina.

This is the only case I find in the recent medical journals, German or English. In the fourth volume of "Virchow's Archives," (1852), is an article by Virchow on myositis. Anatomically, he divides myositis into: (a) Interstitial; (b) Parenchymatous; (c) A combination of (a) and (b). Etiologically divided into: (a) Traumatic; (b) So-called muscular rheumatism, (c) Syphilitic; (d) Septic. Then goes on to say: (e) "One sees finally abscesses occur in muscles under conditions as yet not made out, under conditions spoken of by the Vienna school as 'spontaneous pyæmia.' General symptoms are chill, high fever, disturbance of heart, severe, widespread pains; death in few days. Such processes may be of spontaneous origin, more commonly due to other septic diseases, especially typhoid."

A similar allusion I find in Förster. In Lobstein a case of death where the only lesion was a myositis (general?) and local patches of pneumonia.

In none of the more recent works on pathology do I find any mention of a myositis, widespread in area and independent of some preëxisting centre of infection.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

APRIL 13, 1887. Meeting called to order, at 8 o'clock, by Dr. F. I. KNIGHT, Chairman.

First paper, read by Dr. HENRY JACKSON:

A CASE OF ACUTE, INFECTIOUS, UNIVERSAL MYOSITIS.¹

After the reading of this paper, Dr. FITZ said the chief interest in this case, apart from its rarity, lies in its etiology. It is well known that the muscular

¹ See page 498 of the Journal.

system bears a similar relation to infective agencies to that presented by the spleen, kidneys, and liver. Granular degeneration of the heart is always sought for, and is usually found. In typhoid fever, the hyaline degeneration of muscle is to be expected, and occasionally results in the rupture of the abdominal rectus, with the production of a hematoma. Such granular and hyaline changes are usually independent of extensive interstitial changes, but, in the infection of wounds, accompany the abscesses and purulent infiltrations, which may extend a long distance from the point of infection. In a dissecting wound of the hand or finger, the intervening structure may present little or no change, while a suppurative myositis may be present in the corresponding shoulder or scapular region of the individual. In typhoid fever also, muscular abscesses, even multiple in various muscles — may occur in addition to the more common degenerative changes.

In the case reported, the multiplicity of the lesions in remote parts of the body suggests the transfer of a virus through the blood-current. The described appearances of the spleen and heart give evidence of a general infection, while the condition of the muscles indicates the presence of pyogenic bacteria, as well as of those agencies which produce parenchymatous changes.

Multiple, miliary lesions of distinctly bacterial origin are usually due to a bacterial endocarditis, the malignant or diphtheritic variety. The peripheral lesions which are then found are usually rather hemorrhagic and necrotic than suppurative, and more often cutaneous and nephritic than muscular. The peripheral lesions may be found without actual destruction of the valve-curtains. Pathogenic bacteria may be transferred, in the course of the circulation, to such deep-seated parts as periosteum and bone-marrow without evidence of disease in the lining membrane of the circulatory apparatus. It does not, therefore, seem remarkable that such cases as the one reported by Dr. Jackson should occur, but that they do not oftener arise.

The case reported by Treves has already been referred to, and Hayem states definitely that there is a sort of subacute, suppurative myocarditis, circumscribed or diffuse, general, infectious, wholly analogous to the malignant forms of periostitis and osteomyelitis. In the discussion of Treves's case, it was made evident that cases of this sort might be hidden under the diagnosis of acute muscular rheumatism, as well as under that of spontaneous pyæmia.

It is evident that the muscular system, in the study of infection, may demand as careful consideration, both clinically and anatomically, as the bones and marrow, both of which have lately contributed such valuable information to the history of infection. The channels of invasion may be extremely narrow: a pimple or a hang-nail, a scratch or a prick, may serve to open the way for a malignant pustule or a phlegmonous inflammation. In Dr. Jackson's case, a diphtheria may have been the primitive disease, or the pharyngeal symptoms may have resulted from the action of the agent which produced the muscular changes. Certainly, the report of this case will call attention to what is, perhaps, less likely to be regarded as a new disease than as a peculiar manifestation of a familiar agent.

DR. BLODGETT asked Dr. Jackson how, or in what

way, the myositis, which is, in this case, thought to be due to an infection of the muscular system by a specific principle, differs from the form of myositis so frequently seen after exhaustive diseases, particularly typhoid fever. After this disease, we not infrequently observe limited areas of muscular tissue, especially in the domain of the abdominal rectus, presenting the appearance of a true myositis, which is followed by hyaline degeneration of the muscular structure, and by loss of substance in the part.

DR. JACKSON. I think the muscular lesion due to typhoid fever and that due to infective myositis are, pathologically, the same. The first process is usually confined to the muscles of the abdomen, whereas, in this case, the same pathological condition was widespread throughout the muscular system.

DR. SHATTUCK then reported

FOUR CASES OCCURRING IN HOSPITAL PRACTICE.²

DR. MINOT. Dr. Shattuck's case of Tetany corresponds closely with the description of that disease in a paper read by Dr. Lyman, of Chicago, at the annual meeting of the Association of American Physicians, in June last, and printed in the Transactions of the Association. Other cases were reported at the same time by Dr. Carpenter, of Pottsville, Penn. I should say that the disease is not extremely rare in children under four or five years of age. We see the thumbs bent towards the palm of the hand, the other fingers partially flexed, and the toes strongly flexed. There is usually some swelling of the hands and feet. These children are almost always feeble, insufficiently nourished, and often bottle-fed, perhaps undergoing the process of dentition. In one case, that of a child, three months old, under my care, which was artificially fed, immediate improvement took place when a wet-nurse was procured for the patient, who is now fifteen years old, and in good health. I have never seen a case in an adult which I recognized at the time, but possibly that of a physician who consulted me, and also Dr. J. J. Putnam, might come under this category. The movements were very striking, and corresponded to those in one of Dr. Lyman's cases, which were communicated to him by another physician.

With regard to the subject of hæmophilia, I think it remarkable that the now well-known spontaneous hæmorrhage of new-born children (umbilical hæmorrhage), which is to all intents and purposes the same disease, although fatal in eighty-four per cent. of the cases, yet in the few cases which recover does not recur, the hæmorrhagic tendency being, as it were, extinguished, as I have seen in several instances.

DR. PUTNAM. I will merely speak of the case mentioned by Dr. Minot. I have never seen any of these attacks, but it certainly did not suggest itself to me at that time as a case of tetany. The only well-marked case that I have seen occurred in an under-fed child of not more than a year old. In adults I have never seen it. I have seen a large number of nervous diseases at the hospital, probably five hundred a year for a number of years, and I have never seen a single case of this kind.

DR. WEBBER. I remember two cases of tetany; I was asked to see a patient several years ago, the muscles of the legs and trunks were affected, the arms less so. When the attack came on the patient suffered very severely from a strong muscular contraction

² See page 496 of the Journal.

which could not be overcome by manual force. Ether had been used to some extent for relief. The drug which gave the most relief was fluid extract of conium, after some doses had been taken at intervals of two hours, the attacks ceased; the man got well. He had had the affection for a number of days before I saw him. The other was a case in which the arms were chiefly affected, the trunk was not affected. The spasms had continued for several weeks, several attacks each day, but nothing I could do gave him any relief. I tried conium, electricity, etc. The attacks were quite painful. The man came to see me several times but obtaining no relief, became discouraged, and I saw no more of him. The attacks were very similar to those described by Dr. Shattuck.

Dr. KNAPP. Tetany is so rare an affection that I may be justified in citing a case which resembles some of those spoken of to-night. The patient was a neurotic, poorly-nourished boy of fourteen, who had been at some charitable school, where the food and hygienic surroundings were not of the best, and where, according to his story, he was not very well treated. A week before he came to the City Hospital, he held his breath for some time in order to avoid a disagreeable smell, and after this he began to have cramps, numb spells, and "pins and needles" sensation in his hands and feet. The cramps affected the whole body, and the pain was so severe as to make him cry out. These attacks came on quite frequently. During the cramps he found it difficult to speak or move. They lasted from half a minute to a minute. He had occasional sick headaches and was rather costive. He was not strong, and was rather deficient mentally, and, as I said, was poorly-nourished, and rather emaciated. While in the out-patient room he had an attack which I was able to observe. He seemed nervous and agitated as it came on. He said that the attack began in his feet and went up, the muscles of the abdomen being most affected. He stood up, his limbs were rigid, his arms were by his side with the fingers much extended and somewhat adducted, his face was drawn with an expression of pain—whether from spasm or voluntarily from pain, I could not say,—he made no movement, except a slight general tremor, and he made no answer to my questions, because he could not move his lips and tongue, as he told me afterwards. He understood perfectly what was said during the spasm. Motion relieved the spasm. After recovery from the spasm I examined him, finding nothing abnormal in the chest. Pressure was made over the median nerve and brachial artery, and soon after a second spasm came on. Further pressure, after this, did not excite another spasm, so that I am disposed to regard this as merely a coincidence. I then examined him with electricity. The muscles and nerves of the arms responded to a very mild faradic current. With the galvanic current $KaSZ = AnSZ$ with $\frac{2}{15}$ to $\frac{3}{10}$ Ma. in the various muscles of the arm. The median nerve responded to $\frac{2}{10}$ Ma. The boy was sent into the hospital, but I am unable to give any further account of him, except that a diagnosis of pavor nocturnus was made, which was only a part of his trouble.

I am still unwilling to call this case tetany. The spasm involved the muscles of the trunk, which is rare except in the severest forms of tetany; the fingers were extended and adducted, instead of being flexed and adducted as in the hand when it is about to be introduced into the vagina; there was no undue

excitability of muscle or nerve to electricity, and the attacks were not provoked by pressure on the nerve or artery. Such a combination of symptoms, therefore, is not like the symptom-complex of tetany, as given in the books, yet the condition was certainly curious.

Dr. WEEKS. I have met one family of bleeders, who did not seem to feel the law of transition laid down by the authorities. Some five or six years ago I was called to a little child about two years of age, who was teething, and had a slight abrasion of the gum from which a persistent hemorrhage had been going on for some time. I applied styptics, and after a time the bleeding ceased and has never recurred. I learned that the elder boy, some ten or twelve years of age, was troubled in the same way when he was an infant, and had since outgrown the diathesis. The family were of German extraction on the mother's side, the father was an American I believe. The mother seemed quite an intelligent woman, and said that her father was a physician, and that the case of the elder boy troubled him somewhat; he said he knew of no cases of the kind in his family or his father's family. This same boy I was called to treat, some two years afterward. I went to Melrose where the family had moved, and got there perhaps an hour or more after being notified, as I was out when called, and when I got there he had died of epistaxis.

Dr. BAKER. I would like to ask whether a tendency to umbilical hæmophilia was ever transferred to the offspring? Whether their children showed it?

Dr. WEEKS. I have never seen a case of direct transmission. The case I mentioned was that of a young lady now married; I went to attend a relative of this patient, either a sister or cousin of hers; that is, the sister of the first one who died, was a victim to this disease. My impression was that she was married and left a son about eight or ten years old. He has never had any disposition to bleed. These cases are almost always considered hereditary. The remarkable point was that when the patient recovered, she recovered completely and permanently, and never had another attack.

Dr. BLODGETT. I have had an opportunity of learning the history of one case similar to that reported by Dr. Shattuck, of a certain family concerning the history of which I have considerable knowledge. This patient, a male, was one of several children of the same father and same mother. He is the only one who showed a disposition to bleed. On several occasions he bled alarmingly from the nose, the surface was blanched, he became unconscious, and was evidently in the very last extremity. He has not had other forms of hemorrhage, and the nose-bleed was the only accident he dreaded and from which he expected one day to lose his life. He is now fifty or sixty years old. Certainly the great part of his life has been passed in imminent peril of death from loss of blood, and he has been at death's door from this cause a number of times.

I do not know that I am warranted in calling this a case of hæmophilia, though it was very severe in its character, nothing of the kind ever made me feel like classing this case as similar to the one reported by Dr. Shattuck. I have the genealogy of two or three families in which bleeders abound. I have a note of a brother of the patient having died from the extraction of a tooth. I think the young man may belong to the very rare category of hereditary bleeders.

DR. KNAPP. I should like to ask Dr. Webber if he tried Trousseau's method?

DR. WEBBER. I think one case occurred before I read Trousseau's account, as to the other case I do not remember.

The next paper was by Dr. Folsom.

CASES OF MULTIPLE NEURITIS.³

DR. WEBBER. Dr. Folsom has given an exceedingly interesting paper. The first case I think is remarkable for its recovery, that the patient should recover where so many nerves have been affected. If I understand correctly, the nerves supplying the glottis were not affected, but that the patient could swallow, and nutrition was kept up; the food did not get into the bronchi. In two patients under my care the disease was fatal from the food entering the bronchi so that the patient could not be properly nourished. I think the milder cases are more common where comparatively few of the nerves are affected, the disease seems to run its course and then there is a change for the better. In a few cases there is such a similarity to rheumatism, with swelling of the limbs affected, and even sweating, that the cases might be mistaken for rheumatism.

Dr. Jackson's account of the case of myositis remind one of some cases of multiple neuritis. I saw one patient six months after quite a severe attack affecting the legs, and had an opportunity of examining the tendon reflexes in the patient, who congratulated himself on his perfect recovery, and came to see me to say that he was perfectly well. I could not elicit any response at all. I suppose a good many cases in which the cause is obscure can be traced to exposure. I had within the last year or so a lady who had neuritis of one arm, all the nerves of the arm and shoulder seeming to be implicated. There was no history which could sufficiently explain the attack, and no special exposure. It is quite possible that such a patient standing on the street or riding in a horse-car with the wind blowing on that side of the body might have been exposed sufficiently to have a neuritis developed, the person being a little more susceptible from being run down or in a condition less capable than usual to stand such an exposure. Blisters seemed to do her more good than anything else. She expressed great relief after using them. She continued their use at her home. She would put a blister on the spot which was tender, with complete relief to the pain. In the more severe cases of idiopathic neuritis after the very first acute period seems to have passed, much benefit may often be obtained from blisters. I found also considerable help in relieving the pain, from a four or five per cent. solution of carbolic acid, keeping it on the part continuously. Occasionally the patient complains of heat, and a burning sensation, but it relieves the pain. I have found nothing that ever stopped the disease; patients seemed to get well themselves after the disease had run its course. I have not had much experience with alcoholic neuritis; I suppose that I doubtless saw and treated such cases before the subject was brought prominently to the profession, and have called them by some other name. I am suspicious that one or two cases of supposed locomotor ataxia may have been neuritis. I have seen one case which I am very sure was neuritis and not locomotor ataxia. I think that was a case in which alcohol played a part in its etiology. In one

case in which I think alcohol caused the disease, alcohol relieved the pain, and the attending physician advised the patient to take whiskey, and he took it and increased his danger and the gravity of the disease in that way. He came out of it remarkably well and comparatively recovered; but alcohol was not recognized at that time as a cause of such symptoms.

The mode of treatment that Dr. Folsom speaks of, massage and electricity, I think is very judicious after the acute stage, and when the tenderness has disappeared. I know of nothing else which restores the functions so readily, but after doing the best we can in some of these cases there is not a complete recovery, there is a remainder of disability of certain muscles, or contracted limbs, thus to some extent incapacitating the patients from moving about in ease and comfort.

I have seen a few cases where even after eight months there was still lack of function when all progress towards recovery had seemed to cease.

DR. PUTNAM. I have only to say that I have been very much interested in this remarkable disease, the prominent features of which have been so vividly presented by Dr. Folsom. In regard to the first case, I do not see sufficient clinical reason for considering it to be of infectious character. This disease is not epidemic with us as it is in the South. I do not see how it materially differs from the alcoholic cases. Some cases are very remarkable for the pain, and in some there is little acute pain, and the duration of the cases is also very different under different circumstances. The fact has not been sufficiently dwelt upon of late that central disease and acute neuritis sometimes go hand in hand.

DR. F. C. SHATTUCK mentioned the chief points of interest in an outbreak of beri-beri, a disease which, as the reader said, may be taken to represent the class of infectious multiple neuritis, one of the sufferers from which he had seen a few days since.⁴ There are strong reasons for thinking this disease to be infectious, though we are still entirely ignorant as to what the infection is and what is its avenue into the system. The disease appears under different forms, but in a form which is certainly a common one, differing in some respect from non-alcoholic multiple neuritis, originating in these latitudes. In beri-beri paræsthesia is pronounced and cutaneous œdema is marked—dropsy of the internal cavities is not rare—but severe pain and great tenderness along the course of the nerve-trunks are not prominent symptoms.

DR. BLODGETT stated that he had the notes of a strange disease he now thinks to have been a case of beri-beri. The patient was the captain of a vessel sailing from Calcutta. While in that port, he became very ill, and was treated by several physicians, who considered the case to be of syphilitic character. The symptoms were of grave nature, and were confined to the central and peripheral nervous structures. There was considerable disturbance of the sensorium, with pain and swelling of the limbs, which subsided only slowly, and never completely. The patient was never able to resume his duties on board ship, but became erratic and morose, wandering from one locality to another, and only recently after a duration of the disease for more than twelve years, he died in Colorado.

DR. FOLSOM. Before primary multiple neuritis was described in the medical text-books, the first cases

³ See page of 433 this number of the Journal.

⁴ Journal, April 14, 1887.

which I saw reported were in German medical journals, and later in those of England and the south of Europe. One which I saw several years ago was in a gentleman not pressed by business, just returned from a long vacation, during which there was no exposure, at least to cold or wet. The first symptoms were a numbness in both legs with inability to lift his thighs high enough to step up on a platform. Afterwards there was great pain and sensitiveness to pressure or motion in the course of all the spinal nerves. The other symptoms were like those of infectious diseases, fever, thirst, loss of appetite, dry skin, coated tongue, headache, elevation of temperature, although of only about a week's duration, and a generally typhoidal appearance, like all the others which I have seen. The important points in treatment are full nutritious liquid diet, quinine, wine if needed, relief of pain and especially the use of massage and galvanism at the earliest time practicable not to increase the pain. In marked paralysis of the extensors of the feet, splints will be required. I have not found carbolic acid so useful for external application as opiate liniments. Although patients in favorable cases can walk and have a fair use of many of their muscles in from three to six months, two or three years, or even more may be required for the best attainable results.

DR. KNAPP. There were certain symptoms in two of the cases reported by Dr. Folsom which seem worthy of special notice, on account of their influence upon diagnosis. Most of the text-books on nervous diseases lay stress upon the existence of bed-sores and of disturbances of the bladder as evidence against multiple neuritis, and in favor of some disease of the cord. Dr. H. C. Wood, in his recent work on "Nervous Diseases and their Diagnosis," is the only author who states definitely that bed-sores may exist in neuritis, although Gowers implies that such a thing may happen. Dr. Folsom's cases show that both bed-sores and vesical disturbances may be present in this disease. In this connection it may be of interest to speak of a case of traumatic neuritis I saw at the City Hospital a year ago. A hod of mortar fell on a young man, cutting his head and striking his shoulder. He developed a paralysis of the whole arm, which recovered in part, leaving a typical form of Erb's shoulder-upper-arm paralysis. His deltoid, biceps, brachialis anticus, supinator, longus, and infra-spinatus were completely paralyzed. There was great atrophy and reaction of degeneration. There was loss of sensation for a time over the lower part of the upper arm. The pain at first was so great that he would often support his arm on his elbow for relief, but I could get no statement that he kept it constantly in this position, or that great pressure was exerted on the elbow. However that may have been, a typical bed-sore formed over the elbow, lasting several weeks.

tions of the pancreas and stomach. The case, he said, he brought to the notice of the Association on account of the infrequency of the affection, and the obscurity, as regards its diagnosis. Perhaps, however, such cases were not as infrequent as was generally supposed, since many patients died with symptoms similar to those met with in the present instance which were attributed to some other disease; whereas, if autopsies had been made, the primary cause of death might have been found in the pancreas.

In the case in question there were absent three important and common symptoms generally regarded as diagnostic of cancer of the pancreas, namely: jaundice, oedema and fat in the alvine discharges. According to Dr. Norman Moore,² jaundice was always found when the pancreas was the primary seat of a new growth. In ten cases coming under his observation in which post-mortem examinations were made, jaundice was present in all. Sir Charles Murchison also referred to jaundice as a common symptom of the disease; but Dr. Louis Starr had shown that it was of clinical importance to note that the ductus coledochus does not always pass through the head of the pancreas but sometimes merely passes over it; in which case, any enlargement of the pancreas could simply push it aside, without giving rise to jaundice. According to Wyss, this happened fifteen out of twenty-two times.

Oedema occurred, according to the majority of authorities, in more than half the cases of cancer of the pancreas recorded; while fat in the alvine discharges was said to be found in nearly all the cases. The same condition, however, might occur, according to Reynolds, when the duodenum, and not the pancreas, was diseased. Dr. Taylor said that he had been unable to find any authority who gave even one pathognomic sign, and therefore he thought that Da Costa's manner of diagnosing these cases was the most feasible, namely, by exclusion. As to the invasion of the stomach in the present instance, according to Pepper, this disease rarely extended to the stomach, but rather affected the neighboring lymphatic glands, the duodenum, and the liver.

In regard to the possibility of prolonging by operative procedure the life of a patient suffering from cancer of the pancreas, provided the diagnosis could be made out sufficiently early, he thought that the two cases reported by Billroth were of much interest, where he had made a partial resection of the organ; removing the tail in one and a portion of the head in the other, but, of course, not injuring the duct. Both patients recovered from the immediate effects of the operation, but how long they lived, or whether the disease returned, he did not state. Dr. Taylor thought that when he first saw his case but a very small portion of the head was involved, and that if the diagnosis could then have been established, it would have been an excellent opportunity to perform an operation similar to that of Billroth.

NEW YORK COUNTY MEDICAL ASSOCIATION.¹

CANCER OF THE PANCREAS.

DR. THOMAS C. TAYLOR read the report of a case of carcinoma of the pancreas, with infiltration of the omentum and walls of the stomach, along the greater curvature, occurring in a female thirty years of age. In connection with it he presented the diseased por-

AMPUTATION OF THE PENIS FOR EPITHELIOMA.

DR. J. R. MACGREGOR presented a portion of a penis which he had amputated for epithelioma of the glans and prepuce. This variety of cancer, he said, was very interesting, not only as regards the result to the patient, but also from its special pathological features. In this case there was a great deal of thickening, and the connective tissue of the part was greatly

¹ Concluded from page 485.

² St. Bartholomew's Hospital Reports.

increased. At the time of the operation, which was performed six weeks before, much care had been taken to prevent any subsequent constriction of the urethra at the end of the stump, and thus far the result had been altogether satisfactory. The chances were also fair, he thought, that there would not be a reproduction of the growth.

DR. GOULEY said that it was an interesting fact that, in epitheliomatous growths of the glans or prepuce, there was always antecedent balanitis or balanoprophitis, and the greater proportion of cases occurred in individuals who were the subjects of chronic balanitis. This condition was, for the most part, due to lack of cleanliness on the part of the patient, allowing of the accumulation of smegma behind the glans, and at first there was simply an alteration in the normal epithelium. Afterwards, this went on to be developed into this peculiar form of carcinoma, and the proliferation was rapid enough not only to involve the mucous membrane, but to extend to the cavernous bodies of the penis.

So far as his experience went to show, the amputation operation usually resorted to in this class of cases was insufficient, and was apt to be followed by a recurrence of the disease, more or less rapid, this new development always occurring at the end of the stump. Atresia of the extremity of the urethra was apt to be a very unpleasant consequence of the amputation of the penis, and he related a case which first came under his observation when he was a hospital interne, in which, although there was no return of the cancerous disease whatever, the patient died within two years from pyelo-nephritis, resulting from atresia of the urethra produced in this way. About 1860, having occasion to amputate a penis for epithelioma, Dr. Gouley said he first used the *écraseur* to break up the cavernous bodies. Then, leaving the urethra fully three-quarters of an inch longer than the stump, he attached it to the free extremities of the cavernous bodies. By this and other devices, therefore, it was not difficult to avoid atresia of the end of the urethra.

In consequence of the frequency with which the epitheliomatous growth recurred, however, he finally made up his mind that, in the next case he met with, he would excise the whole penis; and, accordingly, in April, 1878, he resorted to this procedure in a patient fifty years of age. He dissected out the entire penis, without opening the cavernous bodies, removing the crura and all. In this instance, about one-half of the cavernous bodies had been involved in the cancerous process. The patient was discharged, cured, on the 11th of June following, but he was unable to say what was the subsequent history of the case. Having exhibited this penis, preserved in alcohol, Dr. Gouley went on to say that it seemed to him that a radical operation of this kind gave the patient the best chance of avoiding a recurrence of the disease, for, if the slightest epitheliomatous deposit were allowed to remain, the growth was sure to go on developing again. He believed, therefore, that in the majority of cases it was not only justifiable, but the most proper measure to adopt. It seemed like a formidable operation, but, in reality, it was not, and in the case in which he performed it the patient made a rapid recovery after it.

DR. JOSEPH D. BRYANT said that he had had some experience with amputation of the penis, and he very distinctly recalled three cases of it in particular. In two of them the operation was undertaken for cancer-

ous disease, involving the glans and anterior portion of the penis, and in the third for general carcinoma, involving not only the penis, but the whole system. The latter, as a case of remarkable interest, he related in detail. At the autopsy, it was found that there was scarcely an organ in the body which had not been invaded by the cancerous disease. The kidneys were probably the starting-point of its development, and even the spinal cord was among the structures involved. One of the other patients referred to was a young man of twenty-five, who attributed the origin of trouble to a woman with whom he had had intercourse, whom he believed to be affected with the same disease.

In these cases, he had performed the amputation just in front of the scrotum, cutting the spongy body three-quarters of an inch longer than the corpora cavernosa, and attaching the integument to its extremity. He said that he was fully of the belief that the entire removal of the organ was the only ultimately safe procedure. He could understand, however, that if the growth were very slight, it might be allowable to consult the patient's wishes on the subject, and, if he objected, make the amputation *præ-scrotal*.

AMERICAN SURGICAL ASSOCIATION.¹

ANNUAL SESSION OF 1887.

THURSDAY, MORNING SESSION.

THE Committee of Conference with reference to the Congress of American Physicians and Surgeons reported that they had attended the meeting of conference held in Washington, September 24, 1886. At this meeting the following resolutions were adopted:

Resolved. (1) That it is desirable that the following special societies, the American Surgical Association, the American Ophthalmological Association, the American Otological Association, the American Neurological Association, the American Laryngological Association, the American Gynecological Association, the American Dermatological Association, the American Climatological Association, with the Association of American Physicians, shall arrange for a conjoint meeting in the city of Washington, September, 1888, and subsequently at intervals of three years at the same time and place.

(2) That this arrangement shall not interfere in any way with the autonomy of each special Society, and that each Society shall retain the right to withdraw at any time from this conjoint scheme.

(3) That the special feature of the meeting shall be the conjoint assemblage of the special societies on two evenings during the session; on one of which there shall be an address delivered by the president of the conjoint meeting, and on the other there shall be communications by a referee, and co-referee on some subject of general professional interest.

(4) That each special society approving this report is invited to appoint one representative (with an alternate), and that the representatives so appointed shall constitute an executive committee to serve for one year, with power to select such officers for the first conjoint meeting as may be deemed necessary; to propose a programme for said meeting; to make all other

¹ Continued from page 483.

arrangements and to prepare and submit a plan of organization for future meetings.

(5) That all expenses connected with the conjoint sessions shall be apportioned equally by the executive committee among the special societies participating.

Owing to the views entertained by the Committees of the Ophthalmological and Dermatological Associations with regard to the interval of times of meeting they abstained from voting upon the first resolution.

The report was adopted, and Dr. C. H. Masten of Mobile, (with Dr. J. Ford Thompson, Washington, as alternate) was appointed as the representative of the Association.

The following was announced as the Nominating Committee: Drs. J. Collins Warren, J. Brinton, T. F. Pocwitt, N. P. Dandridge and D. W. Yandell.

The Treasurer, Dr. P. S. Conner, reported a balance of \$738.46 in the treasury.

CYSTOTOMY AND LITHOLAPAXY.

The discussion of papers read on Wednesday was then taken up.

Dr. W. T. BRIGGS, of Nashville. Dr. Dennis, in his paper, held that the time would come when supra-pubic lithotomy and litholapaxy would practically be the only operations performed for the removal of stone. My idea is that no special operation is applicable to all cases. The surgeon should have all operations at his command and should select the one adapted to the particular case. In certain cases such as large stones or deformities of pelvis and lower extremities, supra-pubic lithotomy is undoubtedly the best operation. There is, however, no reason why in ordinary cases of medium stones, the perineal operation should not be adopted. The operation which I regard as the best is one through the median line. The external wound permits dilatation to any extent. The neck of the bladder is usually resistant, but by making a lateral incision of three lines on each side of the prostate gland, with gradual dilatation, the opening can be enlarged to an extent sufficient to permit the removal of any stone that should be removed through the perineum. I exhibit a number of stones (varying from one inch to one-and-a-half inches in diameter) which were removed in this way, with recovery of the patient. There is no reason why fragmentation of a large stone should not be combined with the medio-lateral operation. The operation is easier than the lateral operation. Incision in the manner mentioned with the removal of all stones at once, will, I think, have a less mortality than litholapaxy.

Taking all kinds of cases at all ages, my first seventy-four cases were operated on by this method without a death. Then I had two deaths; in one a pelvic abscess complicated the case, and in the other there was serofulosis. Forty-six cases were then operated on with one death. This case died three months after operation of general tuberculosis, with wound ununited. It is probable that in properly prepared patients without organic disease, the mortality will be nothing. In the last two years, I have operated on six old men, with an average age of sixty-six years, all recovering.

Dr. D. HAYES AGNEW, of Philadelphia. As Dr. Briggs has said, we cannot commit ourselves positively to any one operation. The median operation is undoubtedly the safest operation through the perineum. The only damage likely to be done is in extraction, but

this can be avoided by nicking the neck of the bladder, which admits distension to almost any extent. Where the stone is large and yet is one which should come through the perineum, an incision may be made on each side. Drainage is more readily effected by the perineal operation. With antiseptic precautions the success of this operation will be even greater than at present. In cases of large stone the high operation is the best. When one operates year after year through the perineum as Dr. Briggs and others of us have done, with almost universally successful results, he is indisposed to give up what he believes to be a well-tried method for one which is a comparative novelty.

Dr. J. R. WEST, of Richmond, Ind. After seeing Dr. Briggs perform the medio-bilateral operation, I have adopted this method in eight cases, all of which recovered. With one exception all the patients have been old. One case was twenty years of age, and a mulberry calculi weighing 520 grains were removed. The next youngest case was fifty-nine years old, eight stones being removed. In another case, seventy-two years old, twenty-two stones were removed. From the accounts of the supra-pubic operation given yesterday, I infer that the operation is more difficult of performance than the one described by Dr. Briggs.

Dr. H. H. MIDD, of St. Louis. My first operations were performed by the perineal method with good results. I then began the use of litholapaxy, which in the majority of cases takes the place of the perineal operation. The supra-pubic operation is of service for the removal of certain large stones and for exploratory purposes. In considering this operation it must be borne in mind that the existence of contracted bladder with adhesions will render the supra-pubic operation difficult or impossible.

Dr. J. COLLINS WARREN, of Boston. During the past year I have seen two cases of the supra-pubic operation, both in the practice of others. One was for stone and the other for tumor. There seemed to be no difficulty in the operation. Both cases recovered without a bad symptom. I have investigated the subject of cystotomy in the female, and reached the conclusion that there was no danger of vesico-vaginal fistula.

Dr. THEODORE R. VARICK, of Jersey City. Two years ago I operated on a boy, fourteen years of age, who had had symptoms of stone for seven years. I started with the left lateral operation, but on account of the size of the stone had to carry the incision to the right side. The stone removed weighed seven ounces and two scruples. There was no perceptible laceration, and the boy recovered completely. In cases where there is hemorrhage, I have used with advantage, the application of water just under the boiling point, saturating a sponge and placing it for a short time on the bleeding surface.

Dr. DAVID Y. YANDELL, of Louisville. I have performed ninety-two operations by the perineum, eight by lithotripsy, and six by litholapaxy. I have seen two supra-pubic operations, but it does not seem to me that this operation is an easier or better one than those which I have mentioned. There were seven deaths from the lithotomies. In none of the cases was there any return of the stone. In the eight lithotrities there was a return of the stone in two cases. In the six Bigelow operations there was a return in two cases. The question in my mind is still *sub judice*, and until more evidence has been pre-

sented, I shall adhere to the opinion that the best operation is that made through the perineum.

DR. JOHN B. ROBERTS, of Philadelphia. I cannot change the opinion which I expressed three years ago, that the high operation is certain to be a very important one. If we wish to make a free exploration of the bladder, the high operation is better than the one through the perineum. In cases of stone operated on by a surgeon without special experience in this direction, I think that the supra-pubic operation is the safer. With reference to Dr. Packard's suggestion to treat retention of urine from stricture by supra-pubic cystotomy, I should consider this too serious a step to take in the first place. My own view is that persistent efforts should be made to introduce a tiliform bougie which will drain off the urine. Simple aspiration above the pubes will give a chance for the passage of an instrument through the urethra in two or three days.

DR. J. E. MICHAEL, of Baltimore. With reference to supra-pubic opening of the bladder for retention due to stricture or prostatic disease, I have had considerable experience in this direction, and have never found such an operation necessary. Supra-pubic aspiration seems to be all that is necessary, and under proper precautions is safe. Then in prostatic cases the use of a soft catheter will accomplish all that can be done without some radical operation is attempted. In cases of stricture this must be treated. As to the advisability of the supra-pubic operation for exploration for some cases of prostatic enlargement and for exceptional cases of foreign bodies, there can be no question.

A STUDY OF THE PROCESS OF REPAIR AFTER RESECTION OF THE INTESTINES AND SOME OF THE COMPLICATIONS WHICH OCCUR,

by J. COLLINS WARREN, M.D., of Boston.

The speaker first referred to the anatomy of the wall of the intestines, calling particular attention to the thin submucous fibrous coat, which was the strongest of the various coats of the intestine. The peritoneal and muscular layers as well as the mucous layer are easily rubbed away, but this fibrous coat is exceedingly resistant. In introducing the sutures in cases of wound of the bowel, it is desirable that a few fibres of this fibrous coat be included, but care must be taken not to perforate the mucous membrane. The fact that this has been reached is readily told by the resistance offered to the needle. A number of experiments made upon dogs were then described. The operation consisted in removing a portion of the intestine and a V-shaped portion of mesentery and then bringing the parts together. The Lembert suture was the one used. After the operation the bowel was replaced in as near its normal position as was possible. The dogs were killed at varying times after operation from three to eight days. In these cases the intestines were found matted together around the seat of operation, but a current of water flowed freely through the gut. In one case the abdomen was opened a few days after operation, and this matting together of the various coils of intestine found. The intestine was replaced and the wound again closed. Six months later most of the adhesions were found to have disappeared.

SHOULD LAPAROTOMY BE DONE FOR PENETRATING GUN-SHOT WOUNDS OF THE ABDOMEN, INVOLVING THE VISCERA,

by CHARLES B. NANCREDÉ, M.D., of Philadelphia.

The chief object in presenting this subject to the consideration of the Association, was a medico-legal one. A few years ago in a famous murder trial, the counsel urged the acquittal of the accused on the ground that the fatal result had been induced by the surgeon probing a penetrating gun-shot wound of the abdomen, and many authorities in support of this position were cited. At present the tendency is toward more active interference in these cases. The author asked that after a consideration of the subject the Association, the highest surgical tribunal of the country, express an authoritative opinion upon this question. The questions which must be decided are: what are the tendencies of the injury, are they towards recovery or death? When death takes place, what are its causes? When recovery ensues, what conservative processes occur? How likely are these conservative processes to take place and what favors or prevents them? How reliable are unaided natural methods compared with those which art affords, and should they be imitated or avoided by the surgeon? What are the dangers inherent to the operation of laparotomy and what advantages does it afford.

Reference was made to the experiments of Wegner and Grawitz, showing that the healthy peritoneum can dispose of air, serum, bile and healthy urine. When however, air and putrescible fluids in greater amount than could be disposed of in a short time, were introduced, decomposition occurred and septicæmia resulted. A notable exception was that living, defibrinated blood never decomposed under these circumstances. This seems to prove the truth of the suggestion of the author that the presence of fibrin-ferment and probably its absorption, is one of the dangers of peritoneal traumatism. The ordinary micro-organisms produce no evil effects, provided the quantity of putrescible matter does not exceed that which may be disposed of in a short time. In small quantities, the pathogenic micro-organisms produce no harm. Suppurative peritonitis is produced by these micro-organisms when stagnant fluids are present, capable of nourishing the bacteria, when the surface of the peritoneum has been destroyed by caustic fluids, and when there is a wound of the peritoneum.

The practical application of these experiments teaches that all blood and serum should be removed and free drainage provided; every wounded surface must be coapted; if a tube is used, the opening must be carefully guarded; the depression of the circulation present during shock, must be removed, and the vascularity of the peritoneum must be kept as near the normal as possible.

When visceral wounds do undoubtedly exist, the tendency of these cases is invariably towards death. Hemorrhage in itself is rarely fatal, but a very small collection of blood may be followed by fatal consequences either through the induction of sapremia or by furnishing pabulum for the development of organisms productive of suppurative peritonitis. In nearly every case death is due to septic peritonitis, caused by extravasated matters. Of those attacked with peritonitis, ninety per cent. die within twenty-four hours. When recovery ensues, the effused matter is absorbed, and a limited adhesive peritonitis glues the injured organ to the abdominal walls or to a neighboring viscus. This process is successful in about eight per cent. of the cases.

The conservative processes are favored by absent

or slight flatulent fecal, urinary or biliary extravasation, by the absence or slight amount of effused blood or serum, by the favorable relation of the wound with reference to neighboring viscera or the abdominal wall, above all by the aseptic condition of the peritoneum, the wounds and their immediate surroundings, and by complete arrest of the intestinal movements. It is apparent from what has been said that nature's methods are not to be relied on.

What are the dangers of laparotomy? Shock, and the risk of rendering a peritonitis septic and diffused, which might have remained local and simple, are the dangers of the operation, but as we have the power of rendering the inflammation resulting from the manipulations innocuous, shock is practically the only result to be dreaded.

If these facts, and the deductions from them be true, all ball wounds of the abdomen, involving the stomach, intestines, bile or urinary bladder, should be treated by suture, or by resection and suture; injured omentum should always be excised, and the serous surfaces carefully sutured. Wounds of the liver and pancreas are to be treated in the manner to be described. A wounded spleen or kidney is to be removed provided certain contra-indications do not exist. Even penetrating wounds of the abdomen without involvement of the viscera are better treated by exploratory section, than by the expectant method. In many instances unsuspected injuries of the bloodvessels and viscera will be found and appropriately treated. The speaker laid but little stress upon most of the symptoms said to be diagnostic of wounds of the viscera, and held that the diagnosis should be made by the eye alone. The track of the ball should be enlarged under aseptic precautions until it has been determined whether or not the peritoneum has been opened. Then median section should be performed to ascertain the existence of and repair any damage that may have been done. The above remarks can only apply to wounds of the anterior and lateral walls of the abdomen. When the posterior wall is involved it is unadvisable to ascertain the fact of peritoneal penetration by direct exploration. In these cases a correct opinion is almost always difficult and often impossible without laparotomy.

The rational signs of peritoneal or visceral lesion were briefly mentioned. The escape of bile, feces, urine, or the contents of the stomach, at once determines the question of visceral penetration. These signs are, however, rare, even when visceral lesion is present. Repeated vomiting of considerable quantities of blood almost certainly points to peritoneal or visceral penetration. This symptom is unlikely to be present even when there are numerous wounds, unless one involves the stomach or upper portion of the small intestine. The passage of blood in quantity by the bowel, is strong presumptive evidence, but it rarely occurs early enough to be of practical diagnostic value for operative purposes. The presence of fluid within the abdomen, within an hour or two after the injury, is a positive indication of peritoneal penetration and probable visceral injury, for only intra-peritoneal hæmorrhage could produce such rapid accumulation of fluid. The rapid accumulation of intestinal gas in the general peritoneal cavity is a sure sign of wound of the peritoneum and of the gut. To be of much value it must appear within a short time after the injury. Finally, an amount of hæmorrhage which

cannot be accounted for after a careful examination of the parietal wounds, indicates penetration and vascular or visceral lesion.

Profound shock, if not due to hæmorrhage, is a contra-indication to operation. The surroundings should not contra-indicate operation in a proper case, provided the operator be expert in abdominal surgery. Most cases will do better if left to nature than they will if operated on by a bungling surgeon. If well advanced peritonitis exists, laparotomy is contra-indicated. Where there is no visceral complication, operation under these circumstances may sometimes be justifiable. Laparotomy, if done at all, should be done at the earliest possible moment that the condition will admit of it. Shock is the only thing that should delay the operation, and this should not do so if the condition is produced by hæmorrhage.

In operating, strict antiseptic precautions should be carried out. The incision should always be median, extending from a short distance above the umbilicus to two inches above the pubes. Unless there be free hæmorrhage, the small intestines should be carefully gone over, keeping them constantly enveloped in towels wrung out of hot water. Afterwards, the stomach, spleen, kidneys, bladder, etc., must be carefully examined. The source of a severe hæmorrhage must at once be sought after. Wounds of the bowel should be secured with the Lembert suture, and dusted with a little iodoform. Wounds of the liver, if occupying its free border, should be coaptated, if possible, with dry, aseptic catgut, which will soon swell and fill the track made by the needle. If this cannot be done, the hæmorrhage possibly may be arrested by the thermo-cautery, or, if the bleeding is free, the wound should be plugged with an iodoform-gauze tampon. If, at the close of the operation, the bleeding is almost completely checked, the cautery may be used as a further protection, and the tampon removed. If, however, the bleeding is still free, the tampon should be replaced and allowed to remain permanently. Wounds of the pancreas, spleen, and kidneys are to be treated in a similar manner. If these measures fail, the spleen or kidney is to be removed. Wounds of the bladder had better be united with dry catgut. Contused portions of the bowel should be excised; wounded or contused omentum or mesentery should also be removed. In removing a portion of the bowel, the ents should correspond to the distribution of a large mesenteric branch. Should the pulse fail during the operation, flushing the abdominal cavity with hot water is often of service. The peritoneal toilet is most quickly and effectively made by irrigation with warm, sterilized water, and subsequent removal with sponges. Wounds of the peritoneum should be united. In closing the abdominal cavity, the peritoneum should be sutured with fine silk or catgut. The muscular aponeurotic and cutaneous structures should then be united with strong silk. The wound should be dusted with iodoform, and the dressing completed by the application of a pad of absorbent cotton and a flannel bandage.

Alimentation should be carried on by the rectum for forty-eight hours, when possible. Where peritonitis comes on after the operation, the treatment will depend upon whether it has developed rapidly or gradually. In the former case there is often evidence of shock from vaso-motor paresis, and in these cases, small doses of morphia, with atropia, will be of service, while large doses of opium may prove fatal. This

should be continued until pain is relieved, and the patient falls into a quiet sleep, from which he is readily aroused.

In the later stages of peritonitis, one or more hypodermics of atropia will, at times, save otherwise hopeless cases. For the control of the vascular processes involved in peritonitis, we have two powerful measures in the ice-coil to the abdomen, and in the use of leeches, if applied early, and the patient has not lost much blood. If the temperature continues to rise despite treatment, it is probable that ptomaines are being absorbed, producing supramia. In such cases, irrigation, with safe antiseptic fluids, is indicated.

In concluding, the speaker stated that everything advanced was to be viewed as more or less provisional, since sufficient experience in the operative treatment of these cases has not been accumulated to warrant positive statements.

THURSDAY. — AFTERNOON SESSION.

PISTOL-SHOT WOUND OF THE ABDOMEN TREATED BY LAPAROTOMY AND SUTURING THE INTESTINES,

by R. A. KINLOCH, M.D., of Charleston, S. C.

J. B., colored, aged twenty-seven, was admitted into the City Hospital, January 21st, at 7.30 p. m. He had been shot two hours before, in the abdomen, with a pistol-ball (38-calibre). The ball entered one-and-one-half inches to the left of the navel. There was slight shock. The patient seemed to be comfortable, with the exception of a slight pain on the inside of the left thigh, which was intensified by movement. Pulse 88, respiration 24, temperature 99°. At 10 p. m., half-a-grain of morphia was given hypodermically, and shortly afterwards, anaesthesia was induced by the A. C. E. mixture. Penetration of the peritoneum was first determined, and the abdomen was then opened by median incision. A weak carbolic spray was used. The intestines were examined, piece by piece, and wrapped in towels wrung out of a one to ten thousand bichloride-of-mercury solution. The jejunum presented four wounds: two of entrance and two of exit. The ileum had two wounds. The mesentery was perforated in two places, and was also badly torn. There was free bleeding from a mesenteric branch, which was controlled by pressure-forceps, and subsequently, by ligature of silk. All the wounds were closed with the Lembert suture, using a fine, round needle and antiseptic silk. The wounds of the mesentery were brought together as far as was possible, but there was an infiltration of blood which could not be removed. The abdominal cavity was washed out with a weak solution of hydrarg. bichloride. The abdominal wound was closed with silver sutures, and a large rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The next morning vomiting occurred, and an examination of the wound showed that a suture had given way, and a knuckle of intestine protruded. This was returned, and the opening closed. At 5 p. m., the temperature was 102°. Vomiting again occurred, and shortly after midnight the patient expired suddenly.

Post-mortem. No adhesion of the parietal peritoneum had occurred. Half-a-pint of dark, ferro-sanguinolent fluid was found in the cavity. All the intestinal sutures had held, and there was no faecal extravasation. A circumscribed abscess was discovered in the meso-colon, out of the line of the bullet. The ball

was found behind the body of the fourth lumbar, on the left side.

This was the third case in which the author had performed laparotomy for bullet-wounds of the abdomen, without visceral protrusion. The first operation was performed May 27, 1863, and the patient recovered. This was the first time that laparotomy was done for gun-shot wound without protrusion. In two other cases of such injury, the patients recovered without operation.

PISTOL-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER, STOMACH, SUPERIOR MESENTERIC VEIN, INTESTINE, AND KIDNEY. LAPAROTOMY: NEPHRECTOMY: DEATH ON THE FIFTEENTH DAY: AUTOPSY,

by W. W. KEAN, M.D., of Philadelphia.

Miss B., in Vineland, N. J., a plump and healthy, well-developed girl, of nearly eighteen, shot herself with a pistol, calibre No. 32, at 6.30 A. M., April 1, 1887. Dr. O. H. Adams, who arrived in a few moments, found that the ball had entered over the liver, and, after a careful search, found it lying under the skin of the left flank.

I saw her at 2 p. m. She told me that the wound was self-inflicted; hence the pistol had been almost in contact with the body, and the ball had probably passed in a straight line. The wound of entrance was over the ninth rib, which was fractured, four-and-a-half inches above the level of the navel, and three-and-three-quarter inches to the right of the median line. Skin not burned. The ball was located eight inches to the left of the median line, one-and-a-half inches above the level of the navel. There was moderate tenderness over the entire belly; hepatic dullness not changed; stomach resonant from fifth interspace; no cough, no râles, vocal fremitus normal. Renal dullness began at tenth rib, on left side, and was the same on the two sides. There was severe pain in the left shoulder. She had vomited a drachm-and-a-half of clear, bright blood, she told me, immediately after the accident. About a pint of urine, the first since the accident, was drawn by the catheter. It was not bloody. Pulse 104, respiration 30; no material rise of temperature. As, after consultation with Drs. Adams and Bidwell, it was deemed almost certain that the belly was invaded by the ball, exploratory laparotomy was advised, consented to, and begun at 3 p. m., and lasted nearly three hours, with every antiseptic precaution. The ball was easily removed, just under the skin. Neither wound could be traced positively into the belly. On opening the belly, neither blood nor serum escaped, nor was any extravasated food or faeces noticed. There was no peritonitis. Two fingers were passed in, and an effort made to discover the wound of entrance or of exit, without any being revealed by touch. The wound was then enlarged, and the stomach drawn out. A small, round wound near the pylorus was found, and was closed by four sutures (Lembert) of the finest iron-dyed silk, a round, ordinary sewing needle being used. This wound was practically closed by the pointing mucous membrane. As the ball had entered the stomach, search was made for the necessary wound of exit. None was to be found, but the manipulation showed that a small amount of bloody serum existed in the belly, and a large area of extravasation was seen in the mesentery. But little blood had escaped into the peritoneal cavity. The mesentery was carefully torn through, and a small artery tied. The chief bleeding came from a hole

nearly one-eighth inch in diameter, in a large vein, so large and lax that at first I thought it the vena cava, but its position, just below the head of the pancreas, convinced me that it was a large, superior, mesenteric vein just before it forms the portal vein. After much difficulty, I seized it with hamostatic forceps, and placed a lateral ligature of chromicized catgut on it.

The anterior border of the liver had been scalloped by the ball, but, as there was no bleeding, it was let alone. In addition, a large wound in a coil of small intestine in the left flank had been found: ten Lembert sutures were used in closing it.

Returning now to the stomach, a very careful search was again made for the wound of exit. It was found, obscured by a slight coating of blood. This was closed by three black-silk Lembert sutures. A systematic investigation of the entire bowel, from the stomach to the sigmoid flexure, showed no other wounds. The left kidney was badly lacerated, and was immediately removed by peeling it out of its capsule, and tying the pedicle with a stout silk ligature. A rubber drainage-tube was inserted through the wound of exit into the abdominal cavity.

The wound of entrance was cleansed and closed by three stitches, and the wound of exit by two. Sublimate gauze, rubber dam, and a wide flannel bandage completed the dressing.

During the day following the operation suppression of urine was threatened, only $\frac{1}{2}$ ijss being secreted. This was quite albuminous. The next day, however, the amount rose to $\frac{1}{2}$ xxiv, and on the third day, to $\frac{1}{2}$ xv, and the albumen gradually disappeared. For the first three days nothing was given her, except a little cracked ice, ice-water, and a little whiskey and champagne. On the fourth day, peptonized milk, in frequent, but small quantities, was allowed, with rectal enemata of the same, and later, other liquid foods. Menstruation appeared regularly, when due, on April 3d, and saw its usual course of four days.

On the 8th she had a chill, lasting twelve minutes, and the temperature rose to 104° ; but as the most careful examination revealed no spot of special tenderness, no dulness, no fluctuation, and she was almost, it seemed, in articulo mortis, it was not deemed prudent to reopen the belly.

The next day, the 10th, she improved somewhat. On the 13th she had another chill, with a temperature of 105.4° . Had vomited several times, and also had some involuntary evacuations; but as her condition was fair, pulse 136, temperature 101.4° , the belly was reopened and explored. The intestines were bright and glistening, and no peritonitis existed.

Surgical bimanual examination revealed no pus or special tenderness at the site of the removed kidney, or, so far as it could be located, at the intestinal wound. No shock followed. The next (14th), she had two bloody motions, and gradually failed, dying on the fifteenth day.

The autopsy, by Dr. H. C. Smith, revealed general peritonitis, except in the pelvis, but no free pus was found anywhere. Only one wound was found in the stomach, near the pylorus, and this was healed, the four stitches being seen in place. The blood in the mesentery was disintegrating and suppurating, though no abscess existed, nor was there any free pus in the peritoneal cavity. The suppuration was chiefly marked along the mesenteric attachment of the intestine. On the other side of the mesentery, corresponding in posi-

tion to this wound, was a spot in the bowel-wall as large as a five-cent coin, which was gangrenous, and in its centre were two perforations of the bowel. No wound was found, except that discovered at the operation. No trouble was found at the site of the removed kidney. Although it was nearly ten hours from the accident to the time when the intestine and stomach were sutured, no intestinal or gastric juice or fluid escaped, though the intestinal wound was so large, and vomiting occurred three times.

The kidney, I believe, has never before been removed at a laparotomy for gun-shot wound, but it was clearly the right thing to do. The day following the operation, the remaining kidney worked badly, only three-and-a-half ounces of albuminous urine being secreted. But the next two days dispelled all anxiety on this score, the urine rising to twenty-four and forty ounces, respectively, and the albumen soon disappeared. The early and marked compensatory enlargement of the right kidney is also of great interest and importance, though, of course, now well known to follow nephrectomy.

DISCUSSION.

DR. P. S. CONNER, of Cincinnati. If the temperature remains sub-normal, four, five or six hours, prostration and perforation may be considered almost certain. Diagnostical laparotomy is admirable in certain cases. In private practice we have to be largely governed by the opinions of the patients and their friends. Many of these cases necessarily involve legal investigation, and it is a very simple matter to show that death resulted not from the original injury but from the surgeon's knife. While I think that it is wise to lay down the general rule that penetrating wounds of the abdomen and still more perforating wounds of the viscera should be submitted to laparotomy, at the same time I think we are not justified in laying this down as a hard and fast rule.

DR. MOSES GUNN, of Chicago. When Dr. Sims proposed this operation a few years ago, the profession were not ready to accept it. I think that we are now all prepared to say that it is a proper measure to pursue, but the only question is how to make the diagnosis? We have, as has been said, no positive signs of visceral injury. I think that we are fully warranted in saying that we may resort to laparotomy for purposes of diagnosis when we are in doubt.

DR. T. RICHARDSON, of New Orleans. Looking over the statistics of the Charity Hospital of New Orleans, I find that in the last five years there have been thirty-one cases of penetrating knife wounds of the abdomen, of which twenty-four recovered and seven died. There were thirty-three cases of gun-shot wound of the abdomen with thirteen recoveries and twenty deaths. Laparotomy was performed in one of the fatal cases of gun-shot wound; all the other were treated on the expectant plan.

DR. D. HAYES AGNEW, of Philadelphia. I have very strong convictions in regard to laparotomy. I believe that where there is a reasonable degree of evidence that there is a penetrating wound of the abdominal wall, especially if a shot wound, it is the surgeon's duty to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality if the case should come into court. We are to do our duty without reference to the consequences.

(To be continued.)

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SEVENTY-THIRD ANNUAL REPORT OF THE
MASSACHUSETTS GENERAL HOSPITAL AND
McLEAN ASYLUM.

The report of the Massachusetts General Hospital and the McLean Asylum, for 1886 (the seventy-third annual report), contains the usual items of information.

The whole number of patients received at the Hospital in the course of the year was 2,580—1,442 men, 948 women, and 190 children—of whom 21 were under two years old. For the year 1885 it was 2,327—1,351 men, 794 women, and 182 children—33 of whom were under the age of two. The average number of patients in the Hospital was 173 (males 99, females 74), of whom, on the average, 152 had free beds. Last year, the average number of patients was 167, with an average of 150 free beds. The number of new patients treated in the out-patient department during the year was 17,925. At the Convalescent Home, there were, in the course of the year, 308 patients.

The proportion of deaths to the whole number of results among those treated in the Hospital was 7.53 per cent. The number of patients received on account of accident was 471. The average number of paying patients was 21: Americans, 15; foreigners, 6. The average number in private rooms was 6.1. The average number of free patients was 152: Americans, 75; foreigners, 77. The average time of paying patients was 2.78 weeks, and that of free patients, 3.72. The proportion of ward beds occupied by free patients was 85 per cent.; by paying patients, 15 per cent. Of the free patients, 12 per cent. were female domestics; 20 per cent. were laborers; 15 per cent. were mechanics; and 9 per cent. were minors. The surgical patients, as usual, exceed the medical in numbers.

There was received during the year \$70,403.71, of which \$65,383 are for the benefit of the Hospital, and \$5,020 for that of the Convalescent Home. From the report of the Treasurer, it appears that the ordinary expenses of the Hospital, Asylum, and Convalescent Home, taken together, exceed the entire income of

the Corporation by the sum of \$11,730.21. This amount, with the sum of \$12,679.93 for permanent improvements at Belmont, and \$17,342.41 for the construction of the second sanitary tower at the Hospital, makes an aggregate of \$41,759.55. This sum, representing the excess of the ordinary and extraordinary expenses of the Hospital over its income, has been drawn, as usual, from the permanent general invested funds of the Hospital. The excess of the ordinary expenses over the income is substantially due to the number of free beds at the Hospital. That this deficit should cease to exist, without curtailing the number of free beds, large additions to the subscriptions to free beds are considered necessary by the trustees. There were quite numerous changes in the medical and surgical staff during the year, among which may be mentioned the resignation of Dr. Henry J. Bigelow, after a service of forty years, and the declining of a re-election by Dr. George C. Shattuck, after a service of thirty-six years. Dr. John W. Pratt succeeded the late Dr. Whittemore in the administration.

In regard to the beneficent work of the year at the McLean Asylum for the Insane, the Superintendent, Dr. Cowles, reports that the numbers admitted, discharged, and recovered, and the daily average under treatment, differed by only one or two persons from that of last year. With one less recovery, the percentage of recoveries on admissions was increased two-tenths. The number of voluntary cases admitted was one-third of all the admissions. The percentage of recoveries furnished by this class of patients was eight less than its due proportion, showing that no advantage in this regard is derived from this class.

The average number of patients under treatment for six years, and the average cost per week for each patient, are shown by the following figures:

	1881.	1882.	1883.	1884.	1885.	1886.
Daily average number of patients,	149	155	164	166	171	169
Average cost per week,	\$15.92	\$17.02	\$16.16	\$16.00	\$15.72	\$15.94

This includes all extraordinary expenses for repairs and alterations and improvements.

The little difference in the general results of the last two years emphasizes the fact that the asylum is doing about the maximum amount of work, with its wards fully occupied. Its general condition, and the hope, as well as need, of having new buildings at Belmont in the near future—the erection of which is only delayed by the lack of funds—are, in many ways, limitations to present progress.

The event of the year has been the graduation from the Training School, established a few years ago, of the first class of trained nurses, sixteen in number. A composite photograph of this class shows a high average of intelligence and character, as revealed in the features. Such nurses, trained in attendance upon the mentally afflicted, cannot fail to be of much use in the hospital, and a real blessing to the community at large. Here is a noble field for intelligent, healthy, young women longing for a vocation.

The Treasurer gives the gratifying information that the receipts at the McLean Asylum exceeded the expenses, which were \$144,374, by \$4,004.

IS THE FREE DRINKING OF WATER WITH MEALS INJURIOUS?

THE older physiologists generally answer the above question in the negative; most recent authorities see little evil in a moderate—not excessive—ingestion of drinks at meal-time.

Dr. A. W. P. Leuf has published an article in the *Medical News* (April 16, 1887), in which he advocates the free use of water with meals. When ingested during meals, he says, water does good by washing out the digested food, and by exposing new surfaces to be acted upon by the gastric juice. Pepsin is a catalytic body, and a given quantity will work indefinitely, provided the effects of its work are constantly removed, so as to enable this catalytic body to come in contact with new material.

Dr. Leuf also finds that water drank freely before meals is beneficial by thinning and washing out accumulated mucus, increasing the fulness of the capillaries of the stomach, and favoring peristalsis of the whole alimentary tract. The clean hyperæmic mucous membrane is then in excellent condition to receive food. Moreover, the stomach is distended by the drink, and its rugæ to some extent obliterated. Dr. Leuf has found by repeated vivisections of animals, and post-mortem examinations of healthy men dying by violence some time after meals, that the shape of the stomach varies with the degree of distension. The empty stomach, called the "tubular stomach," is of small calibre, the mucous membrane being deeply corrugated or folded, the muscular coat contracted and thickened. Gaseous distension, though frequently observed, is not the rule, nor is it strictly physiological. The flow of mucus is constant, and is especially noticeable during the intervals between the periods of digestion. Mucus is normally secreted during the night, and the gastric walls in the morning are covered with a thick, tenacious coat of this substance. If food enters at this time, it will become covered with a coating of this tenacious mucus, which may for a time hinder digestion. The tubular contracted stomach with its puckered mucus lining, always normal in the morning before breakfast, is not in a condition to receive food. The mucus it contains interferes with proper digestion, and its firm contraction is an obstacle to the free circulation of blood through its vessels. A goblet of water taken before breakfast washes out this mucus, partly distends the stomach, wakes up peristalsis, and thus prepares the alimentary canal for the morning meal. He finds, moreover, that non-irritating liquids pass directly through the tubular stomach; they do, likewise, if the stomach contains food, and in such cases pass along the lesser curvature, they neither mingle with the alimentary bolus, nor impair

the action of gastric juice in the latter. Cold water should be given to those who have the power to react, and hot water to all others. In chronic gastric, especially catarrh, it is very advantageous to drink warm or hot water before meals, and salt may be added with additional benefit in almost all instances.

TREATMENT OF ACUTE PHTHISIS.

LEPINE, Professor of the Faculty of Medicine of Lyons, treats acute miliary tuberculosis with large doses of iodide of sodium, fifteen to twenty grammes daily to an adult patient being, in his estimation, not too much. He gives this salt, as constituting, according to him, the most efficient "microbicide" in this disease, and claims good results therefrom. "The iodide of potassium," he says, "has rendered incontestable service in tuberculous meningitis, as many competent observers have proved, as also in the fever of phthisical patients, when this is due to a fresh crop of granulations. Quite recently, Gosselin has vaunted iodoform, and has found that the evolution of tuberculous lesions is retarded, and even prevented thereby." Lepine prefers the sodium to the potassium salt, as being better borne by the economy in the large doses required.

Recent experiments of Raymond and Artaud indicate the possibility of benefits being derived from the prolonged administration of tannin in acute phthisis. These experimenters claim to have rendered hares refractory to inoculation by tubercles by subjecting them for a month to daily doses of fifteen grains of tannin. They also affirm that they have witnessed decided amelioration, in the acute forms of phthisis, from the administration of from fifteen to seventy-five grains of tannin.

MEDICAL NOTES.

— Five hundred and seventy-six deaths from cholera were registered at Buenos Ayres during the two months ending February 28, 1887. It is reported that cholera disappeared in the month of March.

— A man died at Key West on the 20th inst., from yellow fever, and his wife and sister are both ill with the same disease. Tampa, the nearest connecting point by sea, has been quarantined against Key West.

— Doctor's office, St. Louis. Enter a lady with a sick dog. "My dear Dr. —, you must not be angry with me, but won't you please cut off this tumor on poor Fannie's flank?" "Well, madam, I would do anything to oblige you, but this is a little out of my line. Why don't you take the dog to a veterinary surgeon?" "But, Doctor, those veterinaries are so expensive. I supposed you could do it just as well." — *St. Louis Republican*.

— In the preface to the last edition of an English medical work entitled "What to Do in Cases of Poisoning," the author, Dr. Murrell, says: "This work

has reached a fifth edition, but it is not my fault, and I disclaim all responsibility in the matter. I am told that it has been the means of saving many lives, and I have no doubt this is true, for I hear that a gentleman who thought of poisoning himself, changed his mind on reading the directions for treatment."

—The *Lancet* quotes Dr. Gluzinski, writing in a Polish journal, as stating that, in cases of catarrhal jaundice, he has found excellent results follow the treatment recommended by Krull, namely, the repeated injection into the bowel of large quantities of cold water. This increases the peristaltic action of the intestines, and removes any mechanical obstacle to the flow of bile. Again, as has been shown by Röhrig and Mosler, who injected large quantities of cold water into dogs, the bile is thus rendered both more liquid and more abundant, so that it more easily overcomes any obstruction. At first, water at 59° F. is injected into the bowel until the patient complains of a feeling of distension in the abdomen. He is then made to retain it as long as possible. Most patients manage to retain two litres for from a quarter to half an hour. The next day the enema is repeated, but with water about 4° higher. The temperature is again raised on each succeeding day, but when 72° have been reached, no further increase is made. The reason of the increase is that the repeated introduction of cold water is apt to irritate the mucous membrane of the bowel. Altogether, four or five enemata are sufficient to produce the desired effect. The increase of the biliary secretion may be judged of by the color of the faeces. Of course, the diet is attended to, in order to prevent a recurrence of the affection.

BOSTON AND NEW ENGLAND.

—At the annual meeting of the Norfolk District Medical Society, held May 10th, the following officers were elected: President, Dr. William P. Bolles, Roxbury. Vice-President, Dr. G. D. Townshend, Roxbury. Secretary and Librarian, Dr. S. A. Potter, Roxbury. Treasurer, Dr. E. G. Morse, Roxbury. Commissioner of Trials, Dr. J. Stedman, Jamaica Plain. Nominating Councillor, Dr. O. F. Rogers, Dorchester. Censors, Drs. H. C. Ernst, Jamaica Plain; H. W. White, Roxbury; H. W. Broughton, Jamaica Plain; S. M. Crawford, Roxbury; F. W. Vogel, Roxbury. Councillors, Drs. O. F. Rogers, Dorchester; G. E. Meenen, Roxbury; G. W. Clement, Roxbury; J. W. Chase, Dedham; E. L. Farr, Roxbury; G. K. Sabine, Brookline; G. D. Townshend, Roxbury; C. A. Bemis, West Medway; C. F. Withington, Roxbury; G. O. Allen, West Roxbury; W. C. B. Fifield, Dorchester; N. Call, Roxbury; A. D. Kingsbury, Needham; E. P. Gerry, Jamaica Plain; H. R. Stedman, Roslindale.

—*A propos* of the recent resolutions adopted by the Suffolk District Medical Society, regarding the system of milk delivery in and around Boston, a correspondent writes — "There is a decided need of an *inspector of bungs*, or the stoppers used in the top of milk cans. This source of contamination seems to be

completely overlooked, but after careful and studious selections of samples of milk, in widely different localities in Boston, during three years or more, I have come to the conclusion that the wooden stoppers are not renewed as often as needed to insure a wholesome, pure taste to the milk. Some of the samples I have tried to use as drink were so bad that no other taste could be found that would assist in smuggling the article into the stomach. Scalding the bungs would perhaps be of a certain advantage, but as cheap as wood can be had, there need be no excuse to keep the bung in use after it has that sour wood taste, such as is often smelled in oysters transported from fifty to one hundred miles away from the salt water and allowed to remain from twenty-four to forty-eight hours in the wooden keg or pail until sold. The taste of the wood in each of the above cases, is identical, and does not take a very keen observer to detect it. Milk distributed in the smaller cities and towns has none of this bad taste."

NEW YORK.

—Dr. Cyrus Edson, of the Health Department, lately seized two car-loads of tainted meat, which it was intended to manufacture into bologna sausages.

—By the will of the late Oliver Hoyt, the Methodist Episcopal Hospital, of Brooklyn, receives a gift of \$20,000.

—Dr. Charles L. Dana has been elected Chairman of the Section on Theory and Practice of the New York Academy of Medicine.

—At a meeting of the Board of Charities and Correction, held May 19th, Dr. Charles E. Simmons was elected President, and he is probably the first medical President that the Board has ever had. Dr. Simmons is said to have several plans in view for developing improvements in the management of the interests in charge of the commissioners, among which are the establishment of a model prison on Riker's Island, and the carrying out of the cottage system in the treatment of the insane on the farm at Central Islip, Long Island, recently purchased by the city authorities for that purpose.

—Governor Hill has nominated Dr. Charles Phelps for Health officer of the port of New York, *vice* Dr. Wm. M. Smith, whose term of service has expired, and who will be remembered to have suffered, justly or unjustly, in reputation, from the developments of the recent rag disinfection suits brought in that city. Dr. Phelps is well and favorably known, and his appointment seems to have met with favor from the medical profession.

CHICAGO.

—*Regulation of the Practice of Medicine in Illinois.* — Illinois enjoys the distinction of having led our States in the enactment of laws regulating the practice of medicine in a good way — that is, a good way in the eyes of some, perhaps most, of the regular and reputable profession. Whether or not a majority of

its own medical men thought the law a good one, and that it was "driving out the quacks," certainly public sentiment elsewhere regarded this as a fact, hence laws similar in character were enacted in other States. Certainly it has been more difficult than formerly, in Illinois, for irregular practitioners to ply their vocation. Still many quacks of various sorts and kinds — especially those who had practised ten years at the time of the adoption of the law — have thriven in spite of the law and the State Board of Health, which latter is specially charged with the execution of the law. One or two decisions of the courts have made it nearly useless for the Board to attempt to discipline men for any species or degree of irregularity, provided the victim resisted through the courts. An amendment to the law was introduced into the Legislature, now in session, the effect of which would be to stop flagrant quackery at least. This amendment has just now been defeated in the lower house by a considerable majority, it is said through the influence of a powerful lobby of quacks and their friends. The real cause of the defeat of the measure is said to be the fact that it was a blow apparently aimed at the just now very prevalent delusion of the metaphysical cure. It was a mistake on the part of the Board to suppose it could secure a majority of the lower house, to censure even indirectly this new fashionable craze; too many members or influential constituents — men and women — back of them, have already been struck by this particular fog to make such a consummation possible. The haze will probably be passing off two years hence, when the next legislature meets — possibly something better can be done at that time. But the need of a law to protect the community from imposition in this direction will be less at that time, probably, than it is now — if, indeed, the need exists at all, of which there is some question, since there is a truth in the doctrine that as people like to be humbugged by transparent frauds and falsehoods they should be allowed the privilege. Meanwhile, the newest accession to our bench, Judge Tuthill, before he had finished his first month of service, had sent a fellow to jail for a year for imposing on some poor persons as a voodoo doctor, and getting a small fee. This form of remedy seems to be the only thing left. If Judge Tuthill keeps on this way he will make a record.

— The Illinois State Medical Society has just closed an interesting meeting devoted entirely to the business of the society. There was no social feature, the omission being due wholly to the fact that the National Association meets here next month, when the profession and the public will be asked to open their social arms to the visiting profession.

— The profession here is just now contemplating the outrageous position into which a physician may be placed by an unscrupulous advertiser. The vender of a sulphuretted mineral water seized the opportunity of the present popularity of the rectal injections of gas for consumption, to improve his trade by a flaming

advertisement of the water, with a cut of the apparatus used, and fulsome statements that the gas from this water was a sure cure, etc. From reports of a meeting of the Medical Society, he learned the names of a number of physicians who were using the measure, and embodied their names in the advertisement in such a way as to make it appear that they endorsed in full the statements it contained. The performance has been denounced in a card by all the physicians whose names were used, but this only slightly counteracts the effect of the outcry. It is interesting, anent this subject, to note how generally the profession here is now reaching the conclusion — the only one that ever ought to, or could logically have been formed — that the most desirable, as the only definite and exact way to secure the sulphuretted hydrogen for this kind of medication is through the well-known artificial compound with the sulphide of sodium, and not by means of any natural water.

— The Board of County Commissioners has recently removed the appointment of the attending staff of the Hospital from the domain of politics. It has voted the present staff shall remain during good behavior, and that any vacancies in its membership shall be elected by an Advisory Board of five medical men, whom it has appointed. In case of a vacancy, the staff is to nominate three persons from whom the Advisory Board is to elect one. The Advisory Board, as at present constituted, has a representative from each of three regular medical colleges. The full list is as follows: Drs. W. H. Byford, H. A. Johnson, A. Reeves Jackson, A. H. Foster, and R. G. Bogue. For a number of years past it has been the custom of the County Board to change the Hospital staff annually, each one of the five newly elected members of the Board having appointment of one member of the staff, so that the staff was not only constantly changing, but changing according to the personal and political whims of laymen.

Miscellany.

THE TREATMENT OF CHOREA.

A NUMBER of recent contributions upon this subject are summed up in the *London Medical Record*. Owen noticed in a case of chorea, treated with four and one-half minims of Fowler's solution three times daily (the dose afterwards increased to five minims), one month after the commencement of the arsenic, bronzing of the nipples, armpits and neck occurred; this became more marked during one month in some of the parts affected, and then gradually diminished. Cases of bronzing following the use of arsenic are not common. Frühwald, of Vienna, has treated cases of chorea with arsenic, administered hypodermically and by the mouth, and compared the results. He gave one to three minims of Fowler's solution hypodermically, and considered that the results were more favorable than dosage by the mouth. Improvement began at the end of a week, and cure was complete — that is, there was absence of incoördination — at the end of

three or four weeks. Joffroy has had good results in the treatment of chorea with chloral. He gave to children of ten years of age one drachm daily, and to children of six to eight, forty-five grains daily, divided into three doses. The treatment was continued for from two weeks to two months. Free cured two cases of chorea, which had been unsuccessfully treated by other drugs, with extract of cimicifuga. Nauwerck has published the account of a fatal case of chorea, with the details of a carefully conducted *post-mortem*. The case was one of chorea minor, and died of asthenic pneumonia. To the eye no gross change could be detected in the organs after death, except a few vegetations on the mitral valve. There was a systolic murmur during life. A histological examination showed that the peripheral nerves were quite healthy, and that in the central nervous system there were three kinds of changes. In the medulla oblongata and the pons Varolii there were areas in which there was a great amount of perivascular infiltration, and other areas in which there were slight hemorrhages. Both these kinds of changes have been described by Dickinson. No capillary emboli were found. The third change described by Nauwerck is a degeneration of nerve-fibres, chiefly in the cervical region of the spinal cord. The change consisted in an irregular swelling of the axis-cylinder in parts (the so-called "hypertrophy,") and in fatty degeneration with complete disappearance of some axis-cylinders. These changes did not occupy any particular strand or strands of the cord, but were irregularly distributed. According to Nauwerck, their presence might account for the incoördination.

CASES OF LETHARGIC TRANCE.

DR. T. MORE MADDEN, writing in the *Medical Press and Circular*, April 27th, on the subject of lethargy or trance, dissents from the general opinion that this phenomena is so rarely met with as to be of little medical importance. He has no doubt that these conditions are of far more frequent occurrence than is generally supposed, and has, moreover, had reason to know that death is occasionally so exactly thus counterfeited, that there is good cause for fearing the probability of living interment in some cases of hasty burial.

He gives five cases which have come under his personal observation, as follows:

"The first is an instance of so-called hysterical trance: A young lady, Miss R., apparently in perfect health, went into her room after luncheon to make some change of dress. A few minutes afterwards she was found lying on her bed in a profound sleep, from which she could not be awakened. When I first saw her, twenty-four hours later, she was then still sleeping tranquilly, the decubitus being dorsal, respiration scarcely perceptible, pulse 70, and extremely small; her face was pallid, lips motionless and the extremities very cold. At this moment, so death-like was her aspect, that a casual observer might have doubted the possibility of the vital spark still lingering in that apparently inanimate frame on which no external stimulus seemed to produce any sensorial impression, with the exception that the pupils were normal, and responded to light. Sinapisms were applied over the heart and to the legs, where they were left on until vesication was occasioned without causing any evi-

dence of pain. Faradization was also resorted to without effect.

"In this state she remained from the evening of the 31st of December until the afternoon of the 3d of January, when the pulse became completely imperceptible, the surface of the body was icy cold, the respiratory movements apparently ceased, and her condition was to all outward appearance undistinguishable from death. Under the influence of repeated hypodermic injections of sulphuric ether and other remedies, however, she rallied somewhat, and her pulse and temperature again improved. But she still slept on until the morning of the 9th, when she suddenly woke up, and to the great astonishment of those about her called for her clothes, which had been removed from their ordinary place, and wanted to come down to breakfast, without the least consciousness of what had occurred. Her recovery, I may add, was rapid and complete.

"The next case of lethargy that came under my notice was that of a boy, who, after an attack of fever, fell into a state of complete lethargic coma, in which he lay insensible between life and death, for forty-seven days. In this case, as in the last, the patient ultimately recovered perfectly.

"In a third instance of the same kind in a lady under my care, the patient, after a lethargic sleep of twenty-seven days, recovered consciousness for a few hours, and then relapsed into her former comatose condition, in which she died.

"The fourth case of lethargy which I have seen was like the first, a case of trance which lasted for seventy hours, during which the flickering vital spark was only preserved from extinction by the involuntary action of the spinal and nervous centres. In this instance the patient finally recovered.

"The fifth and last instance of profound lethargy that has come within my own observation, occurred last autumn in the Mater Misericordiae Hospital, in the case of a young woman under the care of my colleague, Dr. Boyd. In that instance, despite all that medical skill could suggest or unremitting attention could do, it was found impossible to arouse the patient from the apparently hysterical lethargic sleep in which she ultimately sank and died."

OBITUARY. WILSON FOX, M.D., F.R.C.P., F.R.S.

Our English exchanges bring tidings of the death of this renowned clinical teacher, which occurred from pneumonia, with heart-failure, the latter the result of long-standing cardiac disease, on the 3d of May, in the fifty-seventh year of his age. Dr. Fox was a descendant of the famous Quaker family of that name. He was the son of an eminent manufacturer at Wellington, and was educated first at Bruce Castle, Tottenham, and afterwards at University College, London; he took the degree of B.A. in the University of London, and he subsequently entered the medical faculty of University College. Among his fellow-students were Sir Joseph Lister, Sir Henry Thompson, Sir William Roberts, Dr. Russell Reynolds, and Dr. Graily Hewitt. After a distinguished career as a student, he took the degree of M.B. in 1854, and that of M.D. in the following year. He was House-Physician at University College Hospital, and subsequently held a similar appointment in the Edinburgh Royal Infirmary. He then went abroad, and spent a considerable time in Berlin, Vienna, and other centres of German thought, where he had the advantage of studying under Virchow, Koelliker, and other eminent teachers. On his return he became physician to the North Staffordshire Infirmary, and soon acquired a considerable practice in Newcastle-under-Lyme. Ill-health induced him to resign his appointment, and to return to London, partly in order to place himself under medical care. From this indisposition he completely recovered, and was ap-

pointed Assistant-Physician to University College Hospital in 1861, at the same time succeeding Sir William Jenner as Professor of Pathological Anatomy.

In 1866, he was elected a Fellow of the College of Physicians, and a few years afterwards, a Fellow of the Royal Society. In 1857, he exchanged the chair he held for that of Holme Professor of Clinical Medicine, the duties of which he performed up to the time of his death, and where he made perhaps his strongest impress, through his admirable qualities as a teacher, on the medical mind of his country. In 1875, he was appointed Physician-Extraordinary, and, at a subsequent date he became Physician-in-Ordinary to Her Majesty.

Dr. Fox's contributions to scientific medicine were numerous and important. One of his earliest researches was on the development of muscular tissue, published in the *Philosophical Transactions*. Another was concerned with the origin and structure of cystic disease of the ovary. His attention was afterwards given specially to diseases of the stomach and of the lungs, and he wrote on both subjects for the *System of Medicine*, edited by Dr. Russell Reynolds. His articles on diseases of the stomach were afterwards republished in an enlarged

form as a separate work. The work, however, for which he was best known was his research into the nature of tubercle; to this he devoted the best energies of his life; for many years, even when he was almost alone among English pathologists, he struck manfully to his thesis that tubercle was a peculiar and special process, and that it was not merely ordinary chronic inflammation, as was the popular German opinion, reflected in this country, until Koch's researches were published. Dr. Fox's experimental researches led him to believe that tubercle might be produced by the inoculation of indifferent material, and he expressed this opinion in a lecture delivered before the Royal College of Physicians. The publication of Koch's results, while confirming the correctness of his views as to the special characters of the tubercular process, necessitated a remodelling of his views as to the etiology of the disease. It was owing to this cause that the publication of his great work on diseases of the lungs, at which he had worked with extraordinary industry for many years, was postponed. It may be hoped that the enormous mass of materials which he had brought together, and the large collection of drawings which he had prepared to illustrate it, may not be lost to the world.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 14, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	748	257	15.60	12.35	2.60	8.19	1.17
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,103	291	110	15.30	14.28	2.04	2.73	1.70
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	117	36	11.05	18.70	.85	.85	4.25
Boston	400,000	172	49	11.60	20.88	2.90	3.48	2.32
New Orleans	242,750	159	79	35.28	10.08	25.20	1.89	1.26
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	74	20	8.10	9.35	2.70	1.35	1.35
Pittsburgh	210,000	86	35	17.40	11.61	2.32	8.12	2.32
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	45	16	15.55	15.55	4.44	2.22	—
Richmond	100,000	30	15	13.33	10.00	—	—	3.33
New Haven	80,000	20	5	5.00	10.00	—	—	—
Nashville	65,000	15	7	20.00	6.66	6.66	6.66	—
Charleston	60,145	32	14	—	—	—	—	—
Portland	40,000	14	2	—	14.28	—	—	—
Worcester	68,383	16	2	37.50	6.25	—	12.50	6.25
Lowell	64,051	31	12	9.69	25.84	—	—	6.46
Cambridge	59,660	29	9	17.25	17.25	3.45	6.90	3.45
Fall River	56,863	20	10	15.00	15.00	—	—	—
Lynn	45,861	14	3	—	21.42	—	—	—
Lawrence	38,825	12	4	—	15.38	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	5	6.66	13.33	—	—	—
Somerville	29,992	7	1	28.56	14.28	—	—	14.28
Salem	28,084	15	4	13.33	20.00	—	6.56	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	2	—	25.00	—	—	—
Taunton	23,674	8	1	37.50	12.50	—	—	—
Haverhill	21,795	6	2	—	—	—	—	—
Gloucester	21,713	4	0	—	25.00	—	—	—
Brockton	20,783	7	1	28.56	14.28	—	—	—
Newton	19,759	9	1	11.11	22.22	—	11.11	—
Malden	16,407	4	1	—	25.00	—	—	—
Fitchburg	15,375	3	1	33.33	—	—	—	—
Waltham	14,609	1	0	—	—	—	—	—
Newburyport	13,716	—	0	—	—	—	—	—
Northampton	12,896	7	1	—	28.56	—	—	—

Deaths reported 2,024; under five years of age 705; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 319, consumption 283, lung diseases 276, diphtheria and croup 110, diarrhoeal diseases 80, measles 37, scarlet fever 26, malarial fever 22, cerebro-spinal meningitis 13, whooping-cough nine, erysipelas nine, typhoid fever nine, puerperal fever three, small-pox (Cambridge) one. From scarlet fever, New York 11, Brooklyn seven, Boston, Baltimore, District of Columbia, Pittsburgh, Worcester, New Bedford, Salem and Brockton one each. From malarial fevers, New Orleans 10, New York six, Brooklyn four, Richmond and Providence one each. From cerebro-spinal meningitis, New York three, Fall River two, Richmond, Pittsburgh, Worcester, Lowell, Somerville, Brockton and Fitchburg one each. From whooping-cough, New York three, Baltimore two, Boston, Richmond, Pittsburgh and Worcester one each. From erysipelas, New York three, Brooklyn two, Boston, Baltimore, Portland and Fall River one each. From typhoid fever, New York, Boston and Baltimore two each, New Orleans, District of

Columbia and New Haven one each. From puerperal fever, New York, Pittsburgh and Nashville one each.

In the 21 cities and greater towns of Massachusetts, with a population of 1,019,014 (population of the State 1,941,465) the total death-rate for the week was 19.28 against 19.29 and 18.54 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 30th, the death-rate was 20.6. Deaths reported 3,647; infants under one year of age 768; acute lung diseases (London) 338; measles 261, whooping-cough 132, scarlet fever 51, diarrhoea 43, diphtheria 25, fever 15.

The death-rates ranged from 10.3 in Derby to 35.4 in Cardiff; Birmingham 21.1; Blackburn 30.8; Hull 17.6; Leeds 19.1; Leicester 15.7; Liverpool 27.0; London 18.3; Manchester 27.5; Newcastle-on-Tyne 22.6; Nottingham 18.9; Plymouth 16.9; Sheffield 26.4.

In Edinburgh 20.2; Glasgow 24.9; Dublin 39.3.

The meteorological record for the week ending May 14, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, May 11, 1887.																			
Sunday, ... 8	30.24	54.0	56.0	46.0	100.0	90.0	93.0	94.0	N.E.	E.	O.	3	8	0	G.	F.	C.	4	10
Monday, ... 9	30.24	56.0	67.0	49.0	71.0	85.0	88.0	81.0	N.E.	E.	S.E.	8	15	5	C.	C.	C.	—	—
Tuesday, ... 10	30.11	72.0	86.0	48.0	59.0	34.0	59.0	51.0	S.W.	W.	W.	6	14	15	C.	C.	C.	—	—
Wednesday, ... 11	30.02	70.0	78.0	64.0	22.0	13.0	27.0	21.0	N.W.	N.W.	N.W.	17	20	8	F.	C.	C.	—	—
Thursday, ... 12	29.97	62.0	70.0	56.0	26.0	18.0	35.0	26.0	N.	N.W.	N.W.	11	19	10	F.	C.	C.	—	—
Friday, ... 13	30.11	51.0	57.0	48.0	44.0	52.0	60.0	52.0	N.	E.	S.E.	6	15	2	C.	C.	C.	—	—
Saturday, ... 14	30.30	54.0	60.0	45.0	60.0	44.0	41.0	48.0	N.W.	E.	S.W.	7	9	4	C.	F.	C.	—	—
Mean, the Week.	30.137	59.4	68.0	51.0				53.3										4	.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 14, 1887, TO MAY 20, 1887.

TAYLOR, MORSE K., surgeon. Retired from active service May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

WHITE, R. H. Promoted to be surgeon with the rank of major, to take effect from May 14, 1887.

HALL, JNO. D., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 74, Department of Colorado, May 11, 1887.

STER, WILLIAM N. Appointed assistant surgeon, with the rank of first lieutenant, to rank as such from May 16, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING MAY 21, 1887.

GRAYATT, C. U., surgeon. Detached from the United States Steamship "Michigan."

LUMSDEN, G. P., passed assistant surgeon. Ordered to the United States Steamship "Michigan."

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from the Naval Academy and to the Practice Ship "Constellation."

STREETS, THOMAS H., passed assistant surgeon. Promoted to surgeon.

CURTIS, L. W., passed assistant surgeon. Ordered to the "Quinnebaug."

BAKER, J. W., passed assistant surgeon. Ordered to the Hospital, Chelsea, Mass.

PRICE, A. F., surgeon. Ordered to board duty, Annapolis, Md.

GRAYATT, C. U., surgeon. Detachment from "Michigan" revoked.

LUMSDEN, G. P., passed assistant surgeon. Orders to the "Michigan" revoked.

STEEGHED, C. A., surgeon. Ordered to the "Quinnebaug."

PERSONS, R. C., surgeon. Detached from the "Saratoga."

FAIRWELL, W. G., surgeon. Ordered to the "Saratoga."

DIXON, W. S., surgeon. Ordered to special duty, Baltimore, Md.

ROGERS, B. F., surgeon. Ordered to the Marine Rendezvous, N. Y.

WELLS, HOWARD, passed assistant surgeon. Ordered to the "Jamestown."

WISE, J. C., surgeon. Detached from the "Jamestown."

HARVEY, H. P., surgeon. Ordered to the "Iroquois."

WAGENER, J. R., surgeon. Detached from the "Iroquois."

WHITE, DR. S. STUART, of Frederick, Md., Commissioned assistant surgeon in the Navy, May 19th.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 14, 1887.

FESSENDEN, C. S. D., surgeon. Detailed as chairman of board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

STONER, G. W., surgeon. To proceed to Delaware Breakwater as inspector, and to New York and Philadelphia, to inspect unserviceable property, May 12, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. Detailed as recorder of board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

TATTLIE, J. B., assistant surgeon. Relieved from duty at Baltimore, Md.; ordered to Marine Hospital, St. Louis, Mo., May 13, 1887.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday evening, June 6, 1887, at eight o'clock. Readers: Dr. W. C. Holyoke, "An Outbreak of Typhoid Fever in a Children's Home." Dr. P. C. Knapp, "Cerebral Infantile Paralysis."

CHARLES P. STRONG, M.D., Secretary.

DEATH.

Died in Hopkinton, Mass., May 6, 1887, George Augustus Warren, M.D., M.M., S.S., aged sixty-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Annual Address delivered before the American Academy of Medicine at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., President of the Academy.

A New Clothing Case for the Soldier. By W. Thornton Parker, M.D., Newport, R. I., late A. A. Surgeon U. S. Army. (Patent applied for.) Newport, R. I., 1887.

Twenty-Seventh Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1886. 1887.

Practical Observations on the Gonococcus and Roux's Method of Confirming its Identity. By Charles W. Allen, M.D., Surgeon to Charity Hospital, etc. 1887. (Reprint.)

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides. By C. H. Hughes, M.D., St. Louis, Mo. 1887. (Reprint.)

Elements of Physiological Psychology. A Treatise of the Activities and Nature of the Mind. From the Physical and Experimental Point of View. By George T. Ladd, Professor of Philosophy in Yale University. New York: Charles Scribner's Sons. 1887.

A Report of Analyses of Samples of Water and Ice from the Mississippi, Minnesota and St. Croix Rivers, made in the Laboratory of the State Board of Health of Minnesota, in November and December, 1886. By Charles Stuart, Major and Surgeon, U. S. A. 1887. (Reprint.)

A Companion to the United States Pharmacopoeia. Being a Commentary on the latest Edition of the Pharmacopoeia and containing Descriptions, Properties, Uses and Doses of all Official and Numerous Unofficial Drugs and Preparations in Current Use in the United States, together with Practical Hints, working Formulas, etc. Being designed as a ready reference book for Pharmacists, Physicians and Students. With over 650 original illustrations. By Oscar Oldberg, Pharm. D., and Otto A. Wall, M.D., Ph.D. Second revised edition. New York: Wm. Wood & Co. 1887.

Original Articles.

A CASE OF HYSTERECTOMY FOR THE RELIEF OF PYELITIS FROM OBSTRUCTION.¹

BY A. T. CABOT, M.D.,

Surgeon to the Massachusetts General, and to the Boston Children's Hospital; Clinical Instructor in Genito-Urinary Surgery in Harvard University.

BEFORE proceeding to the consideration of the case I have to report, I wish to allude briefly to the post-mortem examination of another case, which I saw during the last days of life, and which illustrated very well the condition to which my patient might have expected to come, had she not been relieved by operation.

In August, 1886, I saw a lady of over seventy, who had, for years, carried a fibroid tumor of the uterus of moderate size. Many years before, she had suffered much from it, but it had finally become quiescent, and had gradually hardened and settled down into the pelvis. She had been troubled for a long time with frequency of micturition, and about a year and a half before I saw her, after a fall, she had an acute attack of pelvic inflammation, with an aggravation of urinary symptoms.

The urine, at this time, became loaded with pus, and during the year before her death, she on several occasions passed small bits of phosphatic material. The pain in the bladder gradually increased in severity, urination became extremely frequent, with almost constant tenesmus, and she finally died in a uræmic condition, with suppression of urine.

For the notes of the autopsy, I am indebted to Dr. H. C. Ernst, who made the examination.

He found that the fibroid, which sprang from the anterior uterine wall, and weighed four-and-a-half pounds, was almost completely calcified, and was so matted down into the pelvis by inflammatory adhesions, that it was with great difficulty that it could be dissected out, with the bladder and rectum adherent to it.

The bladder was very much contracted, and the walls thinned, evidently by pressure. It contained but a few drops of thick, ammoniacal urine.

The urethra was normal, but the ureters, in their passage over the brim of the pelvis, had been pressed upon by the uterine tumor, so that above this point they were much dilated, having the calibre, on both sides, of a very large lead pencil. Their walls were much thickened and congested, and a little pus was found in each.

The kidneys were large and soft, very dark-red in color, with their capsules extremely adherent. The pelves were much dilated, and full of masses of phosphatic material.

The secreting substance of the kidneys was diminished in amount, of a dull red color, with well-marked Malpighian corpuscles. The proportions between the medulla and cortex were very little altered.

We had here, then, an obstruction of the ureters by the pressure of a uterine fibroid, leading to chronic pyelitis, and finally, to pyelo-nephritis and death. In this case, the symptoms of obstruction to the ureters came on late in the history of the fibroid, and were possibly due to the settling of the tumor into the pelvis, and to the strong adhesions which it contracted in that position.

In the case which I have now to report, pyelitis occurred as an early symptom, while the removal of the tumor was yet possible.

Christine McL., aged twenty-five, a pale and thin young woman, was referred to me by Dr. J. E. Garland, of Gloucester, in December, 1886. She had a tumor, about the size of a child's head, occupying the lower median part of the abdomen, and projecting deep into the pelvis in Douglas's pouch. The os uteri was to be felt anteriorly, high up, and the body could be indistinctly made out behind the pubes. Above this, a little to the right of the umbilicus, was a second tumor, about as large as a small orange, somewhat movable, but seemingly attached by pedicle to the larger growth below.

In neither of these tumors could any fluctuation be detected, but over the whole anterior surface of the larger one, was a layer of fluid, which the passage of a catheter showed to be in the bladder, which was flattened and pressed up against the abdominal wall.

The patient discovered the existence of a tumor about two years before, since which time its growth had been slow, but steady. At first there had not been much pain, but within the last six months she had had intermittent attacks of abdominal and pelvic pain, which were brought on usually by exertion, and incapacitated her from work.

Micturition had lately been much increased in frequency, often coming with intervals of but half-an-hour. The urine was alkaline, with a specific gravity of 1012. It contained considerable sediment, which consisted of pus, a little blood, bladder and vaginal epithelial cells, and triple phosphate crystals.

The diagnosis was of either a fibroid, or an extremely tense, thick-walled cyst, wedged behind the uterus. The smaller tumor above was thought to be an accessory cyst or fibroid. The condition of the urine, and the character of the micturition, was ascribed to cystitis from pressure. At my advice, she entered the Massachusetts General Hospital.

Owing to absence from the city, I did not see her again for two weeks, when, on my return, I found her in bed in a febrile condition, with evening exacerbations of temperature. She was suffering from pretty severe abdominal pain, and there was considerable tenderness, especially about the small tumor. It seeming probable that suppuration was starting in connection with one or other of the tumors, the patient was etherized, and the abdomen was opened. It was found that the large growth was a fibroid, starting from the posterior uterine wall, and firmly fixed in the pelvis, from which it could not be dislodged by any ordinary force. The smaller one was a little ovarian cyst, which, in consequence, apparently, of the pressure of the fibroid on its pedicle, was in a sloughing condition.

This cyst was removed, and, in view of the feeble, feverish state of the patient, it was thought best, in the absence of special indications, to leave the fibroid. The other ovary was sought, but was fixed so deeply in the pelvis, behind the uterine tumor, that it could not be removed. The fever now disappeared, and the patient recovered quickly from this operation.

During her stay in bed, with the aid of bladder irrigation, the urine lost its alkalinity, and the frequency of micturition came down to about what is normal. Before she was able to be up, however, she began to have pain through the left side of the back, and in the lower part of the abdomen on that side.

¹ Read before the Association of Genito-Urinary Surgeons, at its meeting, May 17 and 18, 1887.

It was now noticed that the pus, which was quite abundant, came intermittently, so that while one passage of urine was almost clear, the next would contain perhaps half-an-ounce of sediment. This made it evident that the bladder must be reasonably free from inflammation, and Professor Wood now made a second thorough examination of the urine, and found evidence that chronic pyelitis was present.

The varying character of the urine showed that probably but one kidney was as yet affected, and the pain in the left side of the back pointed to that kidney as the one at fault. No enlargement of the organ could be discovered. The character of the fibroid and the way in which it pressed down into the pelvis put it almost beyond doubt that that was causing obstruction of the ureter, and consequent pyelitis.

The condition being explained to the patient, she understanding that at her age the disease could not be expected to come to a standstill or go backwards, chose the alternative of an operation for the removal of the fibroid.

This was done on March 1, 1887. An incision was made close alongside of the old cicatrix. In this, as in the former operation, considerable care was taken to avoid wounding the bladder. The tumor seemed firmly fixed in the pelvis, but rather through being wedged there, than by reason of any adhesions.

With the vigorous aid of an assistant pressing up from the vagina, it was finally dislodged and lifted out: the pedicle was constricted by the wire of an *écraseur*, and the mass was cut off. The body of the uterus was removed with the tumor, and only the lower part of the cervix was left. The pedicle was treated extra-peritoneally, the *écraseur* being left in place.

The shock of the operation was great, but the patient slowly rallied, and made a good recovery, leaving the hospital early in April. The pains in the abdomen and renal region disappeared after the operation, and the urine slowly cleared up, until, when she was last seen, it was but slightly cloudy.

The patient rapidly regained strength, and towards the end of April was talking of going to work, but a longer rest was advised.

INTUBATION OF THE LARYNX AT THE BOSTON CITY HOSPITAL.

BY W. H. PRESCOTT, *House Surgeon*.

IN view of the prominence which intubation has obtained during the last year, a report of the operations which have been done at the Boston City Hospital may be of interest.

When first brought forward, the operation was viewed with disfavor by the visiting surgeons, and it was not until December 30, 1886, that the first one was performed. In November, one of the staff tried to insert a tube, and probably succeeded, but not being satisfied with the child's breathing, he withdrew it, and performed tracheotomy.

On December 30th, the first operation was done without any difficulty, and the case is reported as No. I. Since then, the operation has been done nine times. In most cases, the relief from dyspnœa has been as marked as after tracheotomy, and, as is usual after the latter, the patient immediately fell asleep, although some were disturbed by the cough which the string occasioned. At first, the feeling that it would not be possible to extract the tube (if there was urgent dysp-

nœa) prevented the cutting of the silk thread which is attached to the tube at the time of insertion, and this thread was probably the cause of two of the accidents which have happened. In two cases the silk was removed, and no trouble arose, and there was no especial difficulty in extracting the tube.

In one case where intubation was attempted, the child stopped breathing, apparently from spasm of the glottis, and tracheotomy was immediately done. In another case it was found impossible, after several trials, to insert the tube. I know of no reason, except lack of skill.

In two of the cases the membrane covered the parts so completely, that the guiding finger could not distinguish one part from another. In these cases, the tube was easily inserted by keeping in the median line, and waiting for the child to gasp.

Of the following cases, Nos. I and IV occurred in the service of Dr. Bradford; Nos. II, III, and V, in that of Dr. Bolles; Nos. IX and X in that of Dr. Gay; and Nos. VI, VII, and VIII, in that of Dr. Post.

CASE I. C. B., five years old. Eight weeks before entrance had scarlet fever, from which he had never fully recovered. December 13th, was taken sick with diphtheria, and entered the hospital on the medical side, December 21st. On morning of December 30th, became cyanosed for a short time, and afterwards had considerable dyspnœa. Transferred to surgical side. Physical examination: Well developed and poorly nourished; membrane on pharynx, tonsils, and uvula; dyspnœa; retraction of chest-walls during inspiration; loss of voice. Intubation (string left in) gave immediate relief to dyspnœa. Was comfortable for sixty hours, when he became cyanosed again. Tube removed, and found to be plugged with membrane. Tube cleaned and replaced (silk not removed). Tube coughed up, and swallowed inside of five minutes. No symptoms referable to the tube, which was never recovered. No return of dyspnœa. Much membrane still left in throat. Child very weak. Gradually failed, and died, evidently from exhaustion, January 9th. No autopsy.

CASE II. O. T., three years old. December 24th. Taken sick nine days before entrance. Slight cough, and some croupy breathing. Two days before entrance "choked up." No further history. Physical examination: Well developed and nourished; breathing harsh and croupy; some retraction; membrane in throat. Steam; poultice to neck. Continued fairly comfortable, with occasional attacks of dyspnœa (relieved by the vomiting produced by *vin. ipecac.*), until January 1st, when breathing became labored, and intubation was done. Immediate relief to dyspnœa. Coughed up considerable mucus. Was comfortable until next morning, when had an attack of dyspnœa. Tube removed, and found to be plugged with thick mucus; cleaned and replaced. No return of dyspnœa. Death the same day, from infection.

CASE III. A. L., three years old. January 13th. Four days before entrance, slight cough, with some vomiting. Last night, dyspnœa and loss of voice. Physical examination: Well developed and nourished; anxious expression; no cyanosis; no retraction; croupy cough; membrane in pharynx. Steam; stimulants, *tr. ferri chloridi*, gr. v., t.i.d. Comfortable until 15th, when breathing became labored. Retraction. Intubation. Much relief (string left in). Next day, restless. Tube coughed up; replaced. Patient quiet and comfortable until 18th, when had "choking spell." Tube

removed. Breathing easy for a few hours, when it became labored. Tube replaced. Comfortable until 22d, when had another attack of dyspnoea, and when the house-officer arrived, he could not find the tube, but the breathing was easy. Next day, the tube was removed from the rectum. No further dyspnoea; and from this time the child made an uninterrupted and rapid recovery, and was discharged, January 27th, well.

CASE IV. G. F., seven years old. February 13, 1887. Previous history not ascertained. Child brought in suffering from extreme dyspnoea, with marked cyanosis and eruption of measles; loss of voice; retraction of chest-walls during inspiration. Intubation was followed by relief to dyspnoea; quiet for a short time, then became cyanosed. Tube removed. Breathing quiet. Death within seven hours of entrance, due to septicæmia.

CASE V. G. H. February 19, 1887. No history. Physical examination: Fairly developed; poorly nourished; nearly moribund; cyanosis; retraction; no membrane on pillars; pulse weak, rapid, and feeble. Intubation gave relief to dyspnoea. Had several slight attacks of dyspnoea. Death next day, from extension and septicæmia.

CASE VI. A. H., fourteen months old. May 5, 1887. Two weeks ago was feverish. Had nasal discharge but no cough. Gradually grew worse, and yesterday had dyspnoea. Mother at same time noticed membrane in expectorations and in throat. Physical examination: Well developed; fairly nourished; nursing; membrane in throat; nasal discharge; retraction; no cyanosis. Intubation (string left in). Child could still nurse. No further dyspnoea. Death in twenty hours, from septicæmic infection.

CASE VII. W. S., five years old. May 13, 1887. Has had enlarged tonsils, with considerable purulent expectoration, for some years. Four days ago had headache and fever. No vomiting; patches in throat; some dyspnoea; very weak; bowels constipated. This morning lost his voice, and had considerable dyspnoea but no nasal discharge. Physical examination showed well-developed and fairly nourished boy. Pharynx, tonsils, and uvula covered with very thick membrane; retraction; cyanosis; loss of voice. Intubation was followed by relief. Failed gradually. Death in two days, from septicæmia.

CASE VIII. R. M., five years old. May 13, 1887. Five days ago complained of sore throat; was better next day. Two days ago began to cough. No nasal discharge. Was hoarse yesterday, and last night had considerable dyspnoea. This morning lost his voice, and dyspnoea became urgent. Physical examination: Well developed and nourished; considerable dyspnoea; loss of voice; retraction; membrane in throat. Intubation (string removed). Very comfortable for twenty-four hours, when temperature began to rise and an eruption (measles) appeared on body. Respirations became more frequent, but without dyspnoea. Tube was removed on the fifth day. Death that night from exhaustion and complications.

CASE IX. J. D., five years old. May 17, 1887. Has been sick a week; dyspnoea yesterday; nothing further obtained. Physical examination: poorly developed and nourished; membrane on pharynx and uvula; dyspnoea; retraction; loss of voice. Intubation (string removed.) Tube lost next day; considerable dyspnoea; not possible to reinsert a tube. Tracheotomy advised, but not allowed. Since then the

condition of the patient has steadily improved. Dyspnoea persisted for some days with occasional paroxysms of difficult breathing. May 22d his temperature was 99°, pulse 115, respirations 28. Pulse good and strong. Appetite very good. Still in hospital. Nothing has been seen of the tube.

CASE X. H. N., five years old. May 21, 1887. Has been sick a few days with cough and sore throat; some dyspnoea; loss of voice. Physical examination: well developed and poorly nourished. Some retraction; dyspnoea; croupy cough; no voice. Steam, poultices, and brandy prescribed. Soon after entrance had a severe attack of dyspnoea, with cyanosis. Intubation (string retained), gave immediate relief to dyspnoea, but pulse very weak and feeble. Patient soon revived, and was very comfortable until 9 P.M. May 22d, when he seemed to have some obstruction. The tube was removed and reinserted, but the child died within five minutes, without cyanosis. Death in thirty-six hours after entrance from heart failure.

There were two mistakes made in No. I; first, leaving the silk attached; second, in not using a larger tube when it was thought necessary to reinsert one. Dr. O'Dwyer says the tube is never swallowed unless the silk is left in; but in Case IX, the silk was removed, and the disappearance of the tube can be accounted for only on the supposition that it was swallowed.

The swallowing of the tube in Case III may have been due to the silk.

Case IV seemed a hopeless one, and the operation was done without any expectation of saving the child's life, but merely to prevent strangulation.

Case VI was of interest from the fact that the child nursed without difficulty, while the tube was in the larynx.

Case VII seemed hopeless when he came in, but the relief to dyspnoea was very marked.

Case VIII illustrates another point made by Dr. O'Dwyer. On inserting the tube there was an increase in the dyspnoea, and the tube was immediately coughed up. It was found plugged with a piece of membrane, two inches long, the lower part of which was a complete cast of the trachea. On the second insertion no further trouble occurred.

In Case IX the silk was removed, and it is not known where the tube has gone, as he had no symptoms from it.

The treatment has been the same as in tracheotomy, namely: light steam, stimulants, poultice over chest; Dobell's solution¹ as a throat spray. A solution of corrosive sublimate (1 to 15,000) was applied to nasal mucous membrane when there was any nasal discharge. Occasionally small doses of the bichloride of mercury were given. Tincture of digitalis, in small doses, was also given when the urine was scanty, and pepsin to assist digestion, when necessary. At first nourishment was given in enemata, but it was soon found that all the nourishment needed could be given by mouth, without difficulty. Semi-solids cause the least trouble. The first and last "swallows" are the ones that cause the coughing which is always set up, and so it is best to let the child take a mug of milk and drink it rapidly. Although this is a rule, Case VIII was an ex-

¹ Dobell's solution:—

R	Carbolic acid.	.	.	.	.	3 iss
	Borax	.	.	.	.	3i
	Bicarb. soda	}	.	.	.	3i
	Glycerine.	.	.	.	.	3 iiss
	Water	.	.	.	.	ad Oiv.

ception. This child took liquids best from a teaspoon, while lying on its back. Milk, beef-tea, chicken-broth, ice-cream and custards were given.

The advantages of intubation, as compared with tracheotomy, are: (1) There is no wound, and therefore it will be allowed where tracheotomy might not be. (2) There is not added another source by means of which infection may take place. (3) It can be done more quickly. (4) It is less troublesome both in its performance and its after care. (5) There is not as much discharge. (6) The shock is not as great. (7) No anæsthetic is needed.

The great disadvantage is that the parts below the larynx cannot be kept as free from mucus and membrane as in tracheotomy. Although the fact that intubation can be done more quickly has been put as an advantage, I do not wish to imply that it is a simple procedure. It is not easy, and should be done with a great deal of care and very little force. The statement has been made that it is easier to put a tube into the larynx than into the œsophagus; the experience at the hospital does not bear out the statement.

The method of inserting the tube, as done at the hospital, is as follows: The tube with the silk attached having been put upon the obturator the child should be held upright by an assistant, sitting in a chair facing the operator, with its head held firmly and a little forwards. The gag is introduced on the right side and kept as far back as possible. The operator then introduces his left forefinger into the mouth and passes it downward and backward until he feels the epiglottis; he now passes the tube along the palmar surface of his left forefinger (keeping in the median line) until the tube reaches the epiglottis, when, by an upward movement of the right hand, he can easily put it in place. The left forefinger having been placed on the tube the obturator is withdrawn. After a few minutes the breathing being quiet and the tube having again been felt in position the silk suture may be removed and the patient put to bed.

The number of cases is too small to be of much service in forming an opinion as to the relative value of intubation and tracheotomy from the standpoint of percentage of recoveries; for if the statistics of tracheotomy at this hospital are examined, the percentage of recoveries in any given six months will be found to vary from ten per cent. to thirty-five and even forty per cent.

REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEDGWICK MINOT.

During the past year there have been several important general publications. An American Journal of Morphology, which promises to be of a high scientific character, has been announced by Ginn, Heath & Co., to be edited by Dr. C. O. Whitman, the leading American embryologist. The first number has been unfortunately delayed, so that only the announcement can be chronicled here. From England we have the beautiful memorial edition of Balfour's works in four handsome volumes. With the utmost generosity the family, to whose care we owe this edition, have distributed numerous copies. The papers and essays gain by collation, and reveal advantageously the genius of the young author. His researches represent a body of work such as few men have accomplished at so

early an age. From the very first he tussled with the great problems of morphology, and sought their solution through embryology, for with the insight of superiority he recognized from the start that embryology is the key to comparative anatomy and evolution. In this direction he continued working, but constantly widened his mental horizon. The growth of his power was well shown by his monograph of elasmobranch fishes, and by his comparative embryology, a great monument to his ability. Balfour's original investigations form the first volume of his works. The "Comparative Embryology" is reprinted as volumes II and III. The fourth volume includes the plates only. The examination of Balfour's contributions to science renders his loss keenly felt. To England he was important, for his charming personality greatly enhanced the influence, which belonged to his abilities. He was one of the most valued and beloved officers of the University at Cambridge. The sad accident on the Aiguille Blanche de Peuterey, in July, 1882, robbed England of her ablest embryologist, a man to whom Darwin wrote, after receiving the second volume of his embryology, "I am proud to receive a book from you, who, I know, will some day be the chief of English Biologists."

But to return from a digression which Balfour's name may well pardon. During the past year Oskar Hertwig has published the first part of his human embryology, which promises to sustain and amplify the author's reputation for comprehensive views and clearness of exposition, qualities which, combined with his gifts of observation and industry, have rendered him eminent. We have as yet only the chapters dealing with the history of the sexual products, maturation of the ovum, impregnation, and so forth; and those upon segmentation; the formation of the germinal layers and of the primitive tissues, and finally Chapters XI to XIII, on the fetal envelopes. Hertwig's views on the morphology of the mesoderm, which he groups under the title of the "œlomtheorié" are here admirably presented, so that the discussion of them will be greatly facilitated. I may state in this connection that the "œlom-theory" must be very greatly modified. The chapter on the human envelopes and placenta is thoroughly unsatisfactory, since it is far from offering an adequate synopsis of our present knowledge. Save for these and some minor criticisms the treatise deserves unusual praise, and is, I think, fairly to be called indispensable for every student of embryology.

Wood's "Reference Handbook" contains numerous embryological and histological articles. Although many of the former were written by the present reporter, he ventures to refer to them here, as there has been nothing else so extensive published in English on human embryology since the ninth edition of "Quain's Anatomy," in 1882, and during these five years immense progress has been made in this department of science.

Stöhr's "Lehrbuch der Histologie," is capital; for the use of physicians and medical students it is not only the best, but also the only thoroughly excellent manual, I know. The illustrations are admirable, well engraved, faithful to the actual appearances of the specimens, drawn by the ordinary magnifications of the microscope, and nearly all taken from the human subject. The text is singularly concise, clear and instructive, and exhibits familiarity with the most

recent investigations. With each figure are given categorical but sufficient directions for obtaining a duplicate specimen. In short, this little work has been prepared with great pains; it is unusually meritorious, and I take pleasure in giving it my hearty commendation.

RIPENING OF THE OVUM.

Within a few years we have gained much knowledge concerning the process of fertilization of the ovum. We may now look forward with considerable confidence to some real comprehension before long of the nature and essence of sexual reproduction. An important contribution has been made by Dr. O. Schultze, the talented son of that Max Schultze, whom every one places as the foremost microscopist of the world. Dr. Schultze has investigated the process of maturation of the ovum in amphibia.¹ It has long been known that in most ova two small bodies, called the polar globules are extruded from the surface of the yolk; the globules consist each of a portion of the nucleus of the egg, surrounded by a little of the yolk. Their general occurrence has led to the hypothesis that their extrusion is essential for the maturation of the ovum; but the hypothesis was rendered doubtful by the failure to find the globules in several classes of animals. Thus among vertebrates they had been found in fishes and mammals, but not in amphibia, reptiles or birds. O. Hertwig² hunted for polar globules in frog's eggs unsuccessfully. Schultze has, thanks to better methods and skilful observation, been more fortunate, and not only discovered the polar globules, but also observed other changes in the ripening egg-cell, which must be considered significant. Accepting his memoir as our guide, we may present the following account of the development of the amphibian egg.

The egg-cell enlarges and becomes surrounded by a follicular epithelium, and a thin membrane lying directly against the yolk. This membrane has been usually designated as the zona radiata. The nucleus steadily enlarges; in young ova it is central in position; spherical with a distinct membrane, an intranuclear reticulum, a number of chromatine granules (nucleoli) an abundant nuclear sap, etc. At one side appears a more or less nearly spherical accumulation of dark granules, constituting the mass known as the yolk nucleus, which was discovered by H. Cramer, many years ago.³ The chromatine granules now arrange themselves around the periphery of the nucleus. The yolk nucleus breaks down and the granules composing it spread themselves out around the nucleus in a spherical layer, which lies about half way between the nucleus and the zona. The portion of the yolk between this layer and the nucleus appears much lighter than the yolk outside the layer. The ovum grows constantly, and the nucleus becomes enormous; the reticulum in it disappears and only the chromatine and the nuclear sap can be distinguished. The surface of the nucleus becomes quite irregular. After a time the division of the yolk into two zones is lost. The chromatine granules partly break up into small ones and before the ovum reaches its full size the granules acquire a characteristic and important distribution within the nucleus. There are still large granules around the periphery; and a cluster of them in

the centre, the large granules of the cluster form a shell around the kernel of small granules. The nucleus approaches the surface of the ovum; the granules of the little kernel in the centre of the nucleus unite into irregular threads; the membrane of the nucleus disappears, and the sap of the nucleus and most of the chromatine mingles with the yolk, but the tangle of threads remains and converts itself into a true spindle, but one of tiny size. Now, it has become well known by the researches of the past ten years, that these spindle figures are phases in the so-called indirect division of nuclei, and that nuclear spindles lying close to the surface of the ovum answers to one of the first stages in the development of the polar globules. In fact, there is here a polar globule of very small size produced. It is known that in the midst of the dark area of the freshly-laid ovum of the frog and other Anura, there appears a lighter spot, the cicatrícula of Prevost and Dumas, the Keimpunkt of von Baer,⁴ and named by Max Schultze⁵ the *fovea generativa*. This spot may occupy as much as a sixth of the whole surface of the ovum, but in some forms is much smaller; for example, Bufo vulgaris. In the midst of this white spot is a still purer white dot, in which again can be seen at least in axolotl eggs a still smaller black point, which was noticed and figured by van Bambeke in 1870, in his article "Sur les trous vitellins," etc.⁶ This black point indicates the position of the nuclear spindle, it being due to a small gathering of pigment granules just about the spindle.

At first, the spindle has the peculiarity of lying with its long axis parallel with the surface of the ovum, but during the division of the spindle and the actual extrusion of the globule, the long axis places itself in a radial position. Subsequently, a second spindle is formed out of the part of the first left in the ovum, and a second polar globule is produced. The maturation of the ovum in amphibia, therefore, agrees perfectly with the maturation as it occurs in other classes of animals, at least, in all essential points. There is, in my mind, little doubt that polar globules of like history will be found in the eggs of reptiles and birds, when properly searched for. The significance of the polar globules for the theory of sex, I have pointed out on several occasions. For this reason, Schultze's discovery of the polar globules in a class of animals in which they had not been found before, is particularly important.

In the amphibian ovum, the history of the nucleus shows very clearly that a part of the nucleus only is concerned in the formation of the spindle, and that another part, in these animals, the larger part of the nucleus, mingles with substance of the yolk after the disappearance of the nuclear membrane. Schultze very properly directs attention to this curious phenomenon, which has hitherto attracted little notice, and adds the plausible suggestion that the mingling of the two parts may have a causal relation to the conversion of the indifferent egg-cell into the female ovum. The phenomenon is probably a constant one, but in other ova is less conspicuous than in those of the amphibia, because much less of the nucleus is employed in these animals to form the spindle than in any other known case.

When the first polar globule is formed the yolk begins to contract, and a little perivitelline fluid appears

¹ O. Schultze. Untersuchungen ueber die Reifung und Befruchtung des Amphibien-ees. Zeitschrift für wissenschaftliche Zoologie, xlv, 177-226, Taf. xi-xiii.

² Morphologisches Jahrbuch, Bd. iii, p. 41.

³ Müller's Arch., 1848.

⁴ Müller's Arch., 1834, 485.

⁵ Observationes nonnullæ de ovarum ranarum segmentatione, p. 14.

⁶ Bull. Acad. Belg., xxx, Fig. 4.

around the yolk. After the formation of the second globule, the amount considerably increases; most of the fluid accumulates on top of the yolk, within the membrane of the so-called *zona*; the yolk under the fluid is flattened. This space above the yolk was called the "respiratory chamber" by Newport.⁷

In the arthropods, also, polar globules, which had long been sought for in vain, have now been found, both among crustacea and insects. As regards the former class, we have the observations of Grobben on *Moina*, and of Weismann⁸ on the parthenogenetic ova of various Daphniidae. Still more valuable are the observations of Blochmann⁹ on various insects. This author found the eggs of *aphis aceris*, the plant-louse of the maple, a favorable object. The ova are short cylinders; the nucleus lies in the middle of the long side. In the winter eggs (which develop only when impregnated), after they have been laid, the nucleus changes into a nuclear spindle, which divides, after which one part, accompanied by a small amount of hyaline plasma, leaves the egg, so that a first polar globule is formed in the normal manner. The spindle-half left in the egg divides again, thus producing a second globule. In the summer eggs, which develop parthenogenetically, that is, without impregnation, there is a single globule, just as in the parthenogenetic ova of the Daphniidae, studied by Weismann. Hence it is probable, as Blochmann points out, that since less matter is expelled in one case than in the other, the separation of the polar globules is of essential physiological importance as a preparation for fertilization.

Blochmann's observations greatly strengthen the hypothesis of parthenogenesis and sex which I published many years ago. According to this hypothesis, the cells include both male and female parts, and to make a female sexual product, the male part must be taken away; it was assumed that the polar globules represent this male portion. I further suggested¹⁰ that, in parthenogenetic ova, the male element is not gotten rid of. Blochmann's observations indicate that it is gotten rid of, but only partially. In *musca*, the common fly, there are also two polar globules formed, of which the first subdivides, making three, as is the case in many ova; but there occurs here the remarkable peculiarity that the globules are not expelled, but melt together into a granular mass, which lies in a vacuolar space at the surface of the egg, and gradually breaks up. Blochmann¹¹ had previously found evidence of polar globules in ants, wasps, and a species of butterfly (*Pieris Brassicae*), so that these bodies have been found in four orders of insects.

In conclusion, we may put forward with great confidence the generalization that the formation of two polar globules is an indispensable part, and probably the essential part of the process of the maturation of the ovum throughout the animal kingdom from the sponges up.

ORIGIN OF THE WOLFFIAN DUCT.

As is well known, the duct, which persists in the adult male as the spermiduct, and in the adult female as a rudimentary structure, is a well-developed longitudinal tube on the dorsal wall of the abdomen of the young embryo, and serves as the excretory duct of the

primitive kidneys, or Wolffian bodies. Hensen, in his paper on the development of the guinea-pig and rabbit,¹² was the first to describe the origin of the duct from the ectoderm of the embryo. Graf Spee, in 1884, repeated and confirmed Hensen's observations, and added some admirable illustrations,¹³ which recalled attention to the subject. Two years later, a second confirmation was given by Flemming, who investigated the rabbit.¹⁴ Since then, the same fact has been found true of the thorn-back ray (*Raja clavata*) by J. W. van Wijhe, and in January of this year, Perenyi published a note in the *Zoologischen Anzeiger* to maintain the same mode of origin for the Wolffian duct in frogs and lizards.

We may, therefore, conclude that the canal arises in this manner in all vertebrates. The theoretical bearings of this are very noteworthy. It appears that the primitive excretory apparatus was originally a series of coiled, transverse tubules, opening at one end into the abdomen, at the other into the Wolffian duct. An admirable treatment of the history of the excretory organs of vertebrates, by Balfour, may be found in the second volume of his "Comparative Embryology." Now these tubes bear an obvious likeness to excretory organs of annelids, termed the segmental organs. The resemblance has been generally considered an argument in favor of assuming a common ancestry for worms and vertebrates, or, more strictly speaking, in favor of homologizing the excretory organs of one class with those of the other. There was, however, one serious difficulty in the way of this conclusion, to wit, the tubules in annelids open upon the exterior surface of the body, but those in vertebrates open upon the interior into a longitudinal canal. Formerly, there was no way of explaining the divergence; but Hensen's observation, extended as it has been, reveals a mode of origin of the Wolffian duct, which proves that it really belongs to the exterior, being derived from the ectoderm. Hence organs which open into the Wolffian duct open, morphologically speaking, upon the exterior of the body. Therefore, there is no longer any obstacle to prevent our maintaining a direct homology between the tubules of the Wolffian body and the segmental organs of worms.

Shortly after I had finished the manuscript of the preceding paragraph, I received through the kindness of the author, Prof. A. C. Haddon, a reprint of a paper read to the Royal Dublin Society on February 16th last, in which the theoretical meaning of the ectodermal origin of the duct is discussed excellently. Haddon says in reference to the hypothetical ancestors of vertebrates, "we have only to assume that the lateral area along which they (the transverse or segmental tubules) opened, was grooved, and extended as far as the anus. From the analogy of the neutral groove, there is no great difficulty in further supposing that the groove was converted into a canal, which, becoming separated from the overlying epiblast, might sink into deeper-lying parts of the body," (p. 469).

PLACENTA AND UTERUS.

Two large atlases with plates of sections through the body of pregnant women, have appeared during the year. Both atlases are based upon frozen sections. One, issued by Prof. Waldeyer, gives the relations as found in a normal pregnancy assigned to the eighth

⁷ Phil. Trans., 1851, p. 185.

⁸ Zoolog. Anzeiger, 1886, No. 233.

⁹ Blochmann. Ueber die Richtungskörper bei Insekteneiern. Biol. Centralbl., vi., p. 108.

¹⁰ Proceedings Boston Soc. Nat. Hist., XIX, p. 171.

¹¹ Biol. Centralblatt, VI, 554-559.

¹² Zeitschr. f. Anat. u. Entwicklungsges., 1875.

¹³ Ill. u. Branne's Arch.

¹⁴ Ill. and Branne's Arch., 1886.

month, the other, edited by Dr. Karl Schroeder, illustrates the dispositions in labor during "*Eröffnungsperiode*." Both works include a valuable text, Schroeder's, including several articles by Hofmeier, Ruge and Stratz. Hofmeier's article is of little value, at least in proportion to its length, but Ruge's is meritorious, and contains better accounts of many features of the pregnant uterus than can be had elsewhere. I have pointed out¹⁵ that a part of Ruge's views cannot be sustained because he was unaware that the layer of foetal epithelium covering the chorion and chorionic villi persists intact through the entire period of pregnancy, although it undergoes remarkable alterations, becomes irregularly thickened, and in the thickened parts undergoes a hyaline degeneration, which produces the canalized fibrine, first accurately described as a normal placental structure by Langhans. A knowledge of the singular history of the chorionic epithelium is important alike for the comprehension of the normal structure of the placenta, and for the elucidation of the pathological changes to which this organ is subject.

Fleischman enters the lists as a defendant of the old view that the chorionic villi lodge in the uterine glands. He maintains that in the fox and cat the glands enlarge and develop irregular diverticula, the septa between them become very small; the villi grow into the glands; the uterine epithelium disappears, first on the surface and there entirely, secondly, in the glands, partially in the cat, completely in the fox. The chorionic epithelium is preserved in both species. This is a return to Bischoff's opinion. Turner asserted that the crypts into which the villi grew, were new formations. Ercolani denied that the villi grew into either glands or crypts.

Colucci¹⁶ in reply to an article by Laulanie,¹⁷ defends Ercolani's conclusion that the maternal portion of the placenta preserves a glandular character in all cases, and furnishes a secretion to nourish the foetus. A summary of Ercolani's views on the placenta is given by Romiti, in his *Embriogenia umana e comparata* and also in Paladino's *Fisiologia*. It seems to me now, however, that Ercolani was in error in considering that his generalization can be applied to all placenta. It does not appear to hold for the human placenta, at least during the latter part of pregnancy. Concerning the precise structure of the human placenta, during the first months of gestation, we possess no satisfactory observations.

The conflicting views have been carefully considered by Tafani in a long memoir¹⁸ in which he reports many new observations. I regret very much that the work has been at hand too short a time for me to have completed the perusal of it in time for this report.

The most important paper on the human placenta, which has appeared since Langhans' memoir¹⁹ in 1877, is in my estimation the very brief article of Prof. Waldeyer, which is crammed with valuable information. By most scrupulously careful injections, he has ascertained that the intervillous spaces are actually channels of the maternal circulation. The veins and arteries as they enter the decidua seratina lose completely all their coats except the endothelial lining. They pass up with this modification of structure through the decidua, giving off very few branches, and finally

open directly upon the decidual surface into the intervillous spaces. Waldeyer leaves it in doubt whether there is any maternal tissue (that is, endothelium) covering the foetal epithelium of the villi, but is inclined to think such a layer is present. I have looked for it again in my own preparations, but cannot discover any trace of it. On the other hand, I have been so fortunate as to obtain some sections which confirm Waldeyer's description of the opening and histological peculiarity of the decidual veins. The original paper is from the *Sitzungsberichte* of the Berlin Academy for 1887.

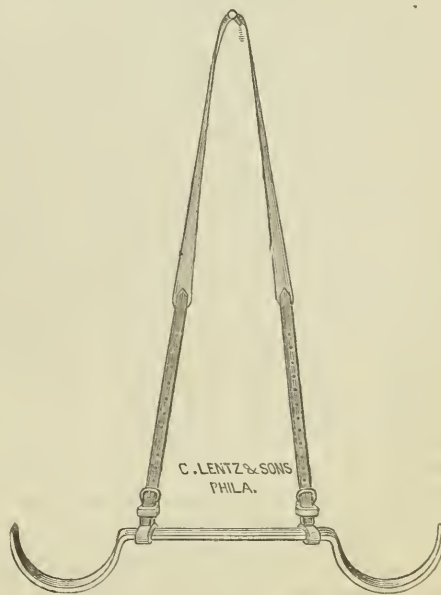
Reports of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

STATED meeting, May 11, 1887, the Vice-President, E. T. BRUEN, M.D., in the chair.

DR. THOMAS B. MCBRIDE described and exhibited A NEW APPARATUS FOR MAINTAINING THE LITHOTOMY POSITION.

I desire to present to the Society, this evening, an apparatus I have designed for the purpose of supporting the limbs and maintaining the lithotomy position.



It consists of a piece of hard, elastic wood, preferably ash or hickory, $\frac{3}{8}$ of an inch thick, 1 inch wide, 36 inches long, bent at each end in a semicircle of 6 inches diameter, or a semicircumference of $10\frac{1}{2}$ inches, thus leaving a shaft of 15 inches between the semicircles, and making the finished length of the instrument 27 inches ($6 + 15 + 6$).

To the shaft, 2 inches from each end, a buckle is immovably fastened by means of leather.

A band of webbing, finished at each extremity with a leather strap, the whole 50 inches long, completes the device.

In using the apparatus, the thighs are flexed on the abdomen and put in the semicircles, the band is placed around the neck and fastened to the buckles.

The advantages are apparent. Its cheapness places

¹⁵ Anatomischer Anzeiger. Vol. II. No. 1.

¹⁶ Mem. Acad. Bologna Ser. IV. Vol. vii.

¹⁷ Revue Vet. Xme Année, No. 3, Toulouse, 1883.

¹⁸ Pellizzari's Archivio della Scuola d' anat-patol. V. 53.

¹⁹ His and Braune Archiv, 1877. 188-267.

it within the reach of every one. The thoroughness with which it does its work, keeping the patient immovably in the lithotomy position, and maintaining the same relative position of the parts; the fact that it does not interfere with the circulation; the strength, lightness, and remarkable simplicity will, I think, render it a valuable acquisition to the surgeon and gynecologist.

AMERICAN SURGICAL ASSOCIATION.

ANNUAL SESSION OF 1887.

REPORT OF A CASE OF VENTRAL HERNIA SUCCESSFULLY TREATED BY OPERATION, WITH A SUGGESTION AS TO THE METHOD OF OPERATING,

by DR. J. EDWIN MICHAEL, of Baltimore.

Mrs. F., stout woman, forty-five years of age, had ventral hernia, resulting from a fall several years previously. Great annoyance was experienced in the use of pads and bandages. The longitudinal opening was about two and one-half inches in length. The patient insisted on operation. March 15, 1886, the operation was performed. Antiseptic precautions were adopted. Free incision was made in the median line. The sac was carefully separated from surrounding tissues; it was then emptied of its contents and opened. The sac was cut off close to the margin of the ring. Strong silver-wire sutures were passed a little less than one-half an inch apart, having a hold of one-half to three-fourths inch. The sutures included the peritoneal, muscular and tendinous structure only. These were twisted and perforated shot employed. The wire was then cut off close. The skin and subcutaneous tissues were secured with cat-gut sutures. Half-dozen cat-gut strands were placed in the wound for drainage. The wound united rapidly. In October examination of the wound showed it to be firmly united. The sutures could be felt but gave no inconvenience. In his remarks the speaker stated that his object in using the wire sutures in this manner was the expectation that they would be surrounded by a mass of cicatricial tissue making a permanent closure of the ring. As far as he was aware he had used the wire for this purpose without precedent. A paper on

PROGNOSIS IN SARCOMATA OF THE BREAST,

by S. W. GROSS, of Philadelphia, was read by title, and referred to the publication committee.

THE MEDICO-LEGAL ASPECT OF CRANIAL AND THORACIC WOUNDS [SUICIDAL].

by DR. D. HAYS AGNEW, of Philadelphia.

The study of this subject had been suggested to him by a recent case occurring in Newport, R. I. The question was as to the possibility of a cranial wound and a wound of the heart being self-inflicted. A colored man was found one morning lying dead under the breakfast table. He had food in his mouth and had a wound of the head and of the heart. The coroner's jury rendered a verdict of suicide and the body was buried. Subsequently it was disinterred and the verdict reconsidered, and the conclusion reached that the man had been murdered. Suspicion then fell upon the son-in-law of the man, who had up to this time borne a good reputation. At the trial five medical experts were called for the prosecution, and their

general testimony was that these wounds were incompatible with the idea of suicide. Subsequently the prisoner confessed that he had committed the murder. As this was an important question the author had investigated it. There are two conditions resulting from injury of the head which would prevent the infliction of a second injury. These are unconsciousness and paralysis of one or both upper extremities. Injury to the brain is not necessarily followed by loss of consciousness or by paralysis. Many cases were cited to show the truth of this statement. Numerous instances of heart injury were given in which after the reception of the accident the individual was able to perform many acts. Cases were also given in which persons in attempting suicide had produced injuries of the head and of the heart. As the result of his study, the speaker concluded that it is possible for a ball to enter the brain without destroying consciousness although for a moment it may cause mental confusion, and that a suicide may shoot himself in the head and after a moment shoot himself in the heart.

In the discussion which followed, numerous cases were related in which the heart or brain had been injured and the individual had lived for some time and had not been unconscious. Cases were also given in which both a wound of the heart and of the brain had undoubtedly been produced by the individual himself.

Adjourned until Friday morning.

FRIDAY, MAY 13. MORNING SESSION. EXECUTIVE SESSION.

Officers for the ensuing year: *President*, Dr. D. Hayes Agnew, of Philadelphia. *Vice-President*, Dr. N. Senn, of Milwaukee, and Dr. F. S. Dennis, of New York. *Secretary*, Dr. Jacob R. Weist, of Richmond, Indiana. *Treasurer*, Dr. Phineas S. Conner, of Cincinnati, Ohio. *Recorder*, Dr. J. Ewing Mears, of Philadelphia, Pa. *Council*, Drs. J. S. Billings, L. McLane Tiffany, Moses Gunn, and R. A. Kinloch. *Chairman of Committee of Arrangements*, Dr. John S. Billings, of Washington. The following were elected to membership: Charles B. Porter, M.D., of Boston; William M. Masten, M.D., of Mobile, Ala.; and Maurice H. Richardson, M.D., of Boston, Mass.

The next meeting to be held at the call of the President.

SURGICAL DISEASES OF THE WHITE AND COLORED RACES COMPARED,

by L. McLANE TIFFANY, of Baltimore.

The paper was based on the record of 4,930 cases, studied during a period of thirty-four months in a general hospital. The percentages of the affections were given in detail. The paper was simply intended as a preliminary communication, and as a result of a study of the figures obtained, the following suggestions were made:

(1) Surgical affections follow different courses in the white and colored races, under identical hygienic surroundings.

(2) Surgical injuries and operations are better borne by negroes than by whites.

(3) Surgical diseases involving the lymphatic system, especially tubercular, are more fatal and more rapidly fatal in negroes than in whites.

(4) Congenital deformities are rarer in negroes than in whites.

(5) The surgical differences observed in whites and negroes are due to racial peculiarities.

DISCUSSION.

DR. CHRISTOPHER JOHNSTON, of Baltimore. My experience indicates that there are individual as well as racial peculiarities. These are most striking in proportion to the pureness of blood. I regard the negro as a good subject for surgical operation. I have never seen carbuncle in negro. I do not recall a cleft palate or hare lip in the darker individuals. Epithelioma is infrequent. Fibromas are quite frequent. I would emphasize the proneness to the development of keloid in the negro. I have found that in the negro, the skin and white tissues are more frequently the seat of certain disease than the same tissues in the white.

DR. P. H. RICHARDSON, of New Orleans, presented a detailed report of the statistics of the Charity Hospital, bearing upon this point. He had found congenital deformities rarely in the negro.

DR. E. H. GREGORY, of St. Louis. I have seen keloid much more frequently in a negro than white, and have never seen multiple keloid in the white race. The ability of negroes to stand operations may be due to his indifference, and that he does not comprehend the magnitude of the operation. The results obtained at the City Hospital of St. Louis, show that the negroes bear operations about as well as whites. It seems to be the generally accepted idea that negroes are more subject to tubercular affections.

DR. W. T. BRIGGS, of Nashville, Tenn. My experience confirms the suggestions of Dr. Tiffany. Negroes are very prone to suppuration. It is extremely difficult to prevent suppuration even under strict anti-septic precautions. Negroes bear operations better than whites, but they do not get well so rapidly. While malformations are less frequent, still they do occur. The rarity of hydrocele in the hospital records may be explained by the fact that negroes do not usually seek advice until the tumor has become so large as to give rise to much inconvenience. Fibroids and fibro-cystoma are very common in the negro. Ovarian tumor is rare, although I have had one case in which the tumor weighed one hundred pounds.

DR. D. W. YANDELL, of Louisville, Ky. I agree with Dr. Briggs in his remarks. I have seen many cases of keloid in the negro, but have not seen a case in the white subject. I have seen but two cases of hydrocele in the negro. I never saw hare-lip in the negro. I have seen but two ovarian tumors in the negro. I never saw epithelioma of the face of a negro. Epilepsy is exceedingly rare in the negro. I never saw a case of internal hemorrhoids in the negro. Tetanus is exceedingly common, especially in the black race. Stricture of urethra is exceedingly common among negroes.

DR. R. A. KINLOCK, of Charleston, S. C. In considering this subject I think we make a mistake in classing all negroes together. I think that in the pure negro suppuration is less likely to occur than in the white race. As a rule I think that the negro is not strumous. Mulattoes are, as a rule, strumous. The pure negro bears operation well, and recovers promptly.

DR. A. VANDER VEER, of Albany. During the past twenty years I have seen a good many negroes, United States prisoners sent to the Albany penitentiary. The vast majority of these die of tuberculosis

of some form. Many of them have soft chancre with suppurative buboes. Where there is true Hunterian chancre, there has been the characteristic bullet bubo seen in the white race. There are a greater number of perineal abscesses and sinuses than in the white. If operation is done there is less probability of urethral fever.

AN EXPERIMENTAL STUDY OF THE EFFECTS OF PUNCTURE OF THE HEART IN CASES OF CHLOROFORM NARCOSIS,

by B. A. WATSON, M.D., of Jersey City, N.J. The investigation of this subject was suggested to him by the following occurrence: February 20, 1887, he had killed with chloroform a dog. The abdominal and thoracic cavities were opened, about four minutes after the heart had ceased to beat. The assistant seized the heart with his thumb and forefinger and the pulsations at once began, the contractions became full and regular, and continued three minutes. They were again stimulated by a second touch, action continuing two minutes. They were started a third time and continued to beat one-half minute. This observation suggested the possibility of arousing the heart into action even after entire cessation of its movements, by the introduction of a needle into the organ.

The results of sixty experiments on dogs were given in detail. The experiment consisted briefly in producing death by chloroform inhalation, and then within from one to three or four minutes an aspirating needle was introduced into the heart through the chest walls, the attempt being to reach the right ventricle. In the first fifty cases the chloroform was administered rapidly and air was excluded as far as was possible. In the last ten the chloroform was administered slowly and with a large proportion of air. The first forty animals had already suffered some severe traumatic injury, while the last twenty were perfectly healthy animals. The punctures made in these sixty experiments were as follows: right ventricle 38; left ventricle 6; right auricle 6; superior vena cava 3; inferior vena cava 2; apex of the heart 2; and not stated 1. The resuscitations were as follows: after puncture of the right ventricle nine; right auricle one. The first forty experiments gave only four recoveries, while the last twenty gave six. In only one of the sixty cases did the heart fail to respond to puncture, and in this instance the use of the needle was postponed for four minutes after the cessation of the heart's action and one minute after breathing had stopped.

Should the puncture be carried into one of the cavities of the heart in order that blood may be extracted? In chloroform narcosis the heart is found in diastole and the veins in the lungs are greatly distended with blood. It may, therefore, theoretically be assumed that blood may be advantageously drawn from the right side of the heart. The author was assured that this procedure was practical and advantageous.

The only deaths during these experiments which could be attributed directly to the puncture were those in which the needle penetrated the vena cava. In these cases there was profuse hemorrhage into the thoracic cavity. Punctures made into the auricle are sometimes followed by a flow of blood into the pericardium. Punctures into the ventricle are not attended with any hemorrhage from the interior of the organ, but there may be a few drops of blood from a wounded cardiac vein.

The following conclusions were reached :

First. Puncture of the heart, especially of the right ventricle, stimulates muscular contractions, and may be advantageously applied in the treatment of chloroform narcosis.

Secondly. The best results are obtained when abstraction of blood from the cavity of the ventricle is combined with the stimulating effects produced by the entrance of aspirator needle.

Thirdly. The puncture of the right ventricle is a safer and more efficient operative procedure than the puncture of the right auricle.

DISCUSSION.

DR. N. P. DANDRIDGE, of Cincinnati. We should, I think, be careful how we apply the deductions from these experiments to the human being. The conditions under which the experiments were made were different from those under which accidents usually occur in human beings. In the latter case the accident usually occurs after only a small quantity has been taken and often early in its administration. The effect is probably due to a reflex effect upon the inhibitory action of the heart. In the experiments reported puncture was resorted to within one or two minutes after the cessation of the heart's action. In the accidents with chloroform it is not uncommon to have recovery after apparent cessation of the heart's action for a comparatively long period. A large number of experiments are required to test the relative value of this procedure as compared with artificial respiration, the use of nitrite of amyl and particularly with the subcutaneous injection of atropia. This latter can always be done quickly, and has a stimulating effect upon the cardiac and respiratory centres.

DR. JOHN B. ROBERTS, of Philadelphia. The speaker, while he has shown the comparative innocuousness of puncture of the heart with a small needle has also shown the danger of using chloroform as an anæsthetic in any cases, possibly cases of parturition excepted. I doubt whether he could have killed the same number of dogs with ether. His experiments have shown that it is more dangerous to puncture the auricle than the ventricle, which would naturally be suggested by the fact that the auricle has a much thinner wall. Dr. Westbrook, who performed cardiocentesis for conditions other than chloroform narcosis, suggested puncture of the right auricle to the right of the sternum. I suggested in 1883, that it would be better to puncture the right ventricle to the left of the sternum.

DR. L. McLANE TIFFANY, of Baltimore. There are two points in which these experiments are open to criticism. It is well known that on dogs, chloroform acts in a very uncertain manner. It is not safe to make deductions from the dog to the human being, under these circumstances. In the second place, I think it is not well to make experiments in the laboratory, and then advise others to try them on the human subject. The experimenter should test the experiments on the human subject, before he recommends the procedure to others.

DR. R. A. KINLOCH, of Charleston. In a recent case of chloroform narcosis in my practice, heart puncture was tried, but without the slightest benefit.

DR. T. J. DUNOTT, of Harrisburg. I know of one case in which the heart was twice punctured with an aspirator needle, and blood drawn from the cavity of

the heart. It was a case of dilatation of the heart with general dropsy, etc. The operation was performed by a homœopathic practitioner under the idea that he was dealing with a case of dropsy of the pericardium. A large quantity of blood was removed, and for a time there was improvement. The symptoms again returned and the operation was repeated, with a fatal result.

DR. B. A. WATSON, of Jersey City. Reference to the details of these experiments will show that in some the heart was excited to action fully three minutes after it has ceased. There are two reasons for selecting the right ventricle in place of the right auricle. In the first place, its walls are thicker, and the risk of hæmorrhage is less. In the second place, there is much more muscular substance in the wall of the ventricle than in the auricle.

With reference to the action of chloroform on the dog, I am well aware of the uncertainty of its action, but this is all against the dog. Where I have attempted to continue the anæsthetic action of chloroform on dogs for two hours, I lost one-half of the animals.

The committee to which was referred the suggestions contained in the President's address, reported that in view of the satisfactory manner in which the work of the present meeting had been prepared, it saw no reason for a change, and did not recommend the appointment of a business committee. It recommended the adoption of the second suggestion with reference to the length of papers. With reference to the abrogation of Article 9 of the Constitution, the committee was in accord with the president, but as this article had been introduced at the express desire of the first President of the Association, it was recommended that it be allowed to remain. The committee recommended the adoption of the suggestion that applications for membership lay over for one year.

FRIDAY.—AFTERNOON SESSION.

HYPERTROPHY OF THE TONGUE, OTHERWISE KNOWN AS LINGUA VITULI, LINGUA PROPENDULÆ, AND MACROGLOSSIA.

by T. J. DUNOTT, M.D., of Harrisburg.

This affection of the tongue, although rare, is mentioned by nearly all surgeons of large experience. The case described by the speaker was that of a girl, twelve years of age, admitted to the Harrisburg Hospital, January 6, 1886. The tongue protruded from the mouth a distance of three and five-eighths inches. The lips were greatly distended, and the angles of the mouth not far removed from the external opening of the auditory canal. The greatest width of the tongue was four and three-quarters inches, and the greatest circumference nine and three-quarters inches. The prolapse of the tongue was only of two months' duration, and had begun without apparent cause. The measurements taken one week after admission showed a decided increase in the size of the tongue. The tongue was removed February 19th. After providing against hæmorrhage, the organ was removed with scalpel and scissors, the section being so made as to secure a conical stump. All the dense fibroid mass was taken away, the weight of the removed portion being over ten ounces. By January 31st, the stump was easily healed. There was no difficulty in keeping the mouth closed. When heard from, March 23d, she could eat and drink without difficulty, and was

gaining flesh rapidly. The paper was concluded with an account of the various operations which had been practised for the removal of the tongue.

DISCUSSION.

DR. L. McLANE TIFFANY, of Baltimore. The history of the case just given would well apply to a case which I have recently seen. A negro girl, five years of age, had suffered with hypertrophy of the tongue, dating from birth. Ever since the first few months of life, the child had been unable to cover the tongue with its lips. The tongue was removed with the Paquelin cautery. Within a week the patient was eating potatoes and meat, and left the hospital ten days after operation. At this time there was a healthy granulating surface.

CASES OF VAGINAL HYSTERECTOMY,

by J. FORD THOMPSON, M.D., of Washington.

CASE I. Mrs. A. E., aged forty-five years, white, was seen in April, 1885, suffering with malignant disease of the uterus. There was great destruction of the cervix, the ulceration extending above the internal os. On consultation, it was decided to avoid hysterectomy if possible, but to limit the operation to amputation of the cervix with scraping, etc. During the operation, the peritoneal cavity was opened. It was then decided to extirpate the uterus. The womb was separated from the bladder in front. A ligature was then placed around each broad ligament and tied. The uterus was then split in two. Each half was then brought down the broad ligaments, tied above the temporary ligatures, and the uterus removed. After thorough cleansing, the vagina was lightly packed with iodoform gauze. At the end of the operation the patient was very weak, and notwithstanding all efforts died in the course of twenty-four hours.

CASE II. Mrs. H., white, aged fifty-five years. Came under observation with cancer of the cervix in January, 1887. The posterior lip of the cervix was almost entirely destroyed, and the disease had encroached upon the posterior cul-de-sac. The cervical canal was involved, at least as high as the internal os. The operation was performed February 28, 1887, antiseptic precautions being adopted throughout. The dissection was begun at the posterior part and carried around the cervix. A silk ligature was passed with a long curved needle through the lateral vaginal vault of either side, and tied. The inclosed portion was then cut from the uterus. These ligatures presumably enclosed the uterine arteries and the lower part of the broad ligament. The uterus was then separated from the bladder in front, and a loop of silk was attached to the peritoneum. The posterior cul-de-sac was treated in the same way. The uterus was then tilted through the opening, and the broad ligaments transfixed and tied. There was no loss of blood. The peritoneal flaps were then brought together with two cat-gut sutures and a drainage-tube introduced into each angle of the wound. The vagina was packed with iodoform gauze. The patient recovered without any unpleasant symptoms.

Reference was then made to the history of the operation and the various methods of performing it were described.

DISCUSSION.

DR. T. R. VARICK, of Jersey City. Whether such operations as this are likely to mitigate suffering

or prolong life beyond the average duration of the disease, if left to take its course without interference, is a question to be yet determined. It seems to me that any operation or method of treatment whose record does not show a prolongation of life beyond the utmost limit of the duration of the disease, if left to itself, is useless and should be avoided.

DR. T. F. PREWITT. I thoroughly agree with the author that extirpation of the uterus is a justifiable operation, and I do not know but that I am prepared to go further and say that on the earliest appearances of epithelioma of the cervix, the whole organ should be extirpated. I believe that ultimately this will be the course adopted.

DR. E. A. GREGORY, of St. Louis. It is one of the rules of old surgery to save every part possible, and I should no more think of removing the entire uterus for epithelioma of the cervix, than I should think of removing the whole lip for limited epithelioma of that part. I think that the surgery of the lips and the surgery of the jaws is applicable to the uterus. I am not willing to sit here and have the old ideas of surgery assailed without some show of resistance.

DR. R. A. KINLOCH, of Charleston. Another of the rules of old surgery was that in malignant disease, we should cut far and wide. The older surgeons, as well as the modern, recognized the fact that malignant disease often spreads too rapidly for us. Here we have an organ suspended in the pelvis and easily isolated. Now, if statistics show that by cutting far and wide without jeopardizing life too much, we can cut short the disease, we are carrying out the rules of old surgery when we do so.

ANEURISM OF THE LEFT SUBCLAVIAN ARTERY FOR THE CURE OF WHICH THREE METHODS OF TREATMENT WERE EMPLOYED. DEATH,

by T. G. RICHARDSON, M.D., of New Orleans.

The patient, a healthy muscular Irish laborer, came under observation October 19, 1885. Aneurism of the left subclavian artery was diagnosed. The patient had suffered with syphilis, and constitutional measures were first tried. Iodide of potassium in fifteen or twenty grain doses was given three times a day. At the end of a week, no perceptible effect being observed, it was discontinued. Direct pressure was next tried, an elastic band with a compress over the vessel was secured to a belt around the waist. This was continued a month, and although it slightly retarded the growth of the swelling, it had no decided result. The third method, the introduction of surgical pins was next resorted to. Nineteen of these, measuring an inch-and-a-half in length, were passed through the anterior wall of the tumor at different places. The aneurism was still growing rapidly, and all the pins that could be reached were then withdrawn. Some of them had disappeared on account of the swelling which had taken place. An attempt was then made to ligate the axillary artery, but in spite of the utmost care, the lower portion of the aneurism was ruptured in the progress of the operation. The wound was at once packed with lint, dipped in Monsel's solution. The hemorrhage having been stopped, half a drachm of a five per cent. solution of perchloride of iron was injected into the centre of the tumor. At the end of twenty-four hours no coagulation having taken place, a second injection of twice the strength was employed.

The next morning there was an exhausting hæmorrhage ending fatally in a few hours.

FEMORAL ANEURISM CURED BY ELEVATION AND FLEXION OF THE LIMB,

by DR. T. G. RICHARDSON, of New Orleans.

The patient, an Italian, aged fifty-five years, was admitted to the hospital December 11, 1886, with a large aneurism of the femoral artery four inches below the femoral arch. While the case was being studied, the limb was flexed at a right angle at the hip and knee, and suspended on a Smith's anterior splint. The next day the pulsation was greatly reduced and the patient was quite comfortable. The treatment was continued, and at the end of the third day the tumor was solid. The limb was kept in this position for ten days or two weeks. The patient was discharged cured, one week later. The speaker called attention to the fact that there was no direct pressure upon the tumor, and that the result was due entirely to flexion and suspension of the limb.

WOUNDS THEIR ASEPTIC AND ANTISEPTIC TREATMENT

by DAVID PRINCE, M.D., of Sacksonville, Ill.

After referring in general terms to the methods in use for the prevention of contamination of wounds, the speaker described an operating-room which he had devised, the object of which was to prevent the entrance of infecting principles. All the air entering this room is filtered through successive layers of cotton. The air is heated by means of gas-burners and to prevent drying of the wound. Steam is permitted to enter with the air.

SPLENOTOMY,

by JAMES McCANN, M.D., of Pittsburg.

The paper was the description of a case in which removal of the spleen had been practised, with recovery of the patient. A paper entitled

THE STUDY OF THE METHODS OF OPERATION PRACTISED, AND OF THE RESULTS OBTAINED IN THE TREATMENT OF CLEFT OF THE HARD AND SOFT PALATES, ILLUSTRATED BY THE RECORD OF FIFTY CASES.

by J. EWING MEARS, M.D., of Philadelphia, was read by title.

A vote of thanks was then extended to the Surgeon-General for the use of the room; to the Cosmos Club for courtesies extended, and to the officers of the Association for the efficient manner in which the proceedings had been conducted.

The Association then adjourned to meet at the call of the president.

—Mr. O'Bowen, a Liverpool surgeon, says in a recent issue of the *British Medical Journal*, that for a few weeks he has had under his care a little boy suffering from an unusually severe attack of whooping-cough, and that the boy's mother informs him that for as much as a fortnight the family cat has had five or six distinct fits of coughing daily, similar in every respect to the boy's, and ending in an expectoration of frothy mucus. The cat is said to be tolerably bright and active between the paroxysms, but is not so lively as formerly, and is in considerably poorer condition.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, April 21, 1887.

DISCUSSION ON THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR-PASSAGES.

This subject was presented for discussion by the Section on Laryngology, and the first paper was read by Dr. F. H. Bosworth. When the specialists in this department knew very little, he said, they made use of a great deal of machinery; but as they came to know more, the array of machinery had grown less and less imposing, until now all the apparatus that was really necessary, might be readily carried in the overcoat pocket. Notwithstanding the most ingenious devices for their employment, it was a fact, that no case of chronic laryngitis had ever yet been cured by topical applications. The views of laryngologists had greatly changed within the last few years, and they had long since outgrown the idea that chronic laryngitis must be of either tubercular or syphilitic origin. The truth was, that non-specific chronic laryngitis was merely secondary to affections of the parts above.

As to applications to the lower pharynx, they were of no service whatever, and this part of the anatomy did not even belong to the air-passages at all, but to the food-tract. The vault of the pharynx was the seat of certain morbid changes which had been supposed to constitute naso-pharyngeal catarrh. The excessive secretion which was fancied to be characteristic of the condition, however, was an absolute myth. There was, in fact, diminished secretion, (although the secretion was perverted, so that it became thick and inspissated to a degree that it was not removed by the ordinary efforts at expectoration), and the indication was, not for astringent applications to the pharynx, but for some means of treatment which would restore the nasal passages as far as possible to their normal condition. Topical treatment here, therefore, was no use, and in such conditions as hypertrophy of the pharyngeal tonsil, no local measure was of any service, except merely as a palliative. As to nasal catarrh, it was not a hyper-secretion to be cured by astringents. These had all been tried to the fullest extent, and found to be of no avail. The essential symptoms were due to conditions which interfered with the great function of exosmosis of serum, and douches and sprays had never yet cured inflammatory conditions of the upper air-passages, although such applications were undoubtedly of more or less use. The nasal douche had attracted a great deal of attention of late years, and he thought its dangers, as well as its benefits, had been vastly over-estimated. Inhalations had fallen into disuse, and the spray was now deservedly considered the most satisfactory means of local treatment. It was unquestionably of great assistance as a cleansing and palliative measure; but was nothing more than this.

As to any special value to be attached to any particular form of apparatus, there was none. Compressed air was supposed to possess superior advantages for the spray, and the moral effect of the various devices resorted to for employing agency was no doubt good; but with an instrument costing a dollar-and-a-half at retail, as perfect a spray could be produced as with the most elaborate machinery. Millard's atomizer, he thought, was the one which was most convenient and

serviceable. The curative treatment of affections of the upper air-passages, however, consisted in treatment of the nasal tract by the removal of obstructive lesions which gave rise to nasal stenosis; and this was to be carried out with the snare, saw, knife or cautery.

The object sought to be secured by the use of the cautery, was not destruction of tissue. In hypertrophic disease the process involved principally the connective tissue, and the essential feature of chronic rhinitis was a chronic hyperæmia of the bloodvessels, with increased nutrition of the part. The local effect of cocaine was to produce anæmia, and, having reduced the existing turgescence with this agent, a mild caustic which would have very much the action of a film of collodion, should be applied. There was nothing so good for this purpose, in Dr. Bosworth's opinion, as chronic acid; a few crystals of which, laid upon the parts, destroyed the superficial layer of the membrane, converting it into a slough which adhered closely to the surface for three or four days; holding it down, as it were, and preventing a return of the turgescence. This simple method by chronic acid was greatly to be preferred to the galvano-cautery, enabling us to accomplish, as it did, all that could be effected with this complicated apparatus, in a manner much more satisfactory in every way. The subject of neoplasms, he said, did not properly come under the present topic of discussion. Acute catarrhal inflammation of the nasal passages was simply a symptom of chronic rhinitis, and as it could be readily eliminated by means of cocaine, did not require further consideration.

In speaking of our methods of examination, he said that the value of the laryngoscope, as generally employed, was greatly over-estimated, and that neither in Tobold's or Sass's instrument was there any optical principle involved. A small head-mirror, with a good light, answered every purpose perfectly well. Laryngologists had ceased to treat by means of machinery when they learned how to successfully treat their cases; and he quite agreed with the sentiment expressed by Dr. Daly at the Copenhagen International Medical Congress, that the sooner they ceased to be throat doctors and became throat surgeons, the sooner would they achieve success in their specialty.

Dr. A. H. SMITH while expressing his belief in the efficacy of topical application in many more or less acute conditions, said that in long established cases of what is known as catarrh, there were serious doubts in his mind as to the benefit of any local treatment that had as yet been devised. In one of the institutions in New York where such cases are treated, there were, during the year 1886, 1,773 patients suffering from chronic nasal catarrh, and in these 1,773 cases, 370 operations were performed, or in a little more than 27 per cent. of the number. About 73 per cent., therefore, were treated by topical means, exclusive of surgical procedures. Hence, it seemed that in nearly three-quarters of all such cases we had to depend on topical applications. But as it was notorious how rebellious to treatment other chronic affections of the mucous membrane, such as conjunctivitis, otorrhœa and endo-metritis, were, it was fair to infer that in chronic rhinitis, where it was impossible to reach all the parts affected, as in the others, the results would not be any more satisfactory. Under the most favorable conditions, all we could do, he thought, was to assist the reparatory processes of nature.

It was a question, however, whether in chronic cases the *vis medicatrix naturæ* was not entirely obliterated. In many instances it really seemed that the natural tendency was to a still wider departure from the normal condition. It was a sheer assumption to suppose that local application would have the desired effect. Not only was a large amount of the nasal mucous membrane in positions inaccessible to local treatment by vapor sprays and powders, but the diseases located in this region were due to causes which had long been operative; and it was of little use to heal a burn while the hand was still in the fire. These remarks, he said, were not applicable to all troubles in the upper air-passages, but to certain chronic affections; and it was only just to ourselves and frank to the public that the professional sentiment in this matter should be made known. Personally, he had long ceased to expect, as he had long ceased to promise, a complete and permanent cure in such cases. As to acute exacerbations, however, they could be successfully treated with anodynes and astringents.

Dr. W. H. THOMPSON said that in his opinion the treatment of chronic disease of the upper air-passages should be directed by two principles. The first of these was the taking cognizance of the cutaneous nerves liable to be concerned in the trouble, and the second, local disinfection. While in some affections, as, for instance, pertussis, infectious germs were taken into the system from the air breathed; in others the origin seemed to be in a quite local chill of the cutaneous surface. The whole body might be exposed in the rain and yet the individual not be nearly so likely to take cold as if he got only his feet wet. In the same way a draught through the key-hole was very liable to give cold.

There were three laws of neuro-vascular irritation which should be taken into consideration in this connection: In the first place, organs in symmetrical pairs were so closely associated in their vaso-motor relations, that an influence affecting one was at once conveyed to the other also. Thus, Brown-Séquard had shown that the thermometer indicated a fall of fourteen degrees in one hand from the dipping of the other in ice-water, while, in the axilla, the temperature remained unaffected. The second law had reference to the association of the vaso-motor influences of various organs with the surface. Thus, a dash of ether-spray was often efficient in checking hæmoptysis, and the action of anæsthetics and counter-irritants depended on this connection. The third law was concerned with the cerebro-spinal vaso-motor connections. The relations between the pelvic viscera and the feet were well understood, as shown, for instance, in the stoppage of the menstrual flow from getting the feet wet, and in the effect of bringing it on by dipping the feet in hot water. In males, the relation between the genito-urinary apparatus and the feet was especially marked. In the same way, there were associations between the feet and the circulation of the pharynx and larynx, and it had even been proposed that children affected with enlarged tonsils should be allowed to go with bare feet, in the hope that the condition might be thereby relieved. Still more intimate were the relations between the nape of the neck and the nasal cavities. Persons suffering from chronic nasal catarrh were often susceptible to influences which had no effect whatever upon others.

As regards the matter of treatment, there were very

few vaso-motor tonics or strengtheners, and there was nothing, in Dr. Thomson's opinion, which could compare with cold as a remedial agent. It was very useful to apply cold water to the nape of the neck on rising in the morning, especial care being taken that the hair should not become even dampened. Sponging of the throat was also excellent, and these cold applications should be kept up for a long period of time. The back of the neck and shoulders should also be well rubbed with olive oil. The second indication was to protect the cutaneous surface against exposure. As in rheumatism, woollen night-shirts and sheets were of great service. During the day-time, also, woollen garments should be worn, and a perforated buckskin shirt, with a comparatively thin woollen under-shirt, he regarded as far superior to any thick flannel. It should be left off only during the heat of summer. The same good results from the wearing of buckskin were met with in various other chronic diseases.

The second principle of treatment, as had been mentioned, was local disinfection. People were protected against the attacks of morbid bacteria only when the forces of life were maintained in a vigorous condition, and the mucous membrane of the air-passages was constantly exposed to atmospheric invaders. The most practical deduction from the matter was that, in chronic disease of this kind, we were first to strengthen cell and nerve nutrition, and, secondly, to use disinfectants by direct application. One reason why our methods of disinfection were at present so inefficient, was that it was impossible to keep up such measures for any length of time together. Such a permanent disinfectant, however, we had in the air of the ocean. It was undoubtedly true that a considerable number of cases were to be attributed to malformations, either natural or acquired; but in those which were not, it was important to know what agents ought to be used. In his opinion, the carbolic acid class, including all coal-tar derivatives, were best for the suppurative diseases. In necrotic cases, on the other hand, remedies of the chlorine group, including bromine, iodine, and sulphur, were indicated, and insufflations of bismuth and calomel had long been used.

Dr. H. H. CURTIS, having remarked that so-called chronic post-nasal catarrh, unaccompanied by stenosis, did not exist, went on to speak of the great value of chromic acid, which, for some time past, he had used, to the exclusion of all other escharotics. When this was applied to the turgescent or hypertrophied bodies, it not only had a most marked beneficial effect upon the parts immediately concerned, but also the vocal apparatus of the patient. Hence such applications were of special service to singers, actors, and others obliged to use the voice in public. This was a reflex effect, and there could be no doubt that there was a distinct correlation between the turbinated bodies and the larynx. In illustration of this point, Dr. Curtis related the case of a prominent operatic prima donna, who presented herself for treatment with a slightly congested condition of the vocal bands. He applied chromic acid to the turbinated bodies, and there was at once a marked improvement in the voice. So much pleased was the patient at the effect thus produced, that on two occasions afterward she came on from Philadelphia, between her performances, expressly to have the application made; and whenever he repeated it, it was always successful in restoring the lost brilliancy of tone. His practice was to apply the

agent in crystallized form by means of a flat copper applicator, and afterward, wash off the parts with Dobell's spray. No bad results from the use of chromic acid, he said, had ever been published. In conclusion, he deprecated the application of strong astringents and other powerful agents to the larynx.

Dr. W. C. JARVIS said that he had always found the spray a very useful means of treatment when it was properly employed; but the expression, "pound pressure," which was so frequently heard in connection with it, meant nothing of itself. Everything depended on the diameter of the pneumatic tube used, and it was only when this diameter was mentioned, together with the amount of pound pressure, that any adequate idea of the force employed could be obtained. Cocaine could be applied more efficiently by means of the spray than in any other way. When thus used, it produced an anæmia of the mucous membrane at once, and it was always noticeable that, in painful conditions, there was a return of the pain just as soon as the anæmia thus caused disappeared. If the cocaine spray was kept up for a considerable length of time with a small tube, we could get beneficial results which could be obtained in no other way.

There were, however, a certain proportion of cases in which cocainization could not be produced, and in these, the application of rhigolene was to be preferred when highly congested growths of the turbinated bodies were to be operated upon. A few seconds was all that was necessary to produce profound rhigolene anæsthesia, and, if a thick covering with any suitable unguent was made use of to protect the parts during the operation, the application of these agents was not attended by any unpleasant results.

The spray was also very useful for cleansing purposes. With a coarse spray, all the advantages of the douche could be obtained, while the hearing was not endangered, as was sometimes the case when the latter was employed. He was in the habit of using ten pounds' pressure with a tube one-eighth of an inch in diameter for a coarse spray, and with a tube of extremely small diameter for a fine spray. There was no method yet devised by which powders could be so satisfactorily applied to the upper air-passages, because in no other way could they be finely subdivided. There was, however, only one agent that was really tolerated in the form of powder, and that was iodoform. Even boracic acid or bismuth was not well borne by the mucous membrane of the upper air-passages, as could be readily tested, even when the latter was in a normal condition.

Chronic acid, he thought, should never be applied for turbinoid turgescence, but for papilloma it was excellent, and in papilloma of the larynx it was really a specific. Nitrate of silver he considered of more or less service in subacute laryngitis, and it was an especially useful agent for mucous patches. By forming a covering and protection for the ulcers, it permitted them to heal. As to surgical procedure, compared with other methods of treatment, he thought it a well-established fact that it was not really worth while to keep on making topical applications for an indefinite period, when, at a single sitting, one could remove the whole trouble. What, then, was the use of worrying with chromic acid, nitrate of silver, or the galvanocautery, Dr. Jarvis asked. The problem to be solved was merely a question of nasal drainage, and he claimed

that there was not a hyper-secretion, but that the trouble was due to distortion of the nasal planes and gutters. The so-called hyper-secretion resulted simply from accumulation, and when the nostrils were permitted to be flushed by the natural secretions, this entirely disappeared. The indication was, therefore, to remove all existing obstruction.

In conclusion, he stated that, in atrophic rhinitis, a cure could not be effected; great relief could be given by means of thorough cleansing and the use of unguents, especially vaseline, applied with the spray. In this manner, patients whose life had been a burden often for many years, on account of the intolerable stench attending the condition of the nasal passages, had, by the simple use of the deturgent douche and vaseline, been enabled to go once more into society without rendering themselves offensive to all around them. This practically constituted a cure in this incurable dry atrophy of the nasal passages.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

FIRST ANNUAL MEETING. Held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887.

FIRST DAY.—MORNING SESSION.

The meeting was called to order by the PRESIDENT, DR. E. L. KEYES, of New York, at 11.30 A. M.

THE PRESIDENT'S ADDRESS.

DR. KEYES, in his address of welcome, first alluded to the circumstances which had led to the formation of the Association. Then speaking of the objects of the Association, he said he need not enter into the question of specialism as distinguished from general medicine and surgery. That distinction was being made for us by the circumstances of the times. The concentration of labor certainly yielded more perfect results than its general distribution. There was a field ready, and those who wished might enter in and work. Because a man belonged to this Association did not imply that he at all confined his ability to its peculiar line of study; but it furnished to him an arena in which he might develop his ideas and display the work he had done under the keen criticism of minds familiar with the subject-matter treated, and capable of still further refining, by their discussion, the quality of his work and enhancing its value.

A FEW STATISTICS ON THE COMPARATIVE FREQUENCY OF THE CHANCROID.¹

DR. F. B. GREENOUGH, of Boston, read a paper with this title. He referred to the marked individuality that was given to the chancroid by the textbooks, in spite of which the great difference in the statistics by different observers would show that they must have used a different system or classification. Throughout this divergence of statistics, however, two facts appeared. First, that this lesion had diminished in its relative frequency to the true chancre with the exception of two periods in Paris, that is, during the war and siege (1870-1871) and during the exposition (1875), and that it occurred more frequently in hospital than in private practice. Dr. Green-

ough's records at the Boston dispensary from July 1, 1873, to March 31, 1887, gave a total of 1493 cases, of which 391 were chancroids, 219 true chancres, 931 doubtful, and 52 cases are herpes progenitalis; making the chancroid stand in proportion to other lesions in the ratio of one to three. These records were not satisfactory, as they showed only the diagnosis made at the time of the first visit. In private practice, out of 100 cases seen, ten were chancroids, sixty-three were true chancres, thirteen were doubtful, and fourteen were herpes progenitalis, being a ratio of one to ten. The diagnosis in these cases was much more reliable. Both sets of cases showed diminution in the frequency of chancroid.

DR. F. R. STURGIS said that according to his observation in Charity Hospital, New York, and dispensary practice, the number of cases of chancroid compared with those of chancre were diminishing.

DRS. R. W. TAYLOR, HYDE, MORROW, and ROCKWELL had observed a diminution in the relative frequency of chancroid to chancre. Dr. Hyde thought the need of time in which to form an opinion whether a given lesion would or would not be followed by the manifestations of syphilis should be more generally recognized. Dr. Otis did not agree in so general a condemnation of the canterly. When used early it was of benefit; used late it might do harm. The President agreed in the remarks made regarding statistics, but he expressed his belief in the virulence of chancroidal pus as compared with ordinary pus. He agreed with Dr. Otis that cauterization of virulent sores within the first ten days was good practice. Dr. Greenough closed the discussion.

SUPRA-PUBIC CYSTOTOMY FOR VESICAL TUMORS AND LARGE CALCULUS; A RECORD OF THREE CONSECUTIVE SUCCESSFUL CASES, WITH COMMENTS UPON VESICAL SUTURE AND A SUGGESTION FOR DRAINAGE.

The President read a paper with this title. He advocated supra-pubic cystotomy for vesical tumors, for certain foreign bodies, in cases of very large stone, and in certain exceptional instances for exploration. The method should not be adopted as the usual one in stone. He gave statistics showing that it was especially objectionable in children. He had operated for the relief of large fibro-papilloma, for flat villous growth, and for a large calculus. He described his way of dealing with hemorrhage and of applying the vesical suture. A double-curved retractor was exhibited, and a description given of his method of effecting perineal drainage by puncture, probe, and catheter, making only a small perineal incision. The drainage is considered by Dr. Keyes a most essential step in the operation, and the one feature which makes vesical suture safe and likely to be generally effective; while drainage in the perinæum avoids one of the discomforts of supra-pubic section, namely obstinate fistule.

He prepares a 30 French red-rubber catheter by passing a string through it. The string being knotted inside the tip. This he passes by means of a long probe inserted through a puncture made upon a broadly-grooved staff, and by aid of a finger in the rectum thus entering the draining catheter through a hole only just as large as itself.

The paper was discussed by Drs. CABOT, ROCKWELL, BRYSON, and OTIS.

¹ To be published in a subsequent number of the Journal.

DR. A. T. CABOT, of Boston, read

A CASE OF HYSTERECTOMY FOR THE RELIEF OF PYELITIS FROM OBSTRUCTION.¹

In the absence of the author, the secretary read a paper by DR. GEORGE CHESMORE, of San Francisco, entitled

SOME CASES OF PYELITIS IN WHICH FREQUENT AND PAINFUL MICTURITION WAS THE CHIEF SYMPTOM.

Two cases in particular were cited to call attention to the fact noted in the books, but not sufficiently emphasized, namely, that frequent and painful micturition might be so pronounced a symptom in pyelitis as to mislead the experienced observer as to the nature of the case, and cause him to address treatment to the bladder alone, while the real malady was in the kidneys. In one of his cases in which frequent and painful micturition was the chief symptom, the man had sustained a violent muscular strain in the region of the kidney, and for some years afterward suffered in the extreme, and was treated for cystitis by some of the most distinguished specialists; but finally the abscess of the kidney discharged, and the patient recovered.

In the second case, treatment was directed to presumable cystitis, and at the autopsy the kidney was found riddled with abscesses. He asked, how many times has the healthy bladder been subjected to every variety of persistent treatment while disease of the kidneys has gone on, only shown to be present by post-mortem examination?

He believed that in many cases the diagnosis of pyelitis could be made only by exclusion.

FIRST DAY. — EVENING SESSION.

ON HORNY GROWTH OF THE PENIS, WITH EXHIBITION OF A REMARKABLE CASE.

DR. J. H. BRINTON, of Philadelphia, read the paper, exhibiting a specimen, and referring to those on record. His specimen was from a man on whose penis a horn had existed more than four years, having started from a wart. The wart had itched occasionally and the patient had scratched it for this reason. Gradually it turned into horny substance. It caused no trouble excepting mechanical interference with coition. The horn sprang from the base of the glans, at the coronary border, and was attached to both the glands and prepuce. It was one-and-seven-eighths inches long, one-and-three-eighths inches in circumference; it was curved forward. A peculiar feature in this particular case was the fact that a horny plate surrounding the meatus almost occluded the meatus, so that the urine passed only in drops. The orifice behind the horny plate was not contracted. The horn was cut off and the man left the hospital after about three weeks.

The rarity of horny growths upon the penis was somewhat remarkable. He was surprised to find only fourteen cases recorded in English, German and French literature. A few more cases had been vaguely alluded to. They occurred either as well-marked projecting horns or as rough, flat, horny plates, occupying the glans penis; they were sometimes multiple. The longest on record was three inches.

DR. CABOT had seen a horn, perhaps the size of the thumb-nail, occupying the dorsum of the glans penis,

¹ See page 517 of the Journal.

in a patient of Dr. Bigelow's, about twelve years ago. He could not say whether it had been reported.

DR. J. P. BRYSON, of St. Louis, then read a paper.

ON THE CHOICE OF OPERATION FOR THE REMOVAL OF VESICAL CALCULUS IN CASES COMPLICATED BY PROSTATIC OBSTRUCTION.

It seemed strange to the author how little influence prostatic enlargement has upon the cutting or crushing operation, for stone in the bladder. He believed that very rarely was section made purely for prostatic reasons, that is, with the intention not only of removing the stone, but for reducing the size of the prostate as well, and thus reducing in intensity, at least, the causes which were the most active in the production of stone, as well as lessening the sufferings of the patient in after years. Since 1884, he had operated for stone by prerectal section in four cases, all complicated by a large hypertrophic prostate gland, and had had opportunity to observe one other similar case in the practice of a friend. The age of the patients varied from sixty-five to seventy-four years. The operation in each case was successful. In one of his cases he had occasion again to make an incision and enter the tip of his finger, having failed at the first operation to entirely evacuate all the fragments; in two others opportunity to remeasure the size of the prostate was offered during an operation for return of the stone. In one case he estimated the reduction in size of the prostate after the first operation, to have been about one-third in its length, and in the other about one-fourth; in none was there now any residual urine of importance. He did not believe that any other operation for removal of the stone would have been attended by so marked reduction in the size of the enlarged prostate.

The PRESIDENT remarked that while the success of the cutting operation in the cases reported by Dr. Bryson, and occurring in old people, had been all that one could ask, yet this operation was shown by statistics to have a much larger mortality in the aged than litholapaxy. Whatever the effect of the cutting operation upon the size of the prostate, he thought we should do the crushing operation first, if it were practicable, as it was much less dangerous, and if it failed to relieve the symptoms, to consider afterwards the propriety of any other procedure. He regarded Dr. Bryson's paper as very suggestive.

DR. BRYSON said that in none of his cases was the cutting operation the operation of choice. The effect upon the prostate having been noticed, he thought it was worthy of consideration. The discussion was participated in by Drs. Otis and Cabot.

(To be continued.)

Recent Literature.

De l'aphasie et de ses diverses formes. Par le Dr. BERNARD. 8vo. pp. 271. Aux bureaux du Progrès Medical. Paris: 1885.

This is the work of one of Charcot's pupils, and is based largely upon work done at the Salpêtrière under his direction. The author has studied the literature of the subject very fully, as is shown by the large number of references, and the observations on the cases quoted have been made with the greatest care, and are of the utmost interest, yet the work as a

whole, is not very satisfactory. After a preliminary consideration of the history of the subject, and of the subject of speech and its localization, the author discusses the different forms of aphasia under the following headings: Word-blindness, word-deafness, aphemia (motor-aphasia), agraphia, and the mixed forms of aphasia. He scarcely mentions paraphasia, however, and his grasp of the whole subject fails in comprehensiveness. Although his individual observations are interesting, he does not give the ordinary reader a very clear or systematic conception of one of the most difficult disorders that may arise in diseases of the brain, and therefore the work will appeal only to those who desire a careful clinical study of a number of cases of the different forms of aphasia.

A Compend of Diseases of the Eye: Including Refraction and Surgical Operations. By L. WEBSTER FOX, M.D., etc., and GEO. M. GOULD, A.B. pp. 148. Philadelphia: P. Blakiston, Son & Co. 1886.

The above work is the eighth in a series of Quiz-Compendis published by the above firm, and does not claim to be an elaborate treatise on ophthalmology, its object being "to supply the medical undergraduates with the most notable points concerning the diagnosis and treatment of ocular disorders, whether pathological or refractive." To compress the whole of ophthalmology within the above limits, resolves the book into a series of definitions of technical terms and diseases, and an empirical statement of the treatment of these various diseases. The book is written in a clear and forcible style, and every word it contains has reason for its insertion. A large proportion, sixty-two pages, is devoted to refraction. This is as it should be, as refraction is rapidly becoming a subject in which the general practitioner should be able to make a diagnosis, at least. The chapter upon operations is clear, concise and accurate.

M. S.

A Treatise on Simple and Compound Ophthalmic Lenses, their Refraction and Dioptric Formulae. By CHAS. F. PRENTICE. pp. 40. New York: James Prentice & Son.

This is a book which strives to explain the refraction of the various lenses used by ophthalmic surgeons without recourse to mathematical formulæ but by graphical means. The diagrams are models of neatness, clear, and very nearly explain themselves, but the text is not always an aid to the diagrams; this is more especially the case in the opening chapter, in the method of determining the direction of a refracted ray. The diagrams in the chapter upon asymmetrical surfaces showing two cylindrical surfaces upon one side of a lens, are a very clear and simple demonstration of a subject which has been much befogged in some recent ophthalmic literature. There are appended to the book tables of crossed cylinders and their spherocylindrical equivalents which will be handy for ready references, although the last line in the first table has an error of 0.25 D. in each field.

M. S.

The Functions of the Brain. By DAVID FERRIER, M.D., LL.D., F.R.S. Second edition. Re-written and enlarged, with 137 illustrations. 8vo. pp. xxiii. 498. New York: G. P. Putnam's Sons. 1886.

The present edition of Dr. Ferrier's well-known work "has been almost entirely re-written," and "a good deal has been added" since the first edition appeared in 1876; but the author boldly asserts that "the principal doctrines formerly advocated are main-

tained in all essentials unchanged." During the ten years that have elapsed, Dr. Ferrier has remained at the head of English investigators, but in that time Goltz has attacked, with some show of proof, the whole theory of the localization of motor centres in the cerebral cortex; Munk has asserted that those centres were, in part at least, of a sensory nature; Fritsch and Hitzig have continued their investigations; Franck and Pitres have published various observations; Exner has studied the whole subject from the standpoint of human pathology; and Luciani and Seppilli have published, almost coincidentally with the present volume, the result of their long-continued observations. Moreover, these various observers, as careful as Dr. Ferrier in their experiments, and far more cautious in their judgments, are still in doubt as to the certainty of their knowledge of the functions of the brain. That in the convolutions about the fissure of Rolando are situated the centres for motion, few to-day will deny, but their exact location and limitation is still an open question, and few of the observers on the Continent will admit the minute localization of the functions of the cortex described, ten years ago, by Dr. Ferrier, and still maintained unchanged by him and his pupils. Furthermore, Dr. Ferrier's methods of investigation are not to be accepted without question. It is a matter of grave doubt whether the electrical stimulation of the brain, which is Ferrier's favorite method, can be limited with sufficient exactness to be of value. Most observers believe that the current is so much diffused as to render the results uncertain. Nor does the actual cautery commend itself to many as the most accurate method of destroying brain tissue. These, however, are the methods which Dr. Ferrier chiefly employs.

We have space to comment especially upon but one portion of the volume—the section on the visual centre. Dr. Ferrier's zeal against Munk leads him to deny that lesion of one occipital lobe can cause hemianopsia, or that lesion of both lobes can cause blindness, and he affirms that "there is not on record a single case of cortical lesion, limited to the occipital lobe, in which hemiopia has occurred." The centre for vision is placed in the angular gyrus and the occipital lobe, the former having most to do with monocular vision, the latter with vision of one-half of each retina. He supports, with but slight variation, Charcot's old theory of the double decussation of the optic tracts. His own experiments, however, seem to us to fail to sustain his position, and the whole section is an instance of false reasoning and hasty judgment, that mars the work. The proof of Munk's hypothesis, given by Seguin at an earlier date than some of the references in the present volume, is disregarded.

Much, however, in the way of assertion and dogmatism may be pardoned to a man who has done so much for the advancement of our knowledge as Dr. Ferrier has already done. The present volume, though marred at times, as we have said, by hasty conclusions and excessive dogmatism, is still full of valuable work. Dr. Ferrier has not only given us his own investigations, but he has given an admirable and exhaustive review of the work of others. The volume before us is unsafe for the student beginning the study of cerebral localization: the methods of research are at times defective, the conclusions are not final; yet it is a work essential for the advanced thinker, and a most important contribution to our knowledge of the functions of the brain.

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Medical and Surgical Journal.

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DEATH OF PROFESSOR VULPIAN.

IN the recent death of Professor Vulpian, whose decease on the 18th ult., in the sixty-first year of his age, was recently announced by the cable, France has lost one of her greatest men of science, who was alike noted as a naturalist, as a physiologist and as a physician.

Vulpian's first great work consisted of a series of lectures on "Comparative Physiology," delivered in 1864, at the Museum of Natural History, and from the chair so long and so ably filled by Flourens. This course of lectures was afterwards published under the title: "*Leçons sur la Physiologie Generale et Comparée du Système Nerveux*," and has had a world-wide popularity. Multitudes of class experiments, related in a peculiarly vivacious style, give this book an extraordinary interest; the various vexed problems of innervation and cerebration receive a new light from comparative physiology as expounded by Professor Vulpian, while a sense of the essential unity of the whole animal kingdom pervades the work.

Next appeared two smaller treatises on "Digestion" and on the "Functions of the Liver"; but the great work of Vulpian is unquestionably his "*Lessons on the Vaso-Motor System*," which appeared in two volumes in 1875. Too much can hardly be said in praise of this work, which is unquestionably one of the most original productions of this age. Here, the most abstruse subjects of physiology are treated in an uncommonly lucid and felicitous style, and illustrated by experiments, many of which were of a very difficult nature. Much has been accomplished by the conclusions to which Vulpian's studies led, in the way of dissipating erroneous notions respecting the rôle of the vaso-motors, and of inculcating right views as to the part which this portion of the nervous system plays in the phenomena of sleep, inflammation, glycogenesis, hysteria and epilepsy, animal heat production, etc. It is surprising that the work has never been translated.

thum. The work on the vaso-motors was followed by the

"*Leçons sur les Substances Toxiques et Médicamentenses*," a treatise replete with interesting observations (the result of personal experimentation), on the action of medicines; and the "*Clinique Médicale de l'Hôpital de la Charité*," a work full of practical interest to the physician, making up a "year book" of Charity Hospital, in which all the most interesting cases during one year's attendance are recorded and commented on.

Continuing his studies in experimental pathology, Vulpian's next and unfortunately his last work was his two volumes on "*Diseases of the Nervous System*"; the first volume appearing in 1879, the second, which completes the spinal cord, the present year. Vulpian intended to have added to these a third volume on "*Diseases of the Encephalon*."

As a lecturer, Vulpian was always popular; as an experimental physiologist, he was hardly excelled, even by Claude Bernard; as a writer, his style is characterized by vigor, vivacity and clearness—even an occasional diffuseness may be readily forgiven in a writer who is especially solicitous to be understood.

Professor Vulpian was a member of most of the learned societies, and for several years Dean of the Faculty of Medicine, until, through political influence, he was replaced by Beclard, in whose recent death, moreover, France has lost another of her great physiologists.

ANTIPYRINE AS AN ANALGESIC.

ANTIPYRINE, whose remarkable properties as an antithermic, though everywhere recognized, are still inferior to those of the more recent candidates for favor, has lately come to the front as a remedy of the first utility in allaying pain.

According to Germain Sée, its analgesic properties are especially marked in painful rheumatic or gouty arthritis, and in nervous states characterized by pain. He administered antipyrine to fifteen rheumatic patients, with or without fever and hydrarthrosis, who had been treated ineffectually by punctiform cauterizations and salicylate of sodium. The pain, with the swelling of the joints, disappeared in a few days. It was, however, necessary to continue the administration of the antipyrine in smaller doses for about a week after amendment manifested itself, in order to guard against relapse.

The same happy result was observed in cases of acute gout, whether grafted or not, or chronic gout, with uric deposits. The antipyrine, given in gramme-doses, from four to six times a day, caused disappearance of the pain and swelling in less than a week, and without the heart or the kidneys suffering any damage. But it is (according to the same authority) in nervous troubles of the sensibility that antipyrine produces the maximum of action. A first series of fourteen observations, relative to pains in the head, pertains to four cases of facial neuralgia, one of which was inveterate, and all of which yielded rapidly; to six of chronic mi-

graine, of which five were at once benefited by a two-gramme dose (thirty grains) of antipyrine; to four of headache, due to various causes, in all of which relief was obtained.

A second series comprehends eighteen cases of neuralgia or neuritis and myalgia, to wit, sciatica, neuritis from diabetes or zona, and of which cases two-thirds experienced immediate relief; cases of lumbago, some of long standing, and muscular or nervous pains of a similar character in different parts of the body (neuropathic pains, pains from strain or overwork). The results of antipyrine in these cases were gratifying.

Several months ago, Lépine, of Lyons, announced that antipyrine was of singular utility in controlling the lightning pains of locomotor ataxia. See confirms this observation of Lépine, and finds antipyrine to be much better for these lightning pains than the newer medicament, antifebrine.

In diseases of the heart and aorta, attended by those paroxysms of *angina pectoris* which often so tax the resources of the physician, large doses of antipyrine have been found to be signally efficacious. See reports six cases of aortic disease, and three of aneurism, characterized by painful crisis, which yielded to gramme-doses of antipyrine, repeated every hour, until three, four, or five doses were taken. The medicine is generally well borne, and rarely causes vomiting, or any other unpleasant effect. Exceptionally, there may be uncomfortable diaphoresis and depression under the larger doses. Individual idiosyncrasy is a factor to be borne in mind in the administration of any drug, and especially of a comparatively new one.

A TRAINING SCHOOL FOR MALE NURSES.

A BUILDING designed as a training school for male nurses is to be erected by Mr. D. O. Mills, in the grounds of Bellevue Hospital, at an estimated cost of \$80,000. It is to be organized on the same general plan as the schools for female nurses now in such general operation. The architectural plans have been approved by the Commissioners of Charities and Correction, and the James R. Wood anatomical and pathological collection is to be placed in a large apartment at the top of the building, which will be separated from the rest of it by a fire-proof wall. On the floor below quarters will be provided for the house-staff of the hospital. Part of the second floor will be given up to the sleeping-rooms of the male nurses, and the rest devoted to lecture-rooms, while the general offices of the institution will be on the ground floor. By a happy coincidence, on the very day that the Commissioners were ordered to tear down the old museum building which has contained the Wood collection for many years, the generous offer of Mr. Mills was made through his friend, Mr. W. H. Osborn, whose wife presented the noble Sturgis pavilion to Bellevue Hospital.

THE MEDICAL REGISTER FOR NEW ENGLAND.

PHYSICIANS belonging to the State medical societies of New England, were reminded, last week, that they might look for a new edition of the *Medical Register* in the fall. Dr. Brown, who has, for so many years, prepared this handbook, promises that this edition—filled from cover to cover with valuable information concerning societies, hospitals, schools, and the other matters which the physicians, dentists and pharmacists so frequently need to know about—shall in no way fall behind those already put forth.

Very naturally the earlier editions are out of date; that of the coming autumn will be brought as nearly to the facts as they exist to-day as is possible. It is not to bespeak for the book the cordial sympathy of all medical men *as purchasers*, that we now call attention to it, for their own interest will do that; but we desire to urge each one to do his share *in giving information*. In the same way that Dr. X., among the New Hampshire hills, may desire information concerning the office hours of Dr. Y., the specialist in Boston, or the method of getting a patient into a hospital, or the name of the army medical officer at Fort Warren, so Dr. Y. may wish to know the name of a reliable man in his very town and be glad to learn his qualifications, or the hospital in Boston may be glad to send a patient to a quiet retreat in the country for change of air and scene.

This composite end can be attained if each one and every one will, in turn, give information concerning himself, his hospital or dispensary, his local society, his charitable institution, or home, or retreat. Many new foundations have been created in the past few years: these new factors in the Armamentarium of the practitioner should be known, and can best be known through the agency of some general work on the subject like the *Medical Register*. What you would be glad to know of others, let others know of you.

MEDICAL NOTES.

—It is said, that there are twenty-seven distinct schools of "mental healers" in Chicago.

—The United States consul at Callao forwards to the Treasury Department a despatch from Valparaiso, dated April 12, 1887, as follows: "It has been officially declared that the cholera has disappeared from this port. There are only one or two isolated cases," also one from Santiago, dated April 13th, saying: "During the last twenty-four hours there have been four new cases of cholera, and four deaths in the suburbs of this town." He adds: "Peru has so far escaped the pestilence, and we are in hopes that all danger has passed. But the same strict sanitary regulations and precautions are still observed, and the board of health has given no expression of a change of programme since the information above referred to was received. The health of Lima and Callao is satisfactory."

—Some searching questions were asked at a recent sitting of the Austrian Reichsrath, by a Herr Pernerstorfer, according to the *British Medical Journal*, which reflected seriously on the management of the Vienna Allgemeines Krankenhaus, which is the largest hospital in Austria, and one of the largest in Europe, containing, as it does, over 2,000 beds. The charges, though denied in the first instance, are said to have been proved to be substantially correct. The complaints bore principally on the defective commissariat arrangements. These are reported to be at all times unwholesome and scanty, and the patients are alleged to have been kept for days without any food at all. In the whole establishment, there is but one bath, and the nurses, of whom 219 are women, and 19 men, are accused of having practised systematic extortion on the wretched patients, and to have ill-treated those who were unable or unwilling to pay. The Government promised to make a searching inquiry into the system of management, with the object of remedying whatever might be defective.

—A correspondent writing from Boston to the *Therapeutic Gazette* says: "I have never yet seen in any work on materia medica, therapeutics, or toxicology the following method of emptying the stomach in cases of opium-poisoning. I have found it rapid and effective in two cases. It is entirely mechanical, but acts in a very short time. Four to six ounces of sodii bicarb. stirred well into a goblet of water and swallowed. In a few moments follow it by a goblet of good vinegar. The result is, that a perfect fountain of the mixture, with the contents of the stomach also, flies out of the mouth into the basin. I first heard of it from Dr. Henry G. Clark, of this city."

To this the editor replies: "We think that this method of causing emesis has not been widely practised in the profession. It is certainly very heroic, and to one who has never seen the play of this human geyser, somewhat appalling. Probably in a strong, vigorous patient, the plan would not be able either to produce fatal strangulation or rupture of the stomach."

—The following mixture to stop toothache is given in the *Therapeutic Gazette*. It forms an oily liquid, and when introduced into a tooth-cavity, is said to be very effective:

Camphor	.	.	.	gr. lxxv.
Chloral hydratis	.	.	.	gr. lxxv.
Cocaine muriat	.	.	.	gr. lv.

BOSTON AND NEW ENGLAND.

—The eleventh annual report of the Sea-shore House, at Winthrop, for the season of 1886, shows that the whole number of inmates was 202, of which 152 were patients. The chief diseases represented were cholera infantum, 15 cases; diarrhoea 36; dysentery 7; and debility 58. 110 were "cured," 29 relieved, 4 not relieved, and 9 died. 4 of the deaths were from cholera infantum, and of the 9 who died, 7 were hand-fed. The receipts for the year were \$3,137. Contributions may be sent, for this most worthy charity, to Elliott Russell, treasurer.

—The number of patients admitted during the year to the Washington Home for inebriates, Albert Day, M.D., Superintendent, was 379 (last year 335); of these 163 were natives of Massachusetts, 94 of other States, and 122 of foreign countries. 326 were residents of Massachusetts, and 211 were married men. There were 95 cases of delirium tremens and one death; (last year, 73 cases and two deaths). The receipts from patients were \$11,900.78, which is about the same as in 1885, and \$1,150 less than last year; and the average cost of each patient was \$31.40, \$7.56 less than last year. The expenses of the year, as shown by the Treasurer's report, were \$12,240.07.

—The Barnstable County District Medical Society held its annual meeting at Dennis, May 10th. Officers were elected as follows: Dr. Clement of Centerville, president; Samuel Pitcher of Hyannis, vice-president; F. A. Rogers of Brewster, secretary; C. M. Hurlburt of South Dennis, treasurer; councillors, Drs. Doane, Munsell and Pitcher.

NEW YORK AND NEW JERSEY.

—Dr. Thomas F. Rochester, one of the leading physicians of Buffalo and Western New York, died May 24th, of Bright's disease. He was born in Rochester in 1823, and graduated from Geneva College in 1845. He received the degree of M.D. from the University of Pennsylvania in 1848, and afterwards continued his medical studies in the principal European cities for some time. In 1851 he established himself in New York, but, two years later, left the city to accept the chair of Principles and Practice of Medicine and Clinical Medicine in the University of Buffalo. Dr. Rochester was a prominent medical writer and consultant, and during the late war was appointed by President Lincoln to inspect the Union field hospitals. In 1875, he was elected President of the Medical Society of the State of New York, and up to the time of his last illness he was a leading Fellow of the New York State Medical Association, of which he was one of the founders.

—Six physicians on the visiting staff of the Jersey City Hospital have handed in their resignation to the Police Board of Jersey City, the cause of this action being the interference of the latter Board in increasing the staff by the appointment of eight additional physicians and surgeons. This leaves only two members of the old Medical Board, Dr. Reeve and T. R. Varick.

—James Preston died recently at Browntown, New Jersey, at the advanced age of one hundred and five years and five months. Up to the time of his death, he managed and directed the work on a farm of two hundred acres, and when he was in his one hundredth year he walked home from South Amboy, a distance of eight miles, in less than two hours. He was never known to have a sick day, and is said to have attributed his old age and good health, to some extent, at least, to his daily practice of taking a "night-cap" of good, old Jersey apple-jack before retiring.

GERMANY.

— Prof. A. Vogel has been made honorary professor at Munich.

— The Sixtieth Session of German Naturalists and Physicians will be held at Wiesbaden September 18th to 24th next.

— Prof. Wm. Hack, of Freiburg, the renowned laryngologist and rhinologist, died recently from an attack of apoplexy.

— Dr. Wolfhugel, for some time in the Imperial Health Department of Berlin, has been called to Göttingen as Professor of Hygiene.

— Dr. Nathaniel Lieberkühn, professor of anatomy at the University of Marburg, and son of the discoverer of Lieberkühn's glands, died recently at the age of sixty-five.

— Prof. A. v. Kölliker, of Würzburg, Professor of Anatomy, and late President of the Anatomical Society, has been given the degree of Doctor of Law, by the University of Edinburgh.

— The German Association of Public Health will convene in Vienna September 26th to October 28th, to meet with the International Hygienic and Demographic Congress. The latter will meet in the University building. All governments are requested to send delegates.

— The South German and Swiss Otological Association met in Vienna recently in the clinic of Prof. Pollitzer, which gentleman was president of the Association. As many of the Association were his students this was made the occasion of the celebration of his twenty-fifth year as teacher.

— Prof. Olshausen, formerly of the University of Halle, has been added to the faculty of the University of Berlin, to fill the chair vacated by the lamented Schroeder. Prof. Olshausen took up his work on the 5th of May, and was greeted by an amphitheatre crowded to the last place. He opened with a feeling reference to his predecessor, his worth as a man, teacher, writer and gynecologist. Prof. Olshausen has been succeeded at Halle by Prof. Kaltenbach, of Giessen.

— The Anatomical Society, founded in Berlin, September last, held its session in the Anatomical Institute of the University of Leipsic recently. The meeting was, for so young a society, quite well attended and interesting. The programme was as follows: "The Asymmetry of the Face," Dr. C. Hesse, of Breslau; "Observations on the Brain of Man," Dr. M. v. Lenhosek, of Pesth; "The Mechanism of the Wrist-joint," Prof. Braune, of Leipsic; "Communication on Embryology," Prof. Ruekert, of Munich; "Glands," Dr. Stohr, of Würzburg; "The Development of the Pigment of the Skin and the Nourishment of the Epidermis," Dr. Karg, of Leipsic; "A Chapter in Vertebral Spermatogenesis," Dr. Banda, of Berlin; "The Place of most Acute Vision in Fish Eyes and Experiments with Hæmatoxylin in Coloring

Matter," Dr. Schieferdecker, of Göttingen; "The Traces of Parietal Eyes in Man," Professor Bardeleben, of Jena; "Morphological Contemplations," Dr. Albrecht, of Hamburg; "New Methods in the Field of Educational Embryology," Dr. Gerlach, of Erlangen. Interesting demonstrations in great numbers were made by different members. Reports were made by Professors Waldeyer and His, the former of Berlin, the latter of Leipsic. Prof. A. v. Kölliker, of Würzburg, was president. The membership was 190, of which 78 were foreigners. From Austro-Hungary 23, Russia 10, Great Britain 8, Switzerland 8, Netherlands, Belgium, Scandinavia, Italy and America each 6, France 1. These consisted of 124 anatomists, histologists, and embryologists, 18 zoologists, 14 pathological anatomists, 10 physiologists, and 10 practitioners.

Miscellany.

THE PRIMARY ANÆSTHETIC STAGE OF ETHER.

DR. JOHN H. PACKARD, surgeon to the Philadelphia Hospital writes as follows in the *Polyclinic*: "I would like to say a few words about giving ether for its first anæsthetic effect. This man is now entirely himself. He will have no vomiting, no headache, and will be perfectly comfortable. The effect of administering ether in this way is much like nitrous oxide. Its advantages are very great. A man comes into your office with a painful abscess of the finger and you propose to open it. If you give ether to full insensibility, you have to keep him in your office for two or three hours, which is a great inconvenience. If you do the operation at his house, he has three or four hours of headache and discomfort, whereas, if you give ether to the first insensibility he recovers immediately and perfectly. You can let him sit down and hold one hand up while he holds the ether sponge himself. When the hand drops you have a period of from thirty to ninety seconds, in which the man is in a state of insensibility, during which time you can open an abscess, or reduce a dislocation, or perhaps even replace a hernia. In a few minutes the man is fully recovered, and is able to walk away. I think that this method of administering ether is absolutely free from danger. It has been objected by good authorities on the subject of anæsthetics, that partial anæsthesia is always a condition of peril. Very good; but you do not keep the patient in a state of partial anæsthesia. You simply take advantage of a stage through which he must pass, and therefore you do not add in the least to the danger."

GROWTH OF PATHOGENIC ORGANISMS IN WATER.

THE problem, how long will bacteria of known pathogenic powers retain their vitality in potable water is one of growing importance in the development of a sound system of water analysis. The *Polyclinic* refers editorially (May, 1887) to several important communications on this, from trustworthy sources, which

have lately appeared. In the *Zeitschrift f. Hygiene* Meade Bolton discusses the subject, and also Dr. Percy Frankland in the *Sanitary Record*, and Dr. Kraus in the *Archiv f. Hygiene*. The conclusions, as might be expected, do not quite agree. Frankland has shown beyond doubt the great benefit to be derived from filtration, and his latter results show that sporeless bacilli are little likely to multiply in water, but that different species of microbes behave very differently—in other words, no general law can yet be laid down. Kraus' observations appear to be very valuable from a practical point of view. He premises very plausibly that experiments made upon sterilized water, or on samples maintained at blood heat, have but little practical bearing, and that the sample should be in the normal condition. Kraus inoculated samples of river and pump-water with well-known species of pathogenic bacteria, and noted the growth under ordinary conditions. He found that the number of the pathogenic organisms soon began to be reduced, while the non-pathogenic varieties already present in the water increased. At the end of a few days no living pathogenic organisms could be found. This result does not seem strange. Among rapidly multiplying organisms the struggle for existence must be an important factor, and in the average water the microbes normal to it will be likely to be the victors in any such struggle. Something will, of course, depend on the supporting power of the water, and in this relation the amount of the organic matter may retain some significance. Frankland states that while Koch's comma-spirillum multiplies enormously in sewage, it does not in filtered well-water; and Finkler's spirillum, which closely resembles Koch's, could not be made to live a single day in either sewage or filtered water. In this connection may be noted the remarks made by Dr. Buchanan, in the report of the London Local Government Board, to the effect that perhaps the surest protection against pathogenic bacteria will be the agency of the non-pathogenic forms.

AN ECONOMICAL METHOD OF PREPARING ANTISEPTIC GAUZE.

DR. GERSTER, of New York, in an article in the *New York Medical Journal* of April 2, 1887, describes his method of preparing gauze as follows:

Gauze—that is, *cheese or tobacco cloth*, as it is called by the trade—can be procured at any dry-goods store for a trifling sum of money. Twenty-five yards of this fabric are divided into four equal parts. Each of these is folded eight times, and the piece is rolled up loosely and tied with a string. These four pieces of gauze are next made absorbent by freeing them of their oily contents adhering to the cotton from the gin or mill. They are put into a common wash-boiler, covered with water to which a pound of washing soda or saleratus was added, and boiled for an hour. After this they are rinsed in cold water for ten minutes to free them from the soda, are passed through a clothes-wringer and placed in a stone or glass jar or an enamelled kettle, filled with a corrosive sublimate lotion of 1 to 1,000 strength, to remain therein for twenty-four hours. From this they are passed through the wringer again, and hung up to dry over night, when the air is freest from dust. The string put about each piece should not be removed until the time of drying, as it will

keep the folds from getting disarranged. The dried pieces are ready for use, and will keep clean wrapped in a towel or put away in a jar.

Whenever dressings are used, suitably-sized compresses, each having eight folds of cloth, can be cut out of the piece with a stout pair of sharp scissors.

Iodoformed gauze is made by sprinkling iodoform dust from a pepper-shaker uniformly over the moist compress, and rubbing it thoroughly into the meshes between the fingers.

An excellent substitute for gauze in an emergency is common cotton-batting well soaked in a solution of corrosive sublimate (1 to 1,000). The package of batting is unrolled in an ordinary manner, and cut into square pieces of desired size. Each of these is re-folded into a small square and thoroughly kneaded in a wash-basin filled with the mercuric lotion, till complete saturation is evident. Well wrung out, each piece is unfolded again to its original shape, and is ready for use.

Any clean textile fabric of cotton or linen, soaked in mercuric lotion, will be a good antiseptic dressing.

AMPUTATIONS FOR JOINT-DISEASES WHEN LUNG TUBERCULOSIS COEXISTS.

DR. LEWIS S. PILCHER, in an interesting paper upon the above subject in the *Annals of Surgery*, reaches the following conclusions:

1. The probabilities of a spontaneous cure, or prolonged abeyance of a tubercular bone or joint trouble, as a result of expectant and palliative treatment—that is, improved hygiene, rest, counter-irritation—is much greater in children than in adults.
2. The probability of the presence or early development of lung tuberculosis in case of tubercular bone and joint affections, is much greater in adults than in children.
3. Incomplete operations, as drainage and irrigation of joints, évidemment, and resections in which all of the diseased tissue is not removed, are less likely to be followed by ultimate good results in adults than in children.
4. Operative interference of a radical character is justifiable at an earlier date, in the history of a bone or joint tubercular affection, in an adult than in a child.
5. When a lung tuberculosis is present, and an operation for the relief of a coexisting bone or joint affection is indicated, as the result of such operation, the lung affection, while in some cases influenced, is more frequently temporarily checked in its progress, and in some instances is apparently entirely removed.
6. Local relapse after an operation for an osteo-arthritis tubercular disease, lung tuberculosis existing, is exclusively conditioned upon incompleteness of the operation—the fact that somewhere tubercular tissue escaped removal—and not upon any influence exerted by the lung affection.
7. In any case of osteo-arthritis tubercularis demanding operation, in which a doubt exists as to the possibility of removing absolutely all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would be a circumstance that would add weight to the reasons for having recourse to the more radical operation of amputation.

8. After an amputation in perfectly healthy parts, as prompt healing may be expected in persons suffering from lung tuberculosis, as after such an operation on a healthy person. Relapses at the stump do not occur even in persons with advanced lung disease.

Correspondence.

ACUTE INFECTIOUS UNIVERSAL MYOSITIS.

Boston, May 30, 1887.

MR. EDITOR, — Since I read the report of a case of "Acute Infectious Universal Myositis," before the Section

for Clinical Medicine, Pathology and Hygiene, of the Massachusetts Medical Society (published in the *JOURNAL* of May 26, 1887), the case has been published in full in the *Berliner Klinischer Wochenschrift* for April 25, 1887. Prof. Kussmaul gives the disease the name "Pseudo-Trichinose; eine besondere Form von Acuter parenchymatöser Polio-myositis." Contrary to my statement Prof. v. Recklinghausen reports hyaline degeneration of the muscles, but no fatty or granular degeneration. I see no advantage in the name "Pseudo-trichinose," as the disease has nothing to do with trichinosis, and I should much prefer the name "Acute Infectious Universal Myositis," as first given by Kussmaul in his clinical lecture on the case, and again applied by me in my paper upon the same case, as mentioned above.

Yours truly,

HENRY JACKSON, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 21, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	698	300	20.02	17.08	1.26	13.02	1.26
Philadelphia	993,801	458	190	11.88	12.76	1.10	3.08	6.60
Brooklyn	745,103	303	113	16.83	16.50	2.31	8.25	1.45
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	128	36	9.36	4.68	.78	1.56	.78
Boston	400,000	182	57	13.75	10.45	1.10	5.50	1.65
New Orleans	242,750	127	61	26.86	5.74	22.82	.79	.79
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	62	24	4.83	—	1.61	—	1.61
Pittsburgh	210,000	68	22	11.76	14.70	—	1.47	2.94
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	52	25	9.60	5.76	—	—	1.92
Providence	121,000	49	13	22.44	6.12	2.04	4.08	10.20
Richmond	100,000	43	17	6.99	10.65	2.33	2.33	2.33
New Haven	80,000	17	5	17.64	17.64	—	—	—
Nashville	65,000	23	13	26.10	17.40	13.05	—	—
Charleston	60,145	33	14	3.03	—	3.03	—	—
Portland	40,000	12	2	—	25.00	—	—	—
Worcester	68,383	16	7	—	31.25	—	—	—
Lowell	64,051	38	16	31.56	18.41	5.26	2.63	15.78
Cambridge	59,660	23	8	26.10	4.35	—	4.35	17.40
Fall River	56,863	24	10	4.16	8.32	—	—	—
Lynn	45,861	21	4	4.76	14.28	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	10	6	—	—	—	—	—
Somerville	29,992	13	2	7.69	23.07	—	—	—
Salem	28,084	16	5	12.50	12.50	—	—	—
Holyoke	27,894	10	3	10.00	20.00	10.00	—	—
Chelsea	25,709	9	2	22.22	11.11	—	—	—
Taunton	23,674	3	0	—	—	—	—	—
Haverhill	21,795	6	1	—	—	—	—	—
Gloucester	21,713	6	2	16.66	33.33	—	—	—
Brockton	20,783	5	0	—	—	—	—	—
Newton	19,759	4	0	—	25.00	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	4	2	—	25.00	—	—	—
Waltham	14,609	6	2	33.33	16.66	16.66	—	—
Newburyport	13,716	11	2	—	9.09	—	—	—
Northampton	12,896	3	0	33.33	—	—	33.33	—

Deaths reported 2,393; under five years of age 965; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 402, acute lung diseases 320, consumption 314, diphtheria and croup 152, measles 68, diarrhoeal diseases 63, typhoid fever 32, scarlet fever 27, erysipelas 13, cerebro-spinal meningitis 12, whooping-cough nine, small-pox seven, puerperal fever three. From typhoid fever, Philadelphia 13, Pittsburgh four, New York, Boston and Baltimore, three each, Richmond, New Orleans, Lowell, Lynn, Salem and Waltham one each. From scarlet fever, New York eight, Brooklyn seven, Boston four, Chelsea two, Philadelphia, Milwaukee, Providence, Cambridge, Somerville, and Salem one each. From malarial fever, New York four, Brooklyn and Baltimore three each, New Orleans two, Philadelphia, District of Columbia, Providence and New Haven one each. From erysipelas, New York six, Brooklyn three, Boston two, New Orleans and Milwaukee one each. From cerebro-spinal meningitis, New York three, New Haven two, Baltimore, Newburyport, Milwaukee, Nashville, Lowell, Fall River and Gloucester one each. From whooping-cough, Nashville two, New York,

Brooklyn, Boston, Baltimore, District of Columbia, Pittsburgh, and Milwaukee one each. From small-pox, New York seven. From puerperal fever, Brooklyn, Providence and Lowell, one each.

In the 22 cities and greater towns of Massachusetts, with a population of 1,036,330 (population of the State 1,941,466) the total death-rate for the week was 21.12 against 20.15 and 22.46 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending May 7th, the death-rate was 20.9. Deaths reported 3,704: infants under one year of age 847; measles 249, whooping-cough 160, scarlet fever 45, diarrhoeal diseases 39, diphtheria 32, fever 22.

The death-rates ranged from 16.0 in Birkenhead to 34.2 in Preston; Birmingham 18.8; Bolton 16.7; Bradford 21.6; Hull 17.5; Leeds 20.7; Leicester 17.5; Liverpool 26.0; London 18.9; Manchester 31.0; Nottingham 17.2; Portsmouth 20.4; Sheffield 19.5; Sunderland 20.5.

In Edinburgh 19.0; Glasgow 22.9; Dublin 36.6.

The meteorological record for the week ending May 21, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, May 21, 1887.																	
Sunday, . . . 15	30.27	55.0	63.0	46.0	46.0	64.0	67.0	S.W.	E.	S.	1	6	9	C.	F.	C.	—
Monday, . . . 16	30.14	54.0	59.0	48.0	66.0	54.0	52.0	W.	E.	S.	1	10	7	O.	C.	C.	—
Tuesday, . . . 17	29.95	54.0	61.0	50.0	81.0	55.0	88.0	S.E.	S.E.	E.	6	10	6	C.	C.	F.	—
Wednesday, . . 18	29.88	53.0	56.0	49.0	100.0	100.0	94.0	N.	E.	E.	2	8	3	G.	G.	G.	—
Thursday, . . . 19	29.96	69.0	82.0	52.0	84.0	26.0	37.0	W.	N.W.	W.	4	11	6	C.	C.	C.	—
Friday, . . . 20	30.04	77.0	89.0	61.0	45.0	23.0	49.0	W.	W.	W.	6	15	16	F.	C.	C.	—
Saturday, . . . 21	30.22	59.0	75.0	55.0	62.0	68.0	78.0	N.E.	E.	E.	10	8	3	C.	C.	C.	—
Mean, the Week.	30.066	69.1	69.0	52.0			43.6										

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 21, 1887, TO MAY 27, 1887.

HUBBARD, V. B., surgeon. Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

ELBERRY, F. W., captain and assistant surgeon. Found incapacitated for active service by an Army Retiring Board, sick leave still further extended until further orders on account of disability. S. O. 116, A. G. O., May 20, 1887.

BURTON, H. G., captain and assistant surgeon. Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 107, Division of the Atlantic. May 25, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 28, 1887.

DEANE, C. W., passed assistant surgeon. Detached from "Dale," and to Hospital, Mare Island.

HARVEY, H. P., surgeon. Orders to "Iroquois" revoked and wait orders.

DICKSON, S. H., passed assistant surgeon. Detached from Navy Yard, Washington, D.C., and to the "Dale."

WAGGENER, J. R., surgeon. Detached from the "Iroquois" and wait orders.

WHITE, STUART S., assistant surgeon. Ordered to Receiving Ship "St. Louis," Navy Yard, League Island.

DR. JAMES G. FIELD, of Gordonsville, Va., commissioned assistant surgeon in the navy, May 23, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 21, 1887.

GOLDSBOROUGH, C. B., surgeon. Leave of absence extended to June 1st, on account of sickness. May 18, 1887.

GRITERAS, JOHN, passed assistant surgeon. Granted leave of absence for four days, May 21, 1887.

ARMSTRONG, S. T., passed assistant surgeon. To remain in charge of service at Memphis, Tenn., until further orders, May 21, 1887.

DEVAN, S. C., passed assistant surgeon. Leave of absence extended thirty days, May 19, 1887.

CARRINGTON, P. M., assistant surgeon. Ordered to United States Revenue Steamer "Rush," May 18, 1887.

NORMAN, SEATON, assistant surgeon. To proceed to Marine Hospital, Baltimore, Md., for temporary duty, May 20, 1887.

HEATH, F. C., assistant surgeon. Granted leave of absence for thirty days, May 18, 1887.

WOODWARD, R. M., assistant surgeon. Appointed an assistant surgeon, May 20, 1887. Assigned to temporary duty at the Marine Hospital, Baltimore, Md., May 21, 1887.

SOCIETY NOTICE.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HY-

GIENE, will meet at Huntington Hall, Massachusetts Institute of Technology, TUESDAY, JUNE 7, 1887, 7.45 o'clock. Papers: Dr. J. W. Farlow, "Cascara Sagrada, and its use in the treatment of Constipation." Dr. P. C. Knapp, "The measurement of the Galvanic current, with some remarks upon Electrodes." Dr. Albert N. Blodgett, "A Case of Agarophobia." Dr. F. W. Page will exhibit a gall-stone which was expelled after impaction of eighteen months, (weight 23 grains).

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

SEA-SHORE HOME. RESIDENT PHYSICIAN REQUIRED.

Applications for the position of resident physician at the Sea-Shore Home for Children, at Winthrop, Mass., will be received until June 7th. Term of service about two and one-half months, beginning about June 15th. Residence and board furnished. Additional compensation as may be agreed. Application received from graduates in medicine only. Previous experience in the treatment of diseases of children preferred. For further particulars apply from 2 to 3 P. M. to

H. C. HAVEN, M.D., 19 Exeter St.

BOSTON CITY HOSPITAL.

Expected Operations, June 7th, at eleven o'clock: Removal of portion of tongue and lower jaw, for malignant disease; Amputation at hip, for necrosis of femur; Amputation at hip, for hip disease; Excision of knee.

BOOKS AND PAMPHLETS RECEIVED.

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides. By C. H. Hughes, M.D., St. Louis, Mo. 1887. (Reprint.)

Transactions of the Pathological Society of Philadelphia. Volume XII. Containing the Report of the Proceedings from September, 1883 to July, 1885. Edited by W. E. Hughes, M.D. Philadelphia: Printed for the Society. 1886.

Closure of the Jaws and its Treatment. By J. Ewing Mears, M.D., Professor of Anatomy and Clinical Surgery, Pennsylvania College of Dental Surgery, Surgeon to St. Mary's Hospital. Extracted from the Transactions of the College of Physicians of Philadelphia, February 2, 1887. Philadelphia: Wm J. Dorman. 1887.

Live Birth in its Medico-Legal Relations. Annual Address Delivered before the Medical Jurisprudence Society of Philadelphia, January 1887. By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania, President of the Medical Jurisprudence Society of Philadelphia. 1887.

Circulars of Information of the Bureau of Education. No. 1, 1887. The College of William and Mary: A Contribution to the History of Higher Education, with Suggestions for its National Promotion. By Herbert B. Adams, Ph.D. (Heidelberg), Associate Professor of History in the Johns Hopkins University. Washington, 1887.

A Practical Treatise on Impotence, Sterility and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third edition. Thoroughly revised with 16 illustrations. Philadelphia: Lea Brothers & Co. 1887.

Lecture.

THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS.¹

BY GEORGE J. TOWNSEND, M.D., OF NATICK, MASS.

MR. PRESIDENT and Fellows of the Massachusetts Medical Society: After nearly four decades of active professional life, a personal experience, embracing the first promulgation of the fact that there are diseases self-limited, culminating in the triumphs of antiseptics, retrospection leads us to consider what part we have played in all this, and suggests the topic to which I would invite your attention to-day.

We are accustomed to various opprobrious epithets: We are Allopaths, Old School Regulars, banded together for our own selfish gain and aggrandizement.

In the recent attempt to change the organization of one of our best appointed hospitals, an eminent lawyer, who should have known better, asks our late much-lamented President "if he would not adopt a system of medicine which would cure fifty per cent. more patients than his own?"—a question containing two manifest absurdities, and which necessarily could elicit no answer.

The distinguished divine who graced our last annual dinner with his presence counselled us charity towards other sects in medicine, and that we should not consider it impossible for a patient to be cured by any other system than our own, as if there could be sects and systems in medicine, as there are in theology.

It would seem as if the time had come for an earnest protest against such misrepresentation, such manifestations of utter ignorance of the true scope and workings of our Society.

Our Charter, in the crude fashion of its time, sets forth the objects for which we are incorporated. In its preamble, it takes for granted that the preservation or recovery of health is essentially necessary to the happiness of society, that it "is closely connected with the knowledge of the animal economy, and of the properties and effects of medicines, and that the benefit of medical institutions formed on liberal principles, and encouraged by the patronage of the laws, is universally acknowledged."

A careful examination of the articles of our incorporation shows that they are only adapted to the carrying out of the objects set forth in the preamble. There is nothing in them, nor in the by-laws enacted under them, which indicates any intention to confer exclusive privileges upon our Fellows, unless, possibly, exemption from enrolment in the militia may be considered such a privilege. Yet many of our Fellows render good service as medical officers of our various military organizations, to say nothing of our Society's record during the Secession War.

Have we, as a body, carried out the objects of our Charter? I can only say, "circumspice." There is hardly a general charity in our State that does not number amongst its workers one or more Fellows of our Society. The strictly medical charities are largely administered by them. Our dispensaries are officered by our younger Fellows, who, fresh from their earnest

student work, devote themselves with a zeal which often imperils health, and even life, to the treatment of the squalid poor. What is their compensation? A stipend that would not pay their office-rent, and the experience they gain; and that experience is of doubtful value to the general practitioner, so different are the conditions under which disease manifests itself in those whose surroundings defy all hygienic influences, and in those who enjoy the comforts and luxuries of life.

The staff of our hospitals is composed of men who have already acquired a position for themselves in the community, many of them known to fame, with world-wide reputations. They give hours, days, months of hard work, without money and without price, their only recompense the satisfaction of relieving suffering, and of advancing medical science.

Our teachers labor faithfully and earnestly in our schools, that they may fit others to succeed them in the work they do so well themselves. Their reward is a pittance that a first-class book-keeper would scorn.

But the medical charities of our cities are evident enough, and need not be enlarged upon. What shall be said of the unobtrusive, unknown charitable work done by our Fellows in the lanes and by-ways of our Commonwealth? Some of our inland towns employ a physician by the year, at a stipend of from fifty to one hundred dollars, to attend the town poor. But a large extent of country is entirely unprovided for, with no dispensary or hospital refuge within reach. Our country physicians, then, devote much time and hard work to the relief of the suffering poor. They take long rides to most inaccessible places, enduring summer heats, and literally breasting winter's snows, without the hope of fee or reward; with no other motive than to alleviate human suffering. In times of distress, in strait of money, in the prevalence of unusual epidemics, these charities amount to a very large proportion—in instances, to not less than a fifth of the physician's yearly work. Surely, such facts as these should protect us from the imputation of selfishness and greed of gain.

In what sense are we regulars? This is an unfortunate term, its converse occurring in our by-laws, as conveying to the minds of the community the idea that the Massachusetts Medical Society enjoins upon its Fellows a definite course or system of pathology and practice, deviation from which constitutes irregularity, than which nothing can be more erroneous. The term, in its application, is, indeed, rather negative than positive. We are regular just so far as we conform to our by-laws, to which we have all given our written assent, and we are irregular when we violate those by-laws, and are guilty of practices forbidden to Fellows. Those practices are, in brief, the professing to cure diseases by any exclusive system of medicine, the advertising, or offering for sale, of secret medicines, and the pretending to cure diseases by such secret medicines, or by any secret treatment.

Are we "Old School," "Allopaths," convertible terms, as usually accepted by the public? We belong to no school whatsoever, certainly, in view of the developments in medicine within the last half-century, not to an old school. As to allopathy, what the term may mean I am sure I do not know; but if, as defined in Dunglison, it means "a method of curing disease by remedies, the action of which, in healthy man, produces morbid phenomena different from those that we observe

¹ Annual discourse delivered before the Massachusetts Medical Society, June 8, 1887.

in the sick person," very few Fellows of our Society would attempt such a feat as all that implies.

This suggests a proposition which underlies the very foundation of our Society, which has already been publicly proclaimed by one of our Fellows, but which cannot be too often reiterated, or too strongly emphasized, which is that there is not, never has been, never can be, any exclusive system of pathology and medicine which can formulate and apply to the modification of disease, as it occurs in its infinite variety of conditions in the human system, all the facts that natural science, pathological research, and clinical observation are every day developing and adding to our store; that whoever attempts to establish such a system begs the question, assumes that the evidence is all in, and that no new fact can be discovered which may militate against his theory. From this, as a corollary, it follows that no exclusive system of pathology and medicine, no "pathy," whatever prefix you give it, can as yet be admitted as either proven or true, nor can it ever be, until medical science is a finality, about which nothing new is to be learned.

Is not this, then, the position of the Massachusetts Medical Society to-day, as at its inception? Seeking only the advancement of medical science, it grants the largest liberty in therapeutics, leaves to the judgment of the attending physician the treatment of every given case, forbidding only pretensions not founded on established facts and exacting only fealty to our Constitution and to our By-laws. These the Society has established as the best means of furthering its objects, the promotion of the health, in consequence the happiness of the community.

A glance, suggestive only in its scope, at some of the more prominent improvements in medicine, in which our Fellows have taken an active part, will best illustrate the relations of our Society to medical progress.

First, on this continent at least, an ever-revered Fellow of our Society, our Preceptor-President, promulgated the fact, that there are diseases self-limited, running their course unabridged, though not modified by medical treatment. Though the pendulum swing to the opposite extreme, and in view of later developments, expectancy was carried too far in the treatment of those diseases, rarely has a greater boon been conferred upon suffering humanity, than by the assertion of the fact, that medicine will not cut them short.

How great a change this assertion wrought in treatment is rather amusingly illustrated by experience in one of those diseases, notably, typhoid fever. Going fresh from the teachings and practice of the senior physician of the Massachusetts General Hospital, whose principal medication in this disease was twenty drops of the spirits of nitrous ether, once in four hours, to country practice, we were early confronted by the opposite methods of an experienced and much respected professional neighbor. His treatment of the same disease consisted in the exhibition of fourteen emetics in daily succession, each one, as was triumphantly asserted, bringing up bile, and yet strange to say, his patient lived.

During our student days the only prerequisites for an examination for a degree in medicine, were that we should bring a certificate of a three years' course of study with some reputable physician and of attendance upon two courses of lectures in a college. The examination was oral, a written thesis only being re-

quired. Some of our physicians devoted themselves to the teaching of students in the interval between the lectures, but there was no organized effort to an association for that purpose until about the year 1840, when two of our then progressive young men met on Winter Street. The one proposed to the other to form a school for the instruction of students during a summer term. The proposition was readily accepted, and the subject being broached to two more of our Fellows, they at once enlisted in the work, and the result was the formation of the Tremont Medical School. Of these gentlemen three ably filled chairs in the Harvard Medical School, while the fourth was one of the founders of our most valuable special charitable institutions and a much beloved and respected physician. This school soon outgrew its original proportions and culminated in the present admirable and ever improving curriculum of Harvard Medical College.

Soon came the discovery of ether. Without going into the question of priority in discovery, many of us may yet remember when Morton first publicly demonstrated that insensibility during a grave and delicate operation could be safely produced. This operation was performed by the senior surgeon of the Massachusetts General Hospital himself, an illustrious pillar of our society, whose far-reaching sagacity comprehended at once the vast results foreshadowed by this first experience.

We are familiar now with its powers, rendering operations feasible which would be impossible without it, assuaging pain of every variety, and if not removing woman's primal curse, so far alleviating it, that rigid believers in ancient theology have even objected to its use in their own hour of tribulation, for that cause alone.

Yet those of us who can remember the cries and moans of surgical sufferers, their pains blunted only by full opiates in cases suitable, as the only anæsthetic available, can best realize what Fellows of our Society have done for humanity, by testing the powers and promoting the use of ether.

Though chloroform was soon after discovered, and our transatlantic brethren, ever jealous of Yankee inventions, vaunted its superiority over ether, its lethal qualities, unaverted by every precaution, soon rendered its use of questionable advantage.

In ophthalmic surgery, its last stronghold, it was attacked by a Fellow of our Society, who demonstrated to the British oculist, that ether was as speedy in action, with proper precaution rarely produced vomiting, rendered the eye as quiescent as did chloroform, with a freedom from danger as is possible in using so powerful an agent.

In preventive medicine, a Fellow of our Society, ever earnest in every benevolent work, after persistent and laborious efforts, induced our State to take the lead in establishing a Board of Health, having demonstrated the vast importance as well as feasibility of removing the causes of disease. Though afterward political chicanery and cowardice destroyed its usefulness for a time, and merged it in a triple monster as unpracticable as it was unwieldy, he has happily lived to see it restored to its pristine simplicity and effectiveness. His name should be blessed throughout the community for his efforts to induce a study of the causes of disease, and to impress upon the public the importance of avoiding them.

In surgical progress a few instances will suffice to indicate what our Society has accomplished.

One of our most illustrious Fellows, distinguished alike for his teaching and achievements in surgery, first threw new light upon injuries of the hip-joint, of inestimable value, especially to the general practitioner, who is not particularly versed in surgery.

Previous to his writings, dislocations of the head of the femur were classified and described clearly enough for diagnosis, and the difficulties in reducing them were well recognized. Our only means for attaining that end was the employment of force, hardly inferior to that which caused the injury. Various appliances had been devised for that purpose, which may well be characterized as the triumph of matter over mind.

It was reserved for him to discover the nature and cause of the obstruction to reduction, and in overcoming it, to substitute intelligent manipulation for brute force.

In impacted fractures of the neck of the femur, which had proved to be amongst the most obscure and intractable injuries, the teachings of the same author, summed up in a paper only too brief, have initiated a new era in diagnosis and treatment. The days of false joints and incurable lameness, with a possible suit-at-law for damages, are passed. The sufferer is now restored to usefulness and comfort by treatment epitomized in the one word, immobility, provided only that be sufficiently prolonged, while the necessary deformity resulting from the injury is practically slight.

The same author inaugurated a new era in vesical surgery, perhaps his crowning achievement. Previous to his researches, the only means of removing a vesical calculus was a dangerous and critical operation which the most experienced surgeon rarely approached without trepidation. Lithotripsy was accepted as hardly less dangerous, and as applicable to but few cases.

The converse now obtains. Our transatlantic brethren, while grudgingly acknowledging priority of suggestion, have made what might almost be termed frantic efforts to improve instruments and methods of operating. But rapid lithotripsy, as originated and perfected by one Fellow of our Society, and frequently and successfully performed by his coadjutors in surgery, stands to-day as one of the most important surgical improvements of our time. Without the possibility of a doubt, the sufferer from vesical calculus owes to a Fellow of our Society the discovery and promulgation of the best and safest means for his relief.

In special medicine, the record of our Society has been one of continued and effective progress.

In ophthalmology, especially, much has been done to preserve the integrity and usefulness of an organ, the loss of which renders life a burden.

Some thirty years ago, the treatment of one of the most painful, and to vision, dangerous, diseases of the eye, was, to say the least, as heroic as it was unsatisfactory. About that time, our senior oculist, whose work and writings have made his name a household word throughout our land, first demonstrated that iritis was amenable to treatment as effective as it is simple, and since that time the disease has lost much of its terrors. It is now daily treated by the general practitioner, to the great comfort of the patient, and with little danger of impairment of vision.

The same author has also demonstrated that another formidable disease of the eye, especially dangerous in infancy, can be effectively arrested without the use of

severe measures. Though his methods may be considered as still *sub judice*, and able oculists maintain the greater safety of the more severe treatment, the fact obtains that patients constantly recover from purulent ophthalmia by the systematic and careful use of mild astringents, combined with the most exact attention to cleanliness.

The efforts of another of our oculists, the son of a pioneer in ophthalmology, and one of the founders of the Eye and Ear Infirmary, to disseminate in the community a knowledge of the frequency and danger of color-blindness, should not be ignored. Though this infirmity, until lately but little known, may not be proven as a common cause of the fearful accidents by land and by sea, with which our daily papers teem, its probability as a misleading agent cannot be too strongly maintained.

In dermatology, our specialists have done much valuable work, the good results of which are by no means confined to their own practice. The general practitioner is now, by their researches, enabled to treat intelligently diseases of the skin which, not long since, were a source of perplexity, while want of success in their treatment, so easily recognized by the sufferers, constituted the opprobrium of the attending physician.

One of the most common of those diseases in general practice, eczema, has been demonstrated to be amenable to the persistent use of gentle remedies. Patients are no longer indiscriminately saturated with arsenic, nor scoured with drastic soaps; and though cases are constantly met with discouraging enough from their persistency, it is rarely necessary for the general practitioner to consign them to the specialists.

In other specialties, in laryngology, in otology, and the rest, similar progress has been made, and it may literally be said, in many an instance, that the blind see, the deaf hear, and the dumb speak, in consequence of the faithful labors of our specialists.

(To be continued.)

Original Articles.

DYSTOCIA CAUSED BY TONIC ANNULAR CONTRACTION OF THE UTERUS.¹

BY CHARLES P. STRONG, M.D.

Assistant Surgeon Free Hospital for Women. Physician to Out-patients, Massachusetts General Hospital.

For the case reported below with its full clinical history, I have selected this title to avoid confusion with cases of the true ring of contraction, which it closely resembles, but from which also it differs in several important particulars, namely: the persistence of the cervix complete and entire throughout the whole labor; the high position of the contraction ring in the uterus, the absence of decided thinning of the uterus below the ring. These points I shall allude to more at length, but state them here for the better understanding of the case.

Mrs. X., primipara, twenty-seven, became pregnant in the latter part of May, 1886, and was under my observation from the following summer until her confinement February 18, 1887. The months of gestation were especially free from the usual troubles, and only during the six weeks immediately preceding con-

¹ Read before the Obstetrical Society of Boston, April 9, 1887.

finement. was it necessary for her to receive attention, first, for extreme constipation (a chronic habit), and second, for neuralgia of the diaphragm and intercostal muscles of the left side. About two weeks before confinement the pain shifted to the right side and remained quite constant although not so severe, for a week, and then disappeared. Early in my examination I palpated the position as occiput left posterior. On Friday, February 18th, I saw her at noon and found irregular pains with a little show had occurred since early morning. The cervix was not taken up nor the os open. She kept about all day, and in the evening the pains became more regular, about every fifteen or twenty minutes but only lasted about a minute. The cervix was very slowly being taken up. Chloral was given with the happiest effect, and a corrosive douche 1-3000.

Saturday, February 19th. Progress was very slow but the patient rested between the pains well, and her general condition was perfect. The pains were fairly strong but short. The cervix was still very distinct, and it was not until 4 p.m. that the os opened enough to admit the finger-tip. At 9 p.m., the os was about the size of a silver quarter-of-dollar. The cervix, very little shortened, pains strong and membranes protruding into the cervix. The head bobbed about above the pelvic brim, showing no inclination to engage. This condition of affairs lasted for several hours, the os, or rather the whole cervix slowly dilating—I say the cervix, because the impression given the examining finger, was of the cervix opening without the previous process of thinning or “taking up.” About this time, too, I noticed a peculiar depression of the anterior abdominal wall, a little more marked during pains, about one-third the distance from the umbilicus to the pubes. It gave to the abdomen much the same contour as an over-distended bladder produces. I knew the bladder had not been neglected, but for certain diagnosis passed the catheter, removing only an ounce or two of urine. As the hours went by, the depression became more marked, but although the idea of a ring of contraction presented itself to me I did not think it would be visible through the abdominal walls of a rather plump patient. Another point that interested me was the high position the uterine tumor retained. The delay in the labor was perfectly accounted for by the posterior position of the occiput aided, it seemed to me, by the presence of an unusual amount of liquor amnii, so at 3 a.m., on February 20th (Sunday), I artificially ruptured the membranes after a vain attempt to induce the head to engage without this procedure. At this time the anterior fontanelle presented, the cervix was the size of a silver dollar, and apparently about as long as normally in the eighth month. Manipulation through the cervical canal was difficult, but I succeeded in flexing the head enough to have it enter the pelvis; attempts at manually stretching the cervix did not advance the progress of the head, and I feared to do much in this way lest I should irritate the muscle into a state of rigidity. A good deal of liquor dribbled away, and after a couple of hours the head came well down into the basin of the pelvis, extended and lying quite transverse. At six o'clock, three hours after rupture, the pains losing all force, I gave the patient two hours rest with ether, and made an attempt to further flex the head, unsuccessfully, there being no resistance from above and the head pressing back into the uterus. At this time I determined a

slight narrowing of the antero-posterior diameter at the brim. The cervix extended in its entire circumference from the pelvic brim well down to the perineum. I saw no reason for interfering, as both maternal and foetal condition was good. Pulse 72 and 126 respectively. At eight o'clock I removed the ether (only a few whiffs were necessary to cause perfect rest). The pains started again, and in force to promise speedy termination, but when the head reached the upper part of the perinaeum, still pushing before it the elongated, undilated cervix, they again died out, reviving at intervals of twenty minutes, short and weak, nor were they materially aided by external pressure. The head was still extended, despite constant effort at flexion by manual and postural treatment. For the first time active interference seemed demanded, and at 11.30, under ether, the cervix was dilated and forceps applied. There was considerable difficulty in locking the blades, but when once in place the exercise of sufficient force to drag the patient along the bed, failed in bringing down the head. I also tried the forceps reversed, with the same result. The difficulty seemed to exist not so much in the disproportion between the size of head and pelvis, as in *some elastic force* that retained the fetus in the uterus. Removing the forceps I found the head easily repressed and the neck encircled by the cord, which was slipped off without much difficulty. Advancing the hand into the uterus I found the lower segment flaccid and roomy; and tightly surrounding the foetal body just above the pelvis a constricting band of uterine tissue. The band seemed about three-eighths of an inch thick on its lower edge (a very approximate measure). The existence of this ring decided against further trial of forceps, as also did the fact that as soon as the cord was slipped away from the neck it prolapsed and would not stay repressed. The position was as determined before, occiput left posterior. It was not easy to get my hand above the ring, but the anterior position of the foetal abdomen was of some advantage in this manœuvre. I brought the right foot down to just inside the vulva, but could get it no lower although external manipulation was employed to the head and breech. I could not find the left foot until I followed down the left leg from the groin, because it laid between the upper detached portion of the placenta and the uterine wall, firmly wedged in. Bringing this foot down too, I completed the version rapidly, the head slipping by the ring with so distinct a snap that I thought it was the femur breaking. No trouble was experienced with the aftercoming head. Miconium had escaped freely after the first foot had been drawn down, and the child when born, was pallid, showing no signs of life. Dr. F. M. Briggs, who was assisting me, at once took charge of the child, female, six and one-half pounds, and after hard work resuscitated her. Attempts to express the placenta failed, and I was compelled to peel it from the uterus over a space about half-a-hand-breadth at its lower edge; all the rest of the placenta was free. The uterus contracted well, except on the right (on which side the placenta was attached). There was no hemorrhage nor any perineal tear.

The history of convalescence was uneventful. At no time was the temperature above normal, 99°. The peculiar uncontracted condition of the uterus on the right persisted until the fifth day, and then the normal oval shape was assumed. The baby had a bloody va-

ginal discharge from the second to the sixth day, at times quite profuse. A thorough examination of the patient at the end of the fourth week showed no laceration of the cervix or perineum, and an involuted uterus. The antiseptic precautions used were those suggested by Dr. Wm. L. Richardson in his paper before this Society, and included a thorough washing out of the uterus at the close of all the intra-uterine manipulations with a hot corrosive sublimate solution, 1-2000, followed by a douche of boiled water.

The points that clinically renders this case of especial value, and in which it differs from any other that I have found recorded, is the evident persistence of the cervix as an independent portion of the uterus throughout labor. The ring of contraction in this case certainly could not have been formed from the os internum, because the cervix dilated *en bloc*, as it were, never thinning out or retracting. Also, there was not, as is usually noted, a prominent caput succedaneum, but the head showed rather the absence of a strong propelling force, and this is entirely in accord with the condition as I found it under ether, that is, paralysis of the muscular structures below the ring of contraction, so that, even during a pain, the cervix could be readily stretched, and the lower portion of the uterus exerted no pressure upon the hand, which, above the ring, was firmly grasped; nor did the walls mould themselves closely about the fœtus, that is, the only expulsive force was in the small portion of the uterus which lay above the ring of contraction.

I did not recognize that marked attenuation of the lower uterine segment, which must have existed had this annular contraction been the usual ring of contraction, formed by shortening and thickening of the longitudinal fibres. Another point that impressed itself upon me was that, at the end of a pain, the head, even after it had entered the pelvis, receded as though snapped back by an *elastic force*, and the uterus immediately resumed its high position. In fact, I could observe no descent of the fundus during the labor. The abdominal depression has often been observed, but this fact, as a fact, had slipped from my memory, so I did not, perhaps, assign to it its proper diagnostic value.

I have ventured to separate from the mass of clinical details these especial points, and so isolate them into prominence, for I believe them to be in a measure diagnostic of a most dangerous complication of labor. The more dangerous because the fatal termination comes suddenly, with no warning, and where all seems well, except that progress is slow. I think, in this case, my patient was in danger perhaps several hours, while I, feeling that ineffectual pains, the usual accompaniment of a posterior position, had wearied the uterus, waited until after a good rest, strong expulsive pains should start up and terminate the labor. I interfered finally, not from any sign of exhaustion, maternal or fœtal, but because the head having partially engaged, and making no advance, I wished to avoid too long-continued pressure. Perhaps, in another case, if the labor were tedious, I should sooner introduce my hand for exploration, but I cannot see at what time I could have been certain that I was dealing with a worse complication than inertia uteri and a posterior position of the occiput.

With regard to treatment, I propose to say but one word. There is the choice between forceps, version, or laparotomy, for I cannot think that a case of tonic annular contraction can terminate favorably, unaided.

I differ, perhaps, from most in that I should make a decided effort to employ the forceps before resorting to version, unless I found a decidedly narrow pelvis or a rigid cervix, either of which conditions, by increasing the resistance, would favor rupture of the uterus. I should elect forceps because it appears that it must be easier to drag the fetal body through the constricting ring than to double that same body upon itself, and thus force it through by version. In performing version, bring *both* feet down before attempting to turn, otherwise a foot or knee hitching above the ring may defeat all efforts. The question as to the limits within which version is safe must be decided in each individual case. In the case reported, the lower portion of the uterus not being as thinned as in those cases where it is formed from the dilated cervical portion, I think version was a fairly safe procedure; but in the thin, paper-walled uterus of the true ring of contraction, if a gentle attempt at version fails, I decidedly favor Cæsarian section.

A FEW STATISTICS ON THE COMPARATIVE FREQUENCY OF THE CHANCROID.¹

BY F. B. GREENOUGH, M.D.

THE portrait of the chancroid, as given by the textbooks, is certainly clear, concise, and clean cut, such as would lead one to suppose that there would be no difficulty in recognizing a typical case of this lesion. An ulcer, starting as a pustule, appearing always in a few days, as the result of contagion from a similar one, having decided* and well-marked characteristics as to its base and edges, with a tendency to affect the lymphatic glands in its vicinity, and capable, in its turn, of reproducing itself by contagion, is certainly very different from any other cutaneous lesion.

In spite of this individuality, the very different results given by the statistics of different observers as to its comparative frequency, would seem to show that they cannot have used the same rules in their classification of venereal lesions. Through all this diversity of statistics, however, a pretty constant regularity is to be found in two directions: first, that since the time following the period, which Bumstead has so appropriately called that of confusion, in venereal disease, when the chancroid began to be accepted as distinct from the true syphilitic chancre, there has been a steady diminution in its comparative frequency; and second, that it is found to occur much oftener in hospital or public practice than in private; in other words, that the lower classes are more subject to its contagion than the upper ones.

A marked exception to the first statement is, however, noted and exhaustively treated of by Mauriac, when, at two different periods, in 1870 and 1871, the chancroid increased in a most extraordinary manner for a time in Paris. The early statistics on this subject give, out of 341 venereal ulcers observed at the Midi, 215 chancroids, in a period of three months. M. Puche collated all cases at the same hospital from 1840 to 1850, getting a total of 10,000, the ratio being nearly 4 to 1 in favor of the chancroids, that is, 8,045 to 1,955. These figures are taken from an early edition of Bumstead's admirable work, in which it is also stated that the French observers have found that

¹ Read before the Association of Genito-Urinary Surgeons, at its first annual meeting, May 17 and 18, 1887.

in private practice this ratio is reversed, that is, that the true syphilitic chancre occurs more frequently than the chaneroid. In a table drawn up by Fournier, the proportion given is: chaneroids, 82; syphilitic chancres, 252; ratio, one-third. Fournier's explanation of this difference is that men of the lower classes frequent old prostitutes, who, being syphilized, are protected from another attack, whereas they are liable to an indefinite number of chaneroidal contagions.

This explanation would be perfectly satisfactory were the primary lesion the only source of syphilitic contagion in a woman, but inasmuch as the secondary manifestations, such as mucous patches, broken-down papules, etc., are equally so, it is hardly conclusive.

From my own experience, and judging from the comparatively few cases in which I have been able to examine a suspected woman, I should say that the cases where a man was infected from a primary lesion were very rare, and that in the great majority of cases the source of the contagion was some constitutional manifestation, of the existence of which the woman often was unaware. That this difference in ratio exists between hospital and private practice is shown by several of the best French syphilographers' statistics. Is it not possible that many cases may apply for treatment as out-patients on the first appearance of a venereal sore, which looks like a chaneroid, and is entered on the books as such, but which, if kept sight of and watched, as would be the case in private practice, would be found, in the course of time, to develop induration, inguinal reaction, etc., and turn out to be a case of syphilitic infection? That a large proportion of the cases from which the statistics are derived in Paris are only seen as out-patients, is shown by Mauriac's tabulation of his cases at the Midi, during the year 1880, from which it appears that, out of 969 cases of chaneroid without buboes which were seen, 80 were admitted into the hospital, and 889 were "consultants." To return to the comparative frequency, it can be said that all the earlier statistics give to the chaneroid a very decided preponderance numerically over the true chancre. Bassereau placing the proportion during 1837-1838, in Ricord's service, as high as 30 to 1. Later observers have universally noted a change in this respect. The edition of Bumstead and Taylor of 1879, which gives a very complete *résumé* of the literature of the subject up to that date, gives the ratio of the chaneroid to the true chancre, during the years 1869 and 1870, as nearly two of the latter to one of the former.

Mauriac, in his "Maladies Vénériennes," 1883, treats this subject most thoroughly, and, without going into details, it may be said that there was a gradual diminution in the frequency of cases of chaneroid, relatively to those of the true chancre, up to 1870-71, during which year the ratio of 9 to 1 was reached. From 1871 to 1875, the relative frequency of the chaneroid decreased, its ratio being in that year as low as 1 to 10. This ratio increased again from that period up to 1880, when it was a little over 1½ to 1. These two rises in the ratio, that is, in 1870-71, and after 1875, are considered by Mauriac to be due—the first to the Franco-German War, the Commune, and sieges of Paris, and the consequent license; and the second to the great influx of workmen to prepare for, and strangers to visit, the Exposition in 1878. His explanation of the steady tendency of the ratio to decline when no such disturbing factors exist, will be re-

ferred to later. The first series of statistics of my own that I have to give are, in certain respects, very unsatisfactory. They are taken from the case-books of my service in the Department for Skin and Venereal Diseases at the Boston Dispensary, starting from July 1, 1873. Having carried them up to March 1st of the present year, they cover a period of thirteen years and nine months. The entries in the books give the name, age, sex, residence, and diagnosis of the case on the date of the patient's first applying for treatment. Future developments are not recorded, as a rule, although there is a space of about two inches on one line, under the heading of "Remarks," which can be utilized in any case which is especially interesting or important.

The system of classification which I have adopted for lesions supposed to be the result of venereal contagion, is to enter as chaneroids those cases which show typical chaneroidal character, and as primary lesions, or indurated chancre, those that evidently belong in that category. The quite large number of cases, which, when first seen, are doubtful in their nature, are entered as chancres. Besides these three classes, my records show that a certain number of patients came for advice, supposing that they had contracted venereal disease, who had herpes progenitalis. These Dispensary statistics, therefore, will not give the proportion of cases of chaneroid to those of true chancre seen, but will show that out of so many cases of venereal sores, a certain number were chaneroids. Inasmuch as a case would be put down in the doubtful class, because there was something about it which pointed to the possibility of its turning out to be a true chancre, the chances are that the great majority of these doubtful cases did, in time, develop into such, and I am convinced that such has been the case, but it is only a conviction, not backed up by evidence. Again, some of the cases entered as chaneroids, later developed induration, inguinal adenopathy, and were followed by secondary symptoms. The ratio, as given by my table, between the chaneroid and other lesions, is probably not very different from what it would be between the chaneroid and true chancre, had it been possible to follow up each case until its character was pronounced.

CASES OF VENEREAL SORES SEEN AT THE BOSTON DISPENSARY, FROM JULY 1, 1873, TO MARCH 31, 1887. SERVICE OF F. B. GREENOUGH, M.D.

YEAR.	Chaneroids	Doubtful	Indurated Chancre	Herpes Progenitalis	Total	Ratio of Chaneroids to total
1st. July 1, 1873 to June 30, 1874	7	41	3	5	56	1:8
2d. July 1, 1874 to June 30, 1875	11	48	5	0	64	+1:6
3d. July 1, 1875 to June 30, 1876	2	49	8	0	59	-1:28
4th. July 1, 1876 to June 30, 1877	41	65	14	0	120	+1:3
5th. July 1, 1877 to June 30, 1878	57	61	15	1	134	-1:2
6th. July 1, 1878 to June 30, 1879	21	41	7	0	69	-1:3
7th. July 1, 1879 to June 30, 1880	37	47	14	1	99	+1:3
8th. July 1, 1880 to June 30, 1881	45	74	14	5	138	-1:3
9th. July 1, 1881 to June 30, 1882	48	75	11	4	138	+1:3
10th. July 1, 1882 to June 30, 1883	37	76	15	5	133	-1:3
11th. July 1, 1883 to June 30, 1884	22	93	26	10	151	+1:7
12th. July 1, 1884 to June 30, 1885	24	125	34	13	196	-1:8
13th. July 1, 1885 to June 30, 1886	14	83	43	6	146	-1:10
14th. July 1, 1886 to March 31, 1887	25	53	10	2	90	+1:4
Total	391	931	219	52	1593	-1:4

The absence of something corresponding to my

paratively benign, the lesions of the nervous system are much more frequent than formerly, especially during the early stages of the disease. We must either admit that these nervous lesions have increased in frequency, or else assume that the older writers did not recognize them, and it hardly seems possible to suppose that such close observers could see young patients showing cerebral or spinal symptoms, during an attack of syphilis, as often as we do, without connecting the two together. Apart from the question of possibility of change in type in the chancreoid, what other reasons are there for its less frequent occurrence? The extreme predominance numerically, given to it in the earliest statistics, might be perhaps explained by the fact that it had just been discovered, so to speak, and that Ricord's and Bâssereau's writings called attention to the fact that there was such a lesion as a local, non-syphilitic sore, and consequently everybody was anxious to avail themselves of the new doctrine. In other words, for a certain time, chancreoids were the fashion in the medical world, and very possibly every lesion that did not show marked induration and glandular enlargement in both groins, was recorded as such. Inasmuch as the earlier syphilographers make no mention of herpes progenitalis, and as their treatment was to cauterize all suspected lesions following exposure, it is more than probable that at that time, many crops of herpetic efflorescences may have been diagnosed as chancreoids. There is another, not very uncommon lesion, which may have been mistaken for a chancreoid, as is not unfrequently done at the present time. I refer to an inflamed sebaceous follicle, on the shaft of the penis, which begins as a pustule with an inflammatory areola, and which when the pustule is destroyed leaves a circular, punched-out looking ulcer, which will only require one or two applications of some strong caustic to make it a very good copy of a chancreoid.

There can be no stronger proof that some modification must have taken place in the chancreoid, a lesion which as described, is one most essentially *sui generis*, than the fact that some of our most distinguished syphilographers have gone so far as to deny its individuality, or at least to claim, that a lesion which is identical with it, may result from immediate contagion from, or artificial inoculation with, any pus resulting from inflammatory action.

That pus inoculated will produce a pustule, has been proved, but that healthy, non-septic pus brought in contact with the cutis or a mucous membrane can cause an ulcer resembling the chancreoid, has not, at least in my opinion. When we think of the enormous number of cases where inflammatory pus is brought in contact with the skin of the patient suffering from the inflammation, as in cases of amputation, operations for tumors, abscesses, in short, all surgical operations that do not heal by first intention, in which nothing like a chancreoid is found, and then remember what every practitioner who sees venereal disease must have observed, namely, cases where somewhere in a circular line, drawn on the lower abdomen and inner part of the thighs, a circle of which the penis is the radius, a chancreoid is seen as the result of auto-inoculation from chancreoid pus flowing from the orifice of the prepuce, we must admit that the chancreoid is a fact, even if not as frequently seen as formerly.

There is one form of venereal lesion of which I have seen a great many examples, to which I

want to refer in this connection, and that is what has been very thoroughly described as the ulcer exulcerans, or elevatum. The reason that I do refer to it, is, that I have often been in doubt as to its nature, that is, as to whether it belonged to the chancreoids, or true chancres, and have thought that it suggested the "mixed chancre" of Diday. The lesions I refer to are always multiple, situated on the free margin of a long prepuce, suggesting inoculation from a sub-preputial sore, or auto-inoculation from each other, or both. They are not larger, as a rule, than a small pea, raised above the niveau, ulcerated on their summit, with the base of the ulceration like that of a chancreoid. They usually are situated in a fold or wrinkle of the free margin of the prepuce, which fold when the prepuce is retracted as far as the usually accompanying phymosis will allow, is reproduced in the lesion as a split. They do not show any marked induration, but evidence of an indurated sore is apt to be obtained under the prepuce. They are always most obstinate against treatment, although they do not show any decided tendency to increase in size. They almost invariably are followed by secondary symptoms. In the few cases in which I have experimentally used specific constitutional treatment, the duration of the lesion has been somewhat, but not markedly shortened.

In cases where we get evidence of an indurated chancre under the prepuce, of course the consequent secondary symptoms are explained, but what is the nature of the raised lesions at the preputial orifice? Their situation is exactly that which would suggest auto-inoculation, namely, in the folds where the sub-preputial secretions would be retained, and also their position with regard to each other is very suggestive, as they are very apt to be found in pairs which come together in exact apposition. Their situation at the preputial orifice also would suggest the possibility of the daily irritation during the act of micturition, having something to do with their obstinacy against treatment, and also, perhaps, having some influence on their peculiar raised character. Certainly I have never seen typical specimens of the lesion I refer to, except in this locality, although something like them is seen at times as a single lesion, in the sulcus, or on the reflected prepuce. I must confess that I have at times in these cases been tempted to make an exception, and try the use of destructive cauterization, but the fact that an already troublesome inflammatory phymosis would be decidedly aggravated, has deterred me from so doing.

There is one other respect in which I think the chancreoid of the present day differs from that of the past, and that is in its being complicated by a suppurating, or virulent bubo. I will not take time to go into statistics of the past, as I have none of my own to offer, except to quote from Rollet's service at Lyons, where out of 140 cases, 60, or 1 to 2½ had virulent buboes. The fact, however, that chancreoids were liable to have this complication, has been universally admitted, in fact it has been made one of the important diagnostic points. Without having any evidence to fall back upon, I should say that in my experience virulent adenitis was not more frequently seen with the chancreoid, than with the true chancre, and I cannot help thinking that this is due in a measure to the fact that irritating the lesion by caustics is at the present time not usually practised. This is, of course, only my opinion, but I have seen some cases

where an acute adenitis followed at once on the use of caustics.

There are, of course, many points of interest with regard to this subject that I have not even touched; all I have attempted to do has been to lay before you some statistics which I had, with a few suggestions resulting from my observation of the cases. These statistics would go to show, what others on the same subject do, that the chancreoid is decidedly less frequent at present, than it was formerly; and in addition to the reasons I have given that may have had an influence on that change, I must say, in conclusion, that I believe chancreoids are less frequent because we have in a great measure ceased manufacturing them, by cauterizing every sore that is not a typical primary lesion.

ABSCESS OF THE KIDNEY FROM OBSTRUCTION TO A URETER.¹

BY JOHN G. BLAKE, M.D.,
Visiting Physician, Boston City Hospital.

MR. B. S., thirty-five years old, first came under treatment five years ago for irritation of the bladder, and symptoms suggesting stone. Pain in the region of the left kidney was constant, but not of such a severe character as to draw attention away from the bladder, which seemed to be the seat of the severest pain. The urine, at this time, was examined frequently, and showed the ordinary conditions found in cystitis: pus, some blood, epithelial scales, and mucus. The treatment was directed chiefly to the bladder, and the existence of a renal abscess was not suspected. In three weeks after beginning the treatment, a quantity of dark-green pus, resembling chewed grass, was found in the vessel, mixed with urine, the quantity of pus being estimated at ten ounces. After a few days, the pain in the side subsided, but the vesical irritation continued without much relief. Permission for an examination under ether was at last obtained, and the bladder carefully sounded, but no stone could be detected. The general condition, however, improved a good deal, and he passed from under my care to resume business.

Six months after I received a note from him, inviting me to call at the Massachusetts General Hospital. He had been again under treatment, and had been examined by Dr. Bigelow, who found a stone, crushed, and removed it. It may here be stated that, three years before this, the patient was attended by a member of this Society, for what proved to be an abscess of the kidney, which ran its course without giving rise to severe constitutional symptoms. At least, this was the patient's statement.

The present attack began February 20, 1887. Since the termination of the illness attending the removal of the stone, Mr. B. had been quite well, and attending to business that necessitated much railroad travel. It was to exposure to cold during one of his frequent trips, that he attributed his last illness. Pain in the side, extending down toward the groin, and resembling that of an attack of gravel, was the first symptom. Local treatment relieved this somewhat, but never wholly. The urine showed no sign of either gravel or pus. Day after day, the pain continued, with a ris-

ing temperature and pulse, and constantly requiring the free use of morphine subcutaneously. On the seventh day he had a chill. There was no doubt about the diagnosis, and the treatment aimed at saving strength and pain until the abscess should evacuate through the ureter and bladder, as it had done twice before. After twelve days, the symptoms began to look more serious, and surgical counsel was sought, with a view to interference, if it were deemed advisable. Dr. Gay examined the case, but decided not to operate, the external evidences of the presence of pus, and the uncertainty of the result making this course, in his opinion, the safest. The favorable termination of the previous attacks justified this conclusion, and held out reasonable hope of a spontaneous cure.

The following day, severe pain, extending toward the nipple, and attended by difficult and gasping breathing, was complained of. It was evident that inflammatory action was progressing upward, and percussion and auscultation gave signs of lung invasion and effusion. From this time, the patient began to sink rapidly. Dr. Cabot saw him next morning, but too late to attempt an operation, even if it had been considered advisable. He died in the afternoon. This is the outline of the case in brief, omitting all details, which are not of necessity. It is reported chiefly for the purpose of bringing before the Society the subject of surgery of the kidney, and the question of operation in cases of like character. It was of special interest to me from the fact that I had, at the same time, two cases of chronic pyelitis under my care at the City Hospital, which did not improve under medical treatment.

As the autopsy showed, there was no possibility of a successful operation in the case. At the same time, the conditions found were of such an unusual character as to be seldom met with. I shall not presume to discuss the surgical aspect, leaving that to others better qualified, but shall be glad to hear the sense of the Society on the general question, as a guide for the future. It may not be out of place to state that the subject of the removal of the kidney was discussed with the patient and his relatives during the early stages of the disease, and would have been agreed to had the present attack terminated favorably. The obstruction of the ureter, found at the autopsy, was suspected as the probable cause of the abscess not emptying, but could not be demonstrated during life. The uncertainty of the duration of the abscess of the kidney before finding an outlet into the surrounding parts, together with the poor success generally attending surgical interference, were considered additional reasons for not operating.

So far as I can learn from conversation with surgeons, the surgical treatment for abscess and kindred affections of the kidney, and the removal of that organ, have not been attended with a degree of success, in this community, which would encourage such methods. Still, these operations have very frequently been performed successfully in other places, and I am not willing to admit that we are wanting either in the skill or the means to obtain equally good results. Larger experience in this, as in other fields, will undoubtedly lead to improved results; and, although the cases are comparatively rare, a sufficient number will come to us to furnish an improvement in statistics, and to stimulate us to more frequent operations.

¹ Read at the Boston Society for Medical Improvement, April 25, 1887.

RECORD OF AUTOPSY,

by Dr. W. W. Gannett, March 11, 1887, 10.30 A. M.

Body medium size, well developed, considerably emaciated.

The pericardium contained about 30 cc. slightly cloudy fluid. Both pericardial surfaces covered with a thin, recent, fibrinous false membrane.

The heart showed nothing remarkable as to size, valves, cavities, or muscular substance. The left pleural cavity contained, by estimate, two litres of pus, having a very marked odor of sulphuretted hydrogen. Both pleural surfaces of the left side covered by thick, grayish, shreddy, fibrinous false membranes. The left lung was about the size of the double fist, dense, non-aerated, showing, on section, a dark-red, flesh-like appearance. The right pleural cavity and right lung not remarkable.

Spleen showed nothing unusual.

The urinary tract showed the following appearances: For a distance of one cm. (half-an-inch) above the bladder, the left ureter was of the normal size. Just above this point, was firmly impacted an oblong calculus, about the size of a plum. The ureter, at this point and upwards to the pelvis of the left kidney, was represented by a slightly tortuous tube, three cm. (one-and-one-fourth inches) in diameter. (The ureter, when opened and flattened, measured nine cm. transversely.) This was distended with thin pus. The pelvis of the left kidney was represented by a sac, the size of the fist, distended with thin pus. On section of the left kidney, the calyces were found to be much enlarged, there remaining a layer of renal substance not more than 1.5 cm. in width. The mucosa of calyces showed several grayish-black, circumscribed, shreddy areas, where there was a loss of substance.

In the upper portion of the kidney was a fistulous track, extending from one of the dilated calyces, through the renal substance, to a cavity outside the kidney, to be presently described. The fistula had a diameter of two or three millimeters (one-eighth-inch), the edges being softened, grayish, shreddy, renal tissue. Behind the upper half of the left kidney, occupying the situation of the perinephritic tissue, was a cavity, the size of the fist, with grayish-black, shreddy walls, and filled with a foul-smelling pus. Extending from this cavity upward, through an opening in the cavity, the pus had infiltrated the connective tissue lying to the left of the vertebral column, behind the stomach and pancreas, and reaching the diaphragm. At a point in the diaphragm, a little to the left of the median line, in the posterior third, the tissue was softened, thinned, ragged, with an opening large enough to admit the tip of the little finger. This served as a direct communication between the abscess-cavity below, and the pleural-cavity above.

There was nowhere evidence of peritonitis.

The bladder and right ureter showed no abnormal appearances.

The right kidney was enlarged about one-third, showing, on section, the usual ratio between cortical and pyramidal portions. The renal substance not remarkable.

The gastro-intestinal tract, liver, and aorta showed no appearances worthy of especial note.

Diagnosis. Acute fibrinous pericarditis; acute gangrenous pleurisy, with purulent exudation; carnification of left lung; hydro-pyo-nephrosis; circumscribed

necrosis of left kidney, with fistula; calculus in left ureter; dilatation of left ureter; suppurative perinephritis; suppurative inflammation of tissues along vertebral column; circumscribed necrosis of diaphragm, with perforation; compensatory hypertrophy of right kidney.

Sequence of events, as shown by the autopsy. Obstruction of left ureter by a calculus, leading to dilatation of ureter above, and pelvis of kidney and calyces, with atrophy of kidney; suppurative process in pelvis of kidney; necrosis of mucosa of calyces and of kidney, leading to perforation of kidney and discharge of pus into perinephritic tissue; perinephritic abscess; extension upwards to diaphragm; perforation of diaphragm; gangrenous pleurisy; death.

Clinical Memorandum.

TRANSMISSION OF SCARLATINA BY DISINFECTED CLOTHING.

BY JAMES B. FIELD, M.D., LOWELL, MASS.

ON February 3d, Winnie W., aged ten, was taken sick with scarlatina. For many weeks previous there had been no cases of scarlatina in the section of the city in which she resided, and but few cases in the entire city.

On February 5th, 6th, and 8th, three younger sisters were attacked with the disease, taking it, in all probability, from the same source as did Winnie.

The fifth and remaining daughter was severely sick with scarlatina a year ago while in another city. Upon the cessation of desquamation her clothing and that of her mother were thoroughly disinfected, under a physician's direction, by exposure to sulphur fumes and by prolonged boiling.

The trunk containing this clothing arrived in Lowell ten days before Winnie, the patient first mentioned, was taken sick. Upon opening the trunk all the children played with the clothing, dressing up in their mother's and sister's garments.

Although some unrecognized source of contagion is possible, the fact that four children were taken sick with scarlatina at intervals of from ten to fifteen days after exposure to this disinfected clothing, would seem to show that the ordinary methods of disinfection are not always safeguards against contagion.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

APRIL 9, 1887, the President, Dr. WILLIAM L. RICHARDSON, in the chair.

Dr. C. P. STRONG read a paper on

DYSTOCIA CAUSED BY TONIC ANNULAR CONTRACTION OF THE UTERUS.¹

Dr. EDWARD REYNOLDS, present by invitation, asked if a distinction should not be made between the cases in which a spasmodic annular or hour-glass

¹ See page 513 of this number of the Journal.

constriction occurred, and those in which the true contraction ring of Bandl was found. The one being due to an excessive action of the circular fibres in some one zone of the uterus, and, therefore, having necessarily a tendency to clasp the uterine contents as a constricting ring; while the other is formed by the retraction of the upper uterine segment and its consequent excess of thickness over the lower segment, is entirely independent of the circular fibres, and, in its most typical form has no tendency to annular constriction.

DR. GREEN said that normally the foetal head in first pregnancies should descend and occupy the true pelvis in the last week or ten days of gestation. When this descent does not take place, the reason is usually to be found in some pelvic and cranial disproportion, however slight, or in an unfavorable foetal position. When the occiput is posterior the head often fails to descend before labor begins, owing to the fact that the biparietal diameter does not readily pass through that chord of the pelvis which subtends the sacro-iliac arch, this chord being less than either of the oblique diameters through which the biparietal passes in anterior positions. When, therefore, in first labors the head is not found in the pelvis, he believed that the cause of the non-descent should be early sought for and appropriate treatment decided upon before long-continued and futile efforts of the uterus have resulted in a condition of inertia or in the formation of a firm "contraction-ring" with corresponding thinning of the lower uterine segment, which latter condition makes subsequent operative procedures more difficult and dangerous.

When the position of the occiput is anterior, unless the relative disproportion is more than slight, the force of the uterine contractions is usually sufficient to drive the well-flexed head into the pelvis; but in occipito-posterior positions, owing to the reason above alluded to, proper engagement and descent often do not take place: either the head rests on the superior strait in a condition of non-flexion and no progress is made, or the head becomes extended, the brow dips down into the pelvis, giving the appearance of progress, while, however, the larger diameters of the head remain above the brim. In this state of affairs, unless the relative disproportion is more than slight, he would endeavor, with one hand in the vagina and the other on the mother's abdomen, to change the foetus into an anterior position; then, if successful in the manœuvre, would rupture the membranes, give the uterus time to drive the head into pelvis, and then if necessary deliver with forceps. If, on the other hand, this change of position should prove impossible, or if the pelvic contraction is marked, he would perform podalic version early, while this operation is easy and safe.

If, unfortunately, the case is seen late, after a well-marked "contraction-ring" has formed, version is often a difficult and hazardous operation, and the high forceps operation is scarcely less so: under these circumstances each case must be considered by itself, whether either version or forceps is justifiable, or whether craniotomy should not be performed in the interest of the mother. If the child is dead, the decision of this question is easy.

When after long and futile efforts the uterus has passed into a tonic state and the contraction-ring tightly grasps the foetus, the difficulties and dangers are greatly increased; and it is wise to resort to

surgical anæsthesia, sufficiently prolonged to relax the spasmodic condition of the uterus, before undertaking any operative measure. The speaker's experience with the difficulties of this class of cases had led him to believe strongly in early interference when in primiparæ the head had not engaged before the advent of labor, and in multiparæ when a few hours of good pains did not drive the head out the pelvis.

DR. EDWARD REYNOLDS reported, by invitation, the following

CASE OF PLACENTA PRÆVIA.

I delivered yesterday a case of placenta prævia which may be of interest to the Society.

The patient was a primipara and was within a few days of the expected date of delivery, when on rising from bed at 7 A. M. yesterday she found herself flowing; the hæmorrhage lasted some minutes and was described as profuse. Though it left her faint and dizzy, she still kept about on her feet, but fortunately sent at once for medical aid. Her attendant arrived just as she was attacked by a second hæmorrhage, in which she lost about 8-10 $\frac{1}{2}$ of blood. He at once put her to bed and the hæmorrhage soon stopped, a mere trickle of blood continuing to escape from the vagina.

I was then sent for, and arrived at 9.45 A. M., when her condition was as follows: Labor pains present, weak but regular. Position O. R. A. Foetal heart not heard. Os about the size of a five-cent piece, soft, and completely covered by the placenta, which was implanted to the left, but extended on the right to about an inch beyond the margin of the os. A slight but steady hæmorrhage was going on. The pulse, though weak, was only 96, but the lips were blanched, the respiration was quick and sighing, and the patient was restless and uneasy.

As nothing was in readiness for an operation and as she was still losing some blood, I tamponed her while the necessary preparations were being made.

At 10 A. M. she was etherized and the tampon removed; by this time she was noticeably weaker and was jactitating, though, so far as could be seen, no further loss of blood had occurred. The os had enlarged to about the size of a twenty-five-cent piece, and was so soft, that after separating the placenta for about an inch beyond its margin, it was dilated manually in about five minutes, to a size which permitted the passage of the hand. A foot lay just above the os and the child was turned with extreme ease. The separated portion of the placenta was now prolapsed through the cervix and with the half-breech was tightly clasped by it. A finger passed along the child's belly found the cord pulseless (the heart had not been heard) and as all hæmorrhage had now ceased, I decided to wait for further dilatation before delivering.

The patient was allowed to recover partly from her ether, and the pains returned. For twenty minutes the pulse was carefully watched and the breech kept closely applied to the lower uterine segment by gentle steady traction on the foot. Then the os having become fully dilated, the ether was again carried to surgical anæsthesia, and a female child was slowly extracted. No hæmorrhage followed, but though the uterus was very firmly contracted, efforts at expression by Crêdè's method failed to dislodge the placenta, though steadily persisted in for five minutes, when, fearing that hæmorrhage might occur, I introduced

the hand and was surprised to find that the upper part of the placenta was so firmly adherent that it was separated with great difficulty, several pieces tearing away and rendering it necessary to re-introduce the hand several times before the last shreds could be detached. About one-third of the placenta was detached, one-third normal, and one-third adherent.

During delivery the pulse never exceeded 120, there was no post-partum hæmorrhage, and on recovery from the ether it fell to 104. Half an hour later it was unchanged, and I left the woman conscious and in very fair condition. All went well for two hours, when a severe collapse occurred and I was again called. For some minutes the pulse had been very rapid and almost imperceptible, but the uterus had never relaxed, no hæmorrhage had taken place, and a reaction had set in before my arrival. Under the free use of stimulants she rapidly improved, and when I last saw her, an hour ago, was in very good condition.²

In the management of the case, the policy of version through an imperfectly dilated os, and subsequent slow extraction was chosen, because, as the child was dead, and the mother so much exhausted that any further loss of blood, whether ante-partum or post-partum and however slight, was of grave importance; it seemed to be the wisest course to turn at the earliest possible moment, without attempting complete dilatation, and then to delay long enough to permit dilatation and retraction to occur naturally before emptying the uterus; in the fear that rapid evacuation might bring on a perhaps fatal post-partum hæmorrhage or collapse.

DR. SINCLAIR said he disbelieved in emptying any uterus too rapidly: there was less likely to be post-partum hæmorrhage by delivering slowly.

DR. E. REYNOLDS said that he adopted this policy of slow extraction after version; first, because it has been highly recommended by high authorities in Germany for all serious cases of placenta prævia, even during the life of the child; and, secondly, because both the dicta of authority and his own observations have led him to believe that rapid evacuation of the uterus, not only favors post-partum hæmorrhage, but is in itself an efficient cause of immediate surgical shock, and that it was therefore a thing to be avoided in a case where the child was dead and the mother already much collapsed, provided that the danger of further ante-partum hæmorrhage was carefully guarded against by steady, gentle traction upon the foot, and by keeping a close watch upon the pulse. The result was certainly most happy in this case.

— A free dispensary has been established in a central location at Newport, R. I., through the efforts of the Guild of St. Luke, a society of medical gentlemen and clergymen, founded about a year ago.

— The uncomfortable habit which prevails in some half-civilized countries of making the doctor swallow his own medicine, to prove that it is innocuous, received a most tragic illustration recently in the Argentine Republic, where a physician was murdered by peasants because he refused to drink from a bottle of carbolic acid, which he used for purposes of disinfection.

² The further history of the case has been that of rapid and complete recovery.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 25, 1887. The President, DR. O. F. WADSWORTH, in the chair.

DR. JOHN G. BLAKE read a paper upon
ABSCESS OF THE KIDNEY FROM OBSTRUCTION TO A URETER,¹

and showed the specimen from the case upon which it was based.

DR. A. T. CABOT said that the position of the calculus so deep in the pelvis, and its firm impaction in the ureter, would have made its removal through a lumbar incision practically impossible, even could it have been detected.

Possibly earlier in the history of the case it would have been found nearer the pelvis of the kidney, and might then have been successfully removed. It also could not have been reached from the side of the bladder. The speaker had operated on three cases of obstructed ureter. The first patient was a boy with hydronephrosis in which the sac was drained, and he got entirely well.

The second was a young man with long-standing disease of the urinary tract, whose urine contained a large quantity of pus. One kidney swelled up, and an opening was made into what was thought to be the pelvis, and considerable pus was evacuated, with some relief. He lived some months, and when he finally died an examination showed that the cavity which had been drained was a tuberculous abscess of the cortex of the kidney.

The third patient was a young woman with a tumor in the left side of the abdomen, which could be moved from the edge of the pelvis to beneath the ribs. Her urine contained pus intermittently, and the diagnosis of pyonephrosis of a movable kidney was made.

An incision was made in the loin, the kidney was secured to the edges of the wound and then incised; a considerable quantity of pus being evacuated. The cavity steadily closed and the amount of pus diminished until it almost wholly ceased. The opening had so nearly closed that a probe would only enter for half an inch, and she was allowed to leave the hospital, but soon returned with a fresh access of inflammation, the result apparently of want of cleanliness. The sinus after this did not show any tendency to heal.

Several months later she was again seen with commencing Pott's disease for which a brace was fitted. When last seen she was looking well, but the sinus was still discharging.

The appearance of spinal caries in this case suggested the idea that the kidney might also be tuberculous.

DR. E. S. WOOD said that it is by no means uncommon for the pain of pyelitis to be referred to the bladder.

DR. JOHN HOMANS said that his experience in operations upon the kidneys has been limited and fatal. He then proceeded to give the history of his cases. One was a feeble woman who had been suffering for six or seven years from a renal abscess. An incision was made into the abscess, anteriorly through the peritoneum, several calculi were removed and the wound was drained. She improved for a time but finally died. No autopsy was allowed.

¹ See page 549 of the Journal.

His next case was a renal tumor which was sometimes small and sometimes large, according as pus was present in the wound in large quantities, or was absent. He was at first unable to make a diagnosis, and as the patient did not get better, sent her to the Massachusetts General Hospital, where he cut down in the loin upon the kidney, giving exit to a pint or more of green pus mixed with much mucous. The patient was taken home by her friends in a few days, thereby hastening the fatal result, which was probably inevitable.

Another case was one of very painful cystitis and pyelitis, sent to him by Dr. Baker, who had previously opened the floor of the bladder without much benefit. Pus evidently existed in the right kidney, and Dr. Homans incised and drained it, with much relief. There were no calculi. Death followed in four or five months.

He had extirpated a sarcomatous kidney, but suppression of urine occurred in the other kidney, and the patient died in forty-eight hours, not having secreted more than an ounce of urine after the operation. Another large suppurating kidney, supposed to be sarcomatous, he had also removed. This case was likewise followed by suppression of urine and death.

DR. E. H. BRADFORD said that he had had but little experience in the surgery of the kidney. He had operated upon a child with hydronephrosis, in which case an exact diagnosis had not been made. There was a cyst of the kidney or of the kidney and ureter. He had made an incision into the cavity and washed it out. The wound healed without suppuration. He had also operated twice upon adults. The first case was of surgical interest. There was a tubercular abscess of the kidney in a man of thirty-five. This was incised without difficulty and the symptoms were relieved, but the patient died in a few weeks. He had had hip disease as a child, but had recovered. Autopsy showed acetabular disease and an abscess cavity, but the pelvis had apparently recovered. A large indurated mass extended from the acetabulum to near the kidney. The kidney was tuberculous with the tissues about it inflamed. The peritoneum was also inflamed.

The other case was somewhat like one of those of Dr. Homans. He had drained the bladder and afterward opened the kidney. The patient died in four months.

There had been a few other cases at the City Hospital. Dr. Burrell had operated successfully for a calculus in the pelvis of the kidney. The calculus was not found, but the patient recovered. Dr. Gay had also some cases, but of these the speaker did not remember the particulars.

In New York these operations had been quite fatal in the last five years, but if the statistics for a longer time were selected they would probably be better. The English and German results are very encouraging.

DR. R. H. FITZ remarked that the history of the case indicated a pyonephrosis secondary to a hydronephrosis. It seemed probable that the evacuation of the pus, several years ago, was due to the passage of a calculus into the bladder, and not to the rupture of a renal abscess into the pelvis or ureter. The vesical calculus subsequently crushed was likely to have been this dislodged stone.

The final attacks of suppurative inflammation apparently occurred in the urinary tract which had become

gradually dilated to so unusual an extent by a second, obstructing calculus. The communication between the pleural cavity and the dilated renal pelvis was one of the results to be anticipated in the course of a pyonephrosis. Though less frequent than the formations of fistulae opening into the intestine, it was, perhaps, more to be feared.

The results of the post-mortem examination suggested that a lumbar incision, with the establishment of drainage, would have obviated the impending danger, although it might not have permitted the extrac-tion of the calculus. The position of the latter indicated the importance of a rectal examination in all cases of suspected abscess of the kidney, although the results of such an examination would usually prove negative.

DR. HAMILTON OSGOOD asked that some surgeon present would be kind enough to say whether there exist reasons against the removal of a suppurating kidney, which do not hold in cases of cancerous kidney; and whether locality or climate have any presumable connection with fatality in surgery of the kidney? The questions, he said, were suggested by the admirable results in a case which he saw at the hands of Krönlein in Zürich, who removed a sarcomatous kidney from a woman. Six weeks after the operation the patient was in robust health.

DR. BRADFORD said that as no one else seemed inclined to answer Dr. Osgood's question, he would say that he thought the reason for a larger percentage of successes in other places, is the fact of a greater number of operations. When one has operated sufficiently often he expects to get some successes.

DR. HOMANS said that it is a dangerous thing to assume that a difference of climate makes a difference in successes. The difference is in operators, in knowledge, skill, and care. If any one can remove the kidney without failures he is willing to own that he is a better surgeon than is Dr. Homans. He does, however, believe that some foreigners have a stolidity not found in Americans, which enables them to bear severe operations. To Dr. Osgood's other question, he said that he believed that the statistics were rather more favorable for the removal of a suppurating than for that of a cancerous kidney.

DR. CABOT said that a non-suppurating kidney is more easily removed, that a kidney that has been first drained is more easily removed at a second operation; that is, that a small thick wall is more easily and safely taken out than a large thin one. It is not so likely to rupture.

DR. OSGOOD remarked that it was only fairness to American surgeons and their material, to say that there does indeed exist a wide difference between Americans and Germans, at any rate, in physical stability.

For example, he saw Czerny of Heidelberg, amputate nearly one-third of the stomach at the pyloric extremity. Four days later, the patient, a man, was quite cheerful, was drinking his wine, and Czerny seemed very hopeful about the case.

In Schwalbach, in particular, Dr. Osgood had observed remarkable differences between American and German women. The latter were able to drink their five to eight full glasses daily of the Weinbrunnen water, which is very strong in iron and carbonic-acid gas, while the American women, who were under his care, could not safely drink more than one-third of this amount.

The same peculiar difference was seen in their respective ability to endure baths — the German women remaining in the powerful water fifteen to thirty minutes. If the Americans took baths of more than six to eight minutes in duration, flushing of the face and intense headache with functional disturbance of the heart were the result.

American women who have frequently been abroad learn that it is wiser for them, in case of need, to consult an American, or English, rather than a German physician, finding themselves unable to cope with medical treatment which German women bear with impunity. The difference probably lies in a far more sensitive nerve-tissue on the part of the Americans.

DRAINAGE OF ABDOMEN IN TUBERCULAR PERITONITIS.

DR. HOMANS mentioned a case of supposed ovarian disease in which on opening the abdomen, the peritoneal cavity proved to be filled with fluid and the peritoneum itself, studded with tubercle, as was shown by the microscope, a piece being removed for the purpose. The fluid was removed and the wound closed. The patient made a good recovery, after long drainage (eight months) and is now fat and healthy. Another case, supposed to be ovarian cyst, or a cyst of the broad ligament in a seemingly healthy girl of seventeen, who had a fat abdomen, proved to be tubercular peritonitis, with ascites. One Fallopian tube and one ovary which were thickened, were removed, together with bloody serum. The peritoneum was dried as thoroughly as possible, and a glass drainage-tube introduced. The patient recovered and now looks well.

DR. HENRY I. BOWDITCH said that the two cases of tubercular peritonitis related by Dr. Homans, in which improvement took place after laparotomy and antiseptic washing of the peritoneum, reminded him of a similar case related to him by the operator only a few days ago. When the peritoneum was opened it was found studded with miliary granulating tubercles. The microscope revealed the presence of numerous bacilli in a small piece taken for examination. The patient now calls herself well, and has gained several pounds of flesh, and is travelling in Europe.

A question Dr. Bowditch would ask, under the light of these three cases, is whether modern antiseptic abdominal surgery may not ere long decide that in cases of so-called tubercular peritonitis in childhood, hitherto deemed incurable, laparotomy and antiseptic washing of the peritoneum must be performed, or the physician will fail of his duty.

DR. CABOT referred to a case of tubercular peritonitis in a colored girl of nineteen or twenty, transferred to him at the Massachusetts General Hospital. It was supposed that she might have ovarian cyst. Circumscribed fluctuation could be made out. On opening the sac-wall by a cut eleven inches long, the case was found to be encysted tubercular peritonitis. A drainage-tube was used with iodoform and the patient has done well. There is still discharge through a sinus.

DR. E. N. WHITTIER said, the large female ward at the Massachusetts General Hospital was fruitful in abdominal tuberculosis, for in addition to the case cited by Dr. Cabot, transferred to him for surgical treatment, there was that of Caroline Morgan. This young woman entered in June, and on the 22d of July, was tapped, and 106 f \bar{z} , highly albuminous

fluid were removed from peritoneal cavity. In September, 136 f \bar{z} were removed, containing two per cent. albumen; in October, 172 f \bar{z} : and the fluid re-accumulating in the latter part of the same month, he made an opening in the median line, in the usual place for tapping, and inserted a large soft-rubber drainage tube, and connected this by a smaller tube with a pail partly filled with carbolized water, under the bed. The peritoneal cavity never refilled, and the patient was discharged on the 27th of November, 1886.²

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

NINTH ANNUAL CONGRESS.

THE ninth annual meeting of the Association was held in the hall of the Academy of Medicine, New York, May 26, 27, and 28, 1887. The President, Dr. E. FLETCHER INGALLS, of Chicago, occupied the chair.

THURSDAY. — MORNING SESSION.

The meeting was opened by the delivery of the

PRESIDENT'S ADDRESS.

He referred to

INTUBATION OF THE LARYNX.

The history of the operation, and a description of the instruments used in the operation, were given. The method of operation was then referred to. In 1858, an attempt was made, in Paris, to treat stenosis by intubation. Seven cases were operated on, and of these, five died, and two cases recovered, after subsequent tracheotomy. In 1880 O'Dwyer introduced intubation, and gave to the profession one of the most useful operations of modern times. In the after-treatment, while the tube is in position, no liquids should be allowed. Sometimes small quantities of liquid can be taken, but the danger of exciting bronchitis or pneumonia is so great, that fluid should be entirely prohibited. The largest tube that can be introduced is the one most likely to be retained. The danger of the tube being forced into the trachea was referred to. In four or six days, in favorable cases, the swelling and false membrane will have so much diminished that the tube will be coughed up finally, and need not be reintroduced.

The speaker had performed intubation in twelve cases of diphtheritic laryngitis. In three cases, recovery followed. By a coincidence, the cases of recovery were the only ones in which the author had charge of the after-treatment. One case lived eight days, and then died suddenly an hour after the tube had been removed. Another lived eight days, and then died of pneumonia. Details of the cases treated were given. As a result of his experience, he concludes that the treatment after intubation should be: (1) Prohibition of fluids, except by enemata. (2) Some preparation of mercury should be given in large and frequent doses. (3) In case of development of bronchitis and pneumonia, respiratory and cardiac stimulants should be given freely, but cautiously.

² I examined this patient on the 29th of April, 1887. There exists to-day no evidence of any abdominal disease. The rational and physical signs were those of tuberculous peritonitis; and this statement is made as a contribution to the opinion that is gaining ground, that there is in permanent drainage of the peritoneal cavity, in uncomplicated tuberculous peritonitis, a method of treatment productive of satisfactory and permanent good results. E. N. W.

By correspondence and study of the literature, he had collected 514 cases, with 134 recoveries. The percentage of recoveries will be greater when more care is exercised in the use of fluids. When medicines fail, no time should be lost in providing for the free entrance of air, either by intubation or tracheotomy. Intubation can be done more quickly, more safely, with less shock to the patient, and less objection on the part of the parents. The operator should be prepared to open the trachea if loosened membrane should be forced down into the trachea. When the tube fails to relieve dyspnoea, tracheotomy should be performed, unless there is reason to believe that the latter operation will fail. Where membrane is loose in the trachea, no time should be lost in the use of forceps, which rarely succeed, but tracheotomy should be resorted to. The results obtained by intubation are about as good as tracheotomy at all ages, but apparently better in young children.

A STUDY OF SOME OF THE OBJECTIONABLE FEATURES OF INTUBATION,

by CHARLES E. SAJOUS, M.D., of Philadelphia.

At present, statistics favor the operation of tracheotomy, but the author believed that intubation would prove the better operation when the mechanical defects are overcome. The principal objections, according to the degree of danger, are: (1) The tendency to the obstruction of the tube by fragments of membrane. (2) Crowding down of loose membrane during introduction of the tube. (3) Passage of food into the trachea. (4) Momentary arrest of respiration during introduction of tube. (5) Liability of the tube to be coughed out. (6) Slipping of tube into the trachea. The tendency to obstruction was attributed to the limited diameter of the tube; the crowding down of membrane to the length of the tube; the passage of fluid to the weight of the tube; the liability to be coughed out to the limited diameter of the tube; and the slipping of the tube to the weight of the instrument and the formation of the head.

The speaker exhibited instruments on the principle of the bivalve speculum, which were intended to embody the suggestions made above. This tube obstructs the larynx very little, leaving the breathing space almost as great as normal. The author also exhibited an instrument intended to remove loose membrane from the larynx. The instrument consisted of forceps, which could be protruded into the larynx, by an arrangement in the handle, the required distance, and the membrane grasped.

DISCUSSION.

DR. F. H. HOOPER, of Boston. I have had no personal experience with the operation, but I have watched certain cases in the Boston City Hospital since last October. Ten cases of intubation have been operated on, with two recoveries. In one case, the attempt to introduce the tube caused spasm, and tracheotomy was performed. In every case, there was immediate relief to dyspnoea. In three cases, the tube was coughed up and swallowed.

DR. D. BRYSON DELAVAN, of New York. An interesting question is with reference of feeding. It has been suggested that feeding with a tube introduced into the oesophagus would overcome the difficulty. I think this is worthy of consideration. This plan can also be used in cases of tracheotomy.

DR. MORRIS J. ASCH, of New York. There are a few objections which should be brought to the notice of the profession. One of these is that membrane may be crowded down which is very difficult to remove, even by tracheotomy. Another objection is the difficulty experienced by the ordinary practitioner in the removal of the tube.

DR. B. F. WESTBROOK, of Brooklyn. I do not think that the weight of the tube is what causes the trouble in deglutition, for the muscles which elevate the larynx are quite strong. It seems to me more likely that the difficulty is due to the rigid tube, which holds the larynx open. In normal deglutition, the entrance of the larynx is closed.

DR. S. H. CHAPMAN, of New Haven. One of the most distressing symptoms after the introduction of the tube seems to be thirst. It would be interesting to study the cause of this. Could it not be relieved by the use of enemata and by baths? It may be occasioned by the use of the mercury, which might be introduced in some other way than by the mouth. The use of pilocarpine, which, even in small doses, causes salivation, might be of service.

DR. E. FLETCHER INGALS, of Chicago. It is so rare that the tube becomes clogged, that it is not necessary to have a skilled attendant. When the tube becomes clogged, it is usually coughed up, and, as a rule, it is not necessary to replace it for two or three hours. The attempt to feed these patients through a tube introduced into the oesophagus has been tried in Chicago, but I have not heard any stress laid on this measure.

DESCRIPTION OF A MODIFIED LARYNGECTOMY,

by J. SOLIS COHEN, M.D., of Philadelphia.

The operation is applicable to those cases in which the disease is not too extensive, and has the advantage over complete laryngectomy of leaving the greater portion of the thyroid cartilages undisturbed while the respiratory portion of the larynx is removed. On the cadaver, the operation can be performed in two minutes. In disease limited to the interior of the respiratory tube, especially carcinomatous disease, it fulfils every indication that prompted complete laryngectomy. The advantages claimed for the operation were: (1) Rapidity, ease, and comparative safety for the patient. (2) The small size of the wound. (3) The preservation of the attachment of various important muscles and ligaments. (4) The retention of important structures in their normal relation. (5) A firm, natural support is left for the application of any artificial apparatus. The operation should be performed for complete laryngectomy when not precluded by the extent of the disease.

THE PRESENTATION OF INSTRUMENTS

was next in order.

DR. T. A. DE BLOIS, of Boston, exhibited a portable apparatus for compressing air.

DR. E. C. MORGAN, of Washington, presented a universal powder-blower, which could be used in diseases of the nose, throat, vagina, or rectum.

DR. ALLEN, of New York, exhibited an improved form of snare, which could be used with one hand.

The following were appointed as the nominating committee: Drs. Beverly Robinson, of New York, W. C. Glasgow, of St. Louis, and S. H. Chapman, of New Haven. Adjournment of morning session.

AFTERNOON SESSION.

THE PATHOLOGICAL NASAL REFLEX. — AN HISTORICAL STUDY.

by JOHN N. MACKENZIE, M.D., of Baltimore.

The fact is established beyond doubt that a causal relation exists between diseases of the nasal mucous membrane and other portions of the respiratory tract and many conditions of distant parts of the body. Hay fever can be traced to the time of Galen. The fact that tickling the nose would arrest hiccup is referred to by Plato. The irritating effects of the odor of flowers was recognized in very early times. Reference was made to the observations of various individuals in regard to reflex conditions due to nasal disease. During the eighteenth century much was written upon this subject.

HAY FEVER: ANALYSIS OF CASES, WITH RESULTS OF TREATMENT.

by JOHN O. ROE, M.D., of Rochester.

Up to the last hay fever season, the author had treated forty-two cases. A study of these cases tended to confirm the opinions expressed in February, 1883. Some of these views have been modified. Of the forty-two cases twenty-six were males and sixteen females. The attacks came on between May 1st and August 1st. In all, the active symptoms subsided soon after the appearance of frost. In some cases the hay fever dated from a severe attack of cold. In every instance there was disease of the nasal passages. The location of the sensitive areas is not constant, but they are usually most marked over the areas of greatest hypertrophy. The areas have not been confined to the posterior portion of the tubinated bone, nor especially to the anterior portion of the turbinated bones. In the majority of cases the septum was as sensitive as the turbinated bones. Thirty-one patients suffered with asthma. But twelve patients had a distinctly nervous temperament while nine were distinctly phlegmatic.

The plan of treatment adopted is to restore the nasal passages to as near as possible a normal condition and destroy the sensitive areas. These areas are to be destroyed by cauterization. Deep cauterization has been most effective, while superficial cauterization had no marked effect. The condition of the larynx, pharynx and bronchi must not be overlooked. Not infrequently enlarged tonsils will keep up irritation in the turbinated bones. A neglect to cure a bronchitis may account for the return of the disease.

Thirty-five of these cases have practically been cured, seventeen have remained exempt for periods varying from one to nine years, four were not relieved owing to imperfect treatment, and four have been lost sight of. The following conclusions were presented:

(1) All cases of hay fever have the initiative lesion in a diseased condition of the tissues of the nasal fossa.

(2) All diseases of these tissues induce in the ganglionic centres connected with them an abnormal activity which is reflected to other organs.

(3) The sensitive areas in the nose are not found in any particular portion of the cavity. Nor are there any zones which when irritated produce always the same manifestations.

(4) The direction in which the irritation is reflected is always in the line of least resistance. Irritation in

the same region may be reflected in one direction at one time and in another direction at another time.

(5) The disease in the nose may produce disease in other portions of the respiratory tract which may become independent centres of irritation.

(6) The affection recognized as hay fever is due to local irritations brought in contact with the sensitive areas in the nose.

(7) The affection is not *per se* neurotic, nor is the so-called neurotic condition of the person necessary to render a person susceptible to local irritation applied to the air-passages. It is not necessarily associated with the nervous temperament.

(8) The neurotic condition which is often regarded as the cause of the hay fever, is often the result of the local irritation.

(9) By careful and thorough treatment of the disease of the nasal tissue combined with that of other portions of the respiratory passages below, which have become secondary sources of irritation, we need not fail to cure hay fever.

DISCUSSION.

Dr. C. E. SAJOUS, of Philadelphia. At the last meeting I reported some cases in which the use of the cautery had been only of temporary benefit. I now believe that the failure was due to the fact that the cauterization was only superficial. Since I have employed deep cauterization I have cured the disease.

Dr. J. N. MACKENZIE, of Baltimore. I regard hay fever as a neurosis. That it is a disease of the nose producing reflex symptoms, I think is not the fact. Where in hay fever disease of the nose is found, the question arises whether this is primary or secondary, or whether it is only an accidental condition. There is, I think, always some more central cause than the affection of the nose. Where the disease is recent it may possibly be arrested by local treatment, but where the affection is of long standing I do not believe that simple local treatment of the nose will overcome the difficulty. Last summer in treating hay fever I made no application to the nose, and I think that my results were better than ever before. I gave in large doses, zinc, *nox vomica*, quinine and arsenic.

Dr. F. J. KNIGHT, of Boston. I would ask if any of the members have had any experience with diversion of nervous influence in any of these cases? In one case coming under my notice the attack was arrested by the patient breaking his leg. Another patient had the attack arrested after consulting a dispense of mind-cure.

Dr. W. C. GLASGOW, of St. Louis. I think the evidence shows that hay fever is not a local affection, but that it is a general nervous disturbance. It is difficult to judge of the influence of treatment, for in the same individual the severity of the attack varies from year to year. I believe that constitutional treatment is an important element in the case. Unless the disposition toward the disease can be eradicated I cannot believe that a perfect cure can be attained by the destruction of the mucous membrane of the nose.

Dr. F. H. HOOPER, of Boston. I have regarded hay fever as a neurosis and have treated it in the manner spoken of by Dr. Mackenzie. This accomplishes great good, especially in young children. I have at present under treatment a case in which there is hay fever with asthma. Until this gentleman came to me a few weeks ago his nose had not been ex-

amed. I found in the right nostril a sharp ridge running along the septum and coming in contact with the inferior turbinated bone. On the left side was a similar ridge. With this exception there is no special disease of the nose.

DR. J. SOLIS COHEN, of Philadelphia. I think that the views of Dr. Mackenzie are very nearly correct. It has been my experience that poor people rarely become the victims of hay fever. I have always thought that in addition to the neurotic element, codling and high living had something to do with the induction of the affection. Many cases occur in those who are overworked and have resorted to stimulants. These patients are often benefited by rest in the mountain or at the seashore. I have obtained benefit by tonic treatment, modifying the diet and restricting the use of meat. The more we look upon this as a constitutional affection and the less as a local condition the sooner will we get at the truth. A large number of these sufferers have obstruction in the nasal cavities, but many have no such obstruction.

DR. J. O. ROE, of Rochester. I consider hay fever as the reflection of some irritation from the nasal chambers, which irritation is produced by some foreign substance coming in contact with the mucous membrane of the nose. Irritation reflected from other situations to the nasal chambers is not hay fever. I think that Dr. Mackenzie includes some such cases. I have never seen any evidence to show that this was a neurosis.

ON THE TREATMENT OF ATROPHIC RHINITIS BY APPLICATIONS OF THE GALVANIC CURRENT,

by D. BRYSON DELAVAN, M.D., of New York.

Some years ago Dr. E. L. Shurly, of Detroit, recommended the use of the galvanic current in the treatment of dry catarrh of the pharynx, and related cases in which benefit had followed its use. He also advocated the same treatment in atrophic rhinitis. The author had tried this method of treatment in certain cases. The positive pole of a constant current battery was applied to the nape of the neck, while the negative pole was applied directly to the mucous membrane by an electrode consisting of a copper-wire around which absorbent cotton is wrapped. The strength of current employed varied from four to seven milliamperes. In more recent cases of the affection the effect is marked, but even in the older cases the method is not without benefit. The author had found this measure useful in these cases, and reported illustrations. The objection to the method is the amount of time which it requires.

DISCUSSION.

DR. T. A. DEBLOIS, of Boston. I have had the opportunity of applying this method of treatment in two cases, one of atrophic and the other of hypertrophic rhinitis. In the first case there was almost complete loss of smell and taste. The applications were made three times a week for six months. Both cases were improved.

DR. F. I. KNIGHT, of Boston. I would ask what experience the members have had with the use of plugging of the cavity of the nose? I have used this measure and produced relief of the most distressing symptoms. One side of the nose is thoroughly stopped with a piece of absorbent cotton which is allowed to remain three hours during the morning.

It is then removed and the other side is stopped in the same way for three hours in the afternoon. I have never had the least disagreeable effects from the use of the cotton in this way. The bad odor is greatly lessened.

DR. J. O. ROE, of Rochester. I have used the plugs of cotton, but with no other effect than to set up irritation. I have used with marked benefit the application of a weak solution of nitrate of silver, five or ten grains to the ounce, the parts having previously been cleaned. This applied every other day almost entirely relieved the symptoms.

DR. C. E. SAJOURS, of Philadelphia. The good effect obtained by Dr. Delavan was probably due to the irritating effect of the negative pole. I have used in two cases with absolute relief of the symptoms the application of chromic acid in a solution made by simply allowing the acid to absorb moisture from the air.

MYALGIA OF THE PHARYNX AND LARYNX,

by DR. S. H. CHAPMAN, of New Haven.

The speaker called attention to certain peculiar conditions of the muscles of the upper air-passages, which occur oftentimes in malarial disorders, and which on account of their severity are brought to the notice of the specialist. The muscles most likely to be affected are the pectoral, the muscles of deglutition and those of the voice.

SENSORY AFFECTION OF THE THROAT,

by DR. F. I. KNIGHT, of Boston.

The principal experience of the author had been with hyperæsthesia and paræsthesia. In hyperæsthesia, the general condition of the patient is, as a rule, not sufficiently considered. The worst cases are alcoholic subjects and those with digestive disorders. These will often yield to withdrawal of the alcohol and regulation of the diet. Astringents are frequently of service. In the cases of paræsthesia which he had seen there had been a feeling of fulness, pressure, burning, globus hystericus or the sensation of a foreign body in the throat. In these cases there is impairment of the general nervous system. The exciting cause may be some disease of the throat. Fatigue usually exaggerates these sensations. He had never met with paræsthesia of the larynx as the earliest symptom of phthisis, as had been claimed by some observers. The prognosis in most cases of paræsthesia is good if a careful treatment be carried out. The treatment of the neurosis of sensation must be claimed to cure the constitutional vice.

DR. W. C. JARVIS, of New York. I recently saw a man complaining of pain on either side of the tongue which had existed for the past two years. He was suffering from the effects of syphilis, and with the neuralgia of the tongue there was frontal neuralgia and pains in other parts of the body. I have another patient who consults me every five or six months on account of a severe pain in the right anterior pillar of the fauces. He believes that it will terminate in cancer. It will disappear for a week at a time and then return. I believe that in this case the trouble is psychical, and that there is no pathological lesion to account for it.

DR. C. E. SAJOURS, of Philadelphia. I have seen two or three such cases. In one there was follicular pharyngitis, and although the pathological condition was cured the pain remained. The pain seemed worse

in damp weather, and the gentleman had the habit of bathing every morning in cold water. The history of the case seemed to indicate a rheumatic trouble, and such may have been its nature.

DR. W. C. GLASGOW, of St. Louis. Many of these cases, I think, are due to malaria and some to the gouty diathesis. Sometimes the trouble is kept up by a single hyperæsthetic follicle. A reduction of the inflammation will be followed by a subsidence of the neuralgia. Sometimes the source of irritation is found with difficulty. In the rheumatic cases there is usually exacerbation at night. These affections in some cases appear to have a tendency to the induction of melancholia. Adjourned.

(To be continued.)

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.¹

DR. P. A. MORROW read a paper on

IDIOSYNCRASY AS AFFECTING THE SPECIFIC TREATMENT OF SYPHILIS.

The author first refers to the ample justification of the claims of mercury and iodide of potassium to be ranked as "specifics" in the treatment of syphilis. These agents when introduced into the organism directly attack and cause to disappear the organic lesions as well as the functional disorders created by the syphilitic virus. Experience shows, however, that the action of these drugs is by no means constant and infallible. All syphilitics are not equally susceptible to this curative action. The definite peculiarities of constitution which are generally included in the term idiosyncrasy, exert a dominant influence in modifying drug action. The therapeutic action of specific remedies is especially subordinated to conditions of aptitude inherent in the individual.

Idiosyncrasy in relation to the action of mercury and iodide of potassium may be manifest in various modes and degrees of intensity: (1) In an abnormal susceptibility to their physiological or toxic effects. (2) In the production of incidental ill effects which may be associated with the drug's physiological action, or may take the place of it, constituting an aberration of the drug's typical mode of action. (3) In an insensibility or failure on the part of the system to respond to the curative action of these drugs.

Various clinical examples were given illustrating the foregoing propositions, particularly cases of idiosyncrasy against the iodide so marked that the local and constitutional disorders caused by the drug surpassed in severity the symptoms of the disease itself. In one case under recent observation ordinary medicinal doses of the iodide repeatedly caused a multiform eruption consisting of pustular, bullous, nodular, and keloidal lesions, attended with the most pronounced symptoms of constitutional "iodism." The specific lesions were much aggravated under its use.

The various expedients which have been recommended to secure tolerance of these drugs by counteracting their ill effects were enumerated in detail, and their comparative value considered.

In conclusion, the author suggested that the practical significance of idiosyncrasy and its bearing upon treatment had not received from specialists the consid-

eration its importance demands. The rules of treatment had been rigorously and mathematically formulated — so many months of mercury, and after a certain date recourse to the iodide of potassium without reference to the immense variance in the constitution and idiosyncrasies of patients, not only in the toleration of those drugs, but in susceptibility to their curative action.

OBSERVATIONS ON THE USE OF OIL OF WINTERGREEN IN THE TREATMENT OF GONORRHOEAL RHEUMATISM.

DR. R. W. TAYLOR, of New York, detailed the histories of about twenty cases of gonorrhoeal rheumatism occurring in the Charity Hospital the past year, in which he had given the oil of wintergreen a thorough trial. In about nine of the cases the disease was of that chronic kind, in old or neglected subjects, in whom no treatment could prove of much benefit. In the others the benefit was marked, and most of them after some weeks recovered entirely. The drug was administered in capsules in pretty large doses, varying according to the circumstances. The urethral secretion also became bland under the action of the drug, and disappeared. Other remedies had in most cases been tried with little or no effect.

A FEW PRACTICAL OBSERVATIONS ON THE TREATMENT OF LATE NEOPLASMS OF SYPHILIS.

DR. ALGERNON S. GARNETT was the author of the paper, which in his absence, was read by the Secretary. He thought it was an error to give fixed doses, especially in the latter stages of syphilis, without due regard to the nature of the case. He believed in removing neoplasms, slight or grave, and considered no patient safe as long as there was the slightest evidence of the disease. The iodide of potassium or mercury should be pushed in every stage of syphilis as far as it could be borne. If cachexia in the later stage prevented the free use of mercury, tolerance of the drug must be cultivated until the patient could be put under its full influence. Syphilis, he thought, was not a benign disease at all.

The President exhibited a Reverdin instrument which he had modified for the purpose of performing subcutaneous ligation in varicocele in the manner he had described about two years ago.

SECOND DAY.—MORNING SESSION.

Dr. Keyes was re-elected President, and Dr. R. W. Taylor, Secretary and Treasurer.

ON TEMPORARY OVERSTRAIN OF THE BLADDER PRODUCING CHRONIC RETENTION OF URINE.

DR. F. N. OTIS introduced his subject by defining the usual causes and varieties of atony of the bladder. It was stated, as generally understood, to result in a loss, more or less complete, of the contractile power of the bladder, from over-stretching. This usually occurred through long-continued obstruction from enlarged prostate or organic urethral structure, especially in elderly persons. It was also recognized as occasionally resulting from sudden overstrain through even a single attack of retention from the same cause. Dr. Otis desired to call attention to this latter form, and especially when it occurred independent of any organic obstruction, but probably as a result of reflex irritation caused by a contracted meatus urinarius or urethral stricture of large calibre. Such

¹ Concluded from page 532.

reflex trouble might, however, result from the irritation of hæmorrhoids. Again, the retention might be caused through temporary loss of consciousness or any nervous shock or from sexual excess. However produced, he claimed that a single retention of urine from any cause, might, within the space of a few hours, produce such an overstrain of the muscular structures of the bladder as to necessitate in some cases the use of cat heter for the passage of every drop of urine during the remainder of the patient's lifetime. Several cases were cited in proof of the occurrence of acute retention from reflex causes, which were promptly and permanently relieved by division of a urethral contraction. To show in how brief a period overdistention of the bladder might occur, one case was cited, when twenty-three ounces of urine had been secreted within six hours, resulting in atony, involving the complete loss of the voluntary power of urination for several days. Another case where the accidental neglect to urinate on going to bed, had caused a total loss of voluntary power of urination for over two years. Other cases were cited where more or less complete retention had resulted in practically the same way. In none of these was there any prostatic enlargement or close stricture. There was besides this no general atony of the bladder, as proven by the ability to increase to a normal degree the strength of the flow of urine through the catheter. From this fact, Dr. Otis assumed that the overstrain had been local, chiefly in that portion concerned in opening the vesical orifice. This was claimed to be the point where the greatest strain would occur in a sudden retention of urine. The portion thus weakened was unable to overcome the resistance of the muscular structure of the so-called vesical sphincter, and retention was the result.

In the case above noted where a complete loss of the power of voluntary urination had existed for over two years, removal of anterior strictures had failed to give relief. Subsequent exploration of the parts through a perineal section, failed to show any mechanical obstruction. A division of the structures of the vesical neck, thus weakening their resistance to the detrusor, overstrained and atonied at the bas fond, promptly restored the power of voluntary urination to some degree, and continued relief of the strain by systematic catheterization for several months, finally resulted in a complete recovery.

Dr. Otis claimed that in cases of sudden overstrain of the bladder by acute retention the damage was most likely to be an overstrain of the muscular structures in the vicinity of the bas fond, producing a local and not general atony; and that when atony of the bladder was not relieved by measures addressed to restoring the general tonicity of the bladder, the cure might be expedited by a division of the muscular structures of the vesical neck, even if no obstruction like a bar or other obstacle at the neck of the bladder could be detected.

Dr. Otis, in conclusion, summed up the suggestions which, in reviewing the cases cited, appeared most salient:

First. The importance of recognizing the influence of even slight urethral stricture in producing sudden retention of urine.

Second. The importance of early recognition and relief of such retention by catheter, and in this connection, the author advised against a too rapid emptying of the bladder, and stated that by a gradual with-

drawal of the urine, the danger of syncope, hæmorrhage and cystitis were to a great extent avoided.

Third. That a localized atony, confined to the base of the bladder, may be present in sufficient degree to prevent voluntary urination while the contractile power of the superior portion of the bladder remains practically undiminished.

Fourth. That failure to restore the urinary function in such cases through general medication and local measures, including the removal of possible sources of reflex irritation in the urethra, suggests possible cure even in long-standing cases through incision of the vesical neck.

EARLY SYPHILITIC EPIDIDYMITIS.

Dr. J. N. HYDE, of Chicago, read a paper with this title.

The author cited cases which had come under his observation with a view of presenting the negative side of the subject. The following propositions, he thought, rested on fairly sound clinical grounds:

(1) A male patient may suffer from blenorrhagic epididymitis on one side, subsequently contract syphilis, yet escape syphilitic involvement of the epididymis. (2) A male patient may suffer from blenorrhagic epididymitis involving first one organ, then the other, finally acquire syphilis and escape syphilitic epididymitis. (3) A male patient may suffer from blenorrhagic epididymitis of one or both organs, become so irritable as to exhibit by inflammatory accidents sympathy with successive blenorrhagic attacks, yet throughout a final syphilis betray no sensitiveness to the last-named disease. (4) A male patient affected at the same time with syphilis and blenorrhœa may suffer from an epididymitis evidently a complication of the last-mentioned disease, namely, blenorrhœa, and yet escape syphilitic involvement of the organ. (5) A male patient may suffer from tuberculosis, subsequently incur syphilis, yet the epididymis escape involvement. (6) A male patient who has suffered from repeated attacks of blenorrhœa, and that lately, may exhibit the typical form of early syphilitic epididymitis.

PROSTATOTOMY FOR OBSTRUCTION.

Dr. A. T. CABOT, of Boston, reported two cases of prostatotomy. In one, the operation was followed by almost complete recovery of the function of the bladder. In this case litholapaxy was done on the stone before the operation of prostatotomy. In the other case, although the first result of the operation was satisfactory, a certain amount of incontinence appeared some months later. Dr. Cabot ascribed this to the hypertrophied condition of the bladder which was sufficient to overcome the constrictor muscle weakened as a result of the incision into the membranous urethra. He queried whether in a case like this with good evidence of a hypertrophied bladder, and in which the obstruction was a narrow bar the internal prostatotomy of Mercier might not prove the better operation.

A PLEA FOR THE MORE GENERAL USE OF THE NITRATE OF SILVER IN THE DEEP URETHRA, WITH AN IMPROVED INSTRUMENT FOR ITS APPLICATION.

Dr. KEYES read the paper, and presented an instrument for injecting the deep urethra, which he believed was more suitable and more serviceable than other syringes in general use. His method is to deposit three to five minims of a watery solution of the nitrate

of silver of a strength varying from one to forty-eight grains in the ounce, very accurately in the centre of the membranous urethra, placing it there by the use of an instrument open at its tip. He thinks the method is not suitable in cancer, tubercle, or when the deep urethral symptoms are due to considerable periurethral inflammation, but most beneficial for inflammatory and neurotic surface disturbances of the deep urethra and neck of the bladder. He gave illustrative cases of cure of gonorrhœal cystitis, relapsing epididymitis, vesical irritability, prostaticorrhœa, etc.

In the full discussion on the paper which followed, most of the members expressed hopes of better results from deep urethral injections of nitrate of silver than had hitherto been generally attained. Dr. J. H. Brinton was one of the strongest advocates of this method which he had practised extensively. To relieve the discomfort or pain which the patient experienced after treatment by this or other methods, he had the patient stand by the basin and allow a small stream of water run over the corona of the penis; the relief was almost immediate. Dr. Mastin referred to the practice of Prof. Richardson, consisting in injecting a drachm of almost a saturated solution of nitrate of silver into the bladder in gonorrhœa and chronic cystitis.

Dr. R. W. TAYLOR, of New York, read a paper on
A RARE FORM OF SEPTICÆMIA FOLLOWING INTERNAL URETHROTOMY.

The operation was performed in 1878 by a colleague, and the case was seen by Dr. Taylor in consultation. The occurrence of the accident complicating urethrotomy is unique in medical literature, and this consideration, together with the fact that the form of septicæmia is little known and only indifferently described by English and American writers, prompted the preparation of the paper. The patient was a perfectly healthy man, aged twenty-eight, who had a tight stricture of the bulbo-membranous junction which was incised by means of Maisonneuve's instrument. The operation was performed with all care. Within twenty-four hours severe pain attacked the perineal region, and soon a reddish boggy appearance was observed. Then the inflammatory action extended, and presented marked features. The integument became œdematous, and a distinct emphysematous crackling was felt when pressure was made on the parts. As this rapidly extended, large brown patches of skin developed, which felt as hard as the rind of ham. Besides these there were large ecchymotic spots and deep blue-black lines which were caused by congestion and destruction of the veins. This condition extended over the whole body, which during life was much enlarged by the œdema and gas in the subcutaneous tissue, and after death the body became rapidly swollen beyond recognition and to fully twice its normal size, and was a deep purple, gangrenous mass, covered with large bullæ, and emitting a horrible stench. Death took place eighty-seven hours after the operation. The subjective symptoms were rapid pulse, tremulous action of the heart, progressive and distressing dyspnœa, intense restlessness, utter agony and despair. The temperature at first rose, then fell below normal.

The disease was not accurately known until 1870, although many cases of it had been reported, particularly as occurring in the army, navy, and crowded hospitals. The cases were mostly epidemic. It started on the limbs generally, most frequently on the legs. It had

been called many names, but Dr. Taylor preferred the one proposed by Mollière, *septicémie gazeuse foudroyante*. Reasons were given in support of the view that the disease is caused by a specific septic microbe. The only treatment is thorough amputation of the part in which the septicæmia begins, if that is practicable.

Dr. R. W. TAYLOR, of New York, then exhibited
SECTIONS OF TUBERCULAR TESTES WITH BACILLI,
AND THE CO-EXISTENT BACILLI IN THE SPUTUM.

The Association then adjourned to meet next year, time and place to be announced.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

FOURTH ANNUAL MEETING.

The fourth annual meeting of the Association was held in the Johns Hopkins University, Baltimore, Md., May 31 and June 1, 1887.

TUESDAY, MAY 31ST. AFTERNOON SESSION.

The Society was called to order by the President, Dr. FRANK DONALDSON, SR., of Baltimore, who delivered the

PRESIDENT'S ADDRESS.

PROPHYLACTIC TREATMENT OF THOSE WHO INHERIT
A PREDISPOSITION TO PHTHISIS.

He referred to the great mortality of phthisis, but certain statistics compiled in this country and abroad show a decrease in the annual mortality. In England there has been a gain in males of fourteen per cent. and in females of twenty-two per cent.; in Massachusetts there has been a gain of 54 lives per 100,000.

Thirty per cent. of the cases have an inherited predisposition to the disease. The hereditary form when developed offers the least prospect of recovery. Reference was made to the pathology of the disease. Five years have elapsed since the contagion of tuberculosis was alleged to have been discovered, and nearly all observers have now confirmed the views of Koch. There is abundant evidence that human subjects readily yield to the bacillar poison, when previously they have been in perfect health. The bacillus is always present in phthisis, and we must accept it as the full explanation of the manifestations of tuberculosis. The disease may be propagated by the inhalation of the dried bacillus from the expectoration of diseased persons, by persons predisposed to tuberculosis. The various theories which had been advanced to explain heredity were discussed. The prophylactic treatment embrace two elements: (1) The improvement of the general health of the subject, and (2) the protection from contagion. The tuberculous mother should not nurse her child, but if possible it should be given to a healthy wet-nurse. The hygiene of the nursery should be looked after carefully. The room should be well ventilated and kept at a comparatively low temperature. The subject should live much out of doors, especially between the ages of fifteen and twenty years. The beneficial influence of sunlight should be borne in mind. All causes of glandular irritation should be avoided. Scrofulous glands should be dispersed or removed. The physical form of the chest should be enlarged by gymnastic movements. If possible, life should be passed in a high altitude. Olea-

ginous fluids are useful if they can be digested. The milk and flesh of tuberculous animals must be avoided, for cooking rarely destroys the bacilli of beef. If the prophylactic treatment is thoroughly carried out the hereditary proclivity may remain latent and the individual never contract the disease.

DISCUSSION.

DR. JAMES C. WILSON, of Philadelphia. I think that the position taken by the author is what all should agree to; but, as we know, it is not accepted by all. Pulmonary tuberculosis in all its forms is in all probability an infectious, parasitic disease directly contagious.

DR. B. F. WESTBROOK, of Brooklyn. The anatomical and physiological conditions which predispose to this trouble are, according to the results of certain observations, a disproportion between the size of the heart and the lungs, the heart being smaller in proportion to the size of the lung than in the ordinary individual, and a disproportionately small digestive apparatus. The former condition interferes with the circulation at the apices while the latter condition causes a lack of nutrition.

THE PHILOSOPHY OF CLIMATIC TREATMENT OF DISEASES OF THE CHEST,

by JAMES R. LEAMING, M.D., of New York.

It is observed that the greatest improvement takes place during the first three weeks of a patient's stay at a new place. The suggestion was made that a line of resorts be established along the Atlantic sea-coast. The patient could begin in the summer at the most northern, and gradually pass southward, making a stay of a few weeks at each place. Having completed the series, the patient may return, taking the stopping-places in a reverse order. This same plan might be applied to the Pacific coast and to the mountains. The speaker also suggested the propriety of State and municipal authorities furnishing sanatoriums for the benefit of those unable to avail themselves of the advantages of existing institutions.

THE INFLUENCE OF SEA-AIR ON SYPHILITIC PHTHISIS,

by R. J. CURTIN, M.D., of Philadelphia.

The speaker gave in detail the histories of five cases of what appeared to be syphilitic phthisis, in which improvement followed prolonged sea-voyages, and in each case the symptoms returned when the patient again took up his residence on land. He was led to consider the cases observed as cases of syphilitic phthisis for the reasons that there were no symptoms of chronic pneumonia preceding the attack; that the lung trouble followed syphilitic infection, with constitutional symptoms; that the disease was influenced to some extent by constitutional treatment; and that there was no tendency to tuberculosis in these cases. He referred to the observations of Dr. William Porter, who relies upon the following points in reaching a diagnosis of syphilitic phthisis: (1) Abundant expectoration, without signs of softening. (2) A debilitated condition, without marked emaciation, and a rational history of phthisis. (3) Pronounced dyspnoea, without evidence of cardiac or pulmonic obstruction to the circulation. (4) Pain along the sternum and the tibial crests. (5) The satisfactory response to treatment. Dr. Porter had examined the sputa in one hundred cases without finding the bacillus. The speaker was

not prepared to say why it was that the sea-air proved beneficial in these cases, while in most of the ordinary cases of phthisis residence on the sea-coast was not desirable.

DISEASED CONDITIONS FOR WHICH SEA-AIR IS OF DOUBTFUL BENEFIT,

by BOARDMAN READ, M.D., of Atlantic City.

(Read by title.)

DISCUSSION.

DR. E. T. BRUEN, of Philadelphia. It is desirable that we should have correct views with regard to the influence of sea-air on pulmonary affections. It is probable that, in syphilitic phthisis, the benefit of the sea-air is due to its influence on the catarrhal processes. In catarrhal affections of the mucous membrane in general, it has seemed to me that residence at the sea-shore was useful. On the other hand, in tubercular phthisis, it has seemed to me that the influence of sea-air was disastrous. I am led to make these remarks because I find so many patients with phthisis recommended to reside at the sea-shore, or to take ocean voyages. I have found that those cases benefitted from prolonged sea-voyages are those in which there is no inherited tendency to tuberculosis.

DR. V. Y. BOWDITCH, of Boston. I should make a great distinction in speaking of the sea-coast air and the pure sea-air. Cases which could not stand the harsh, cold, and changeable air of the sea-coast may be benefitted by a sea-voyage or residence on an island some distance from the shore, where the conditions are similar to those which obtain on a sea-voyage.

DR. F. I. KNIGHT, of Boston. While I am sure that the general feeling is that the coast climate is not suitable for cases of phthisis, yet, in several instances, I have known patients to improve and gain in weight during a stay at some of the coldest resorts on the New England coast.

DR. JAMES C. WILSON, of Philadelphia. I have had no experience with syphilitic phthisis, but with reference to residence at the sea-coast in the treatment of phthisis, I would say that, in my experience, there are three classes of patients with consumption who cannot go to our exposed Atlantic sea-coast without risk: These are, first, those in whom there is active febrile disturbance; secondly, those of a highly excitable and nervous organization; and thirdly, those who suffer from repeated attacks of spitting of blood. Such patients cannot safely reside for any length of time on the Atlantic sea-coast.

DR. F. C. SHATTUCK, of Boston. The author has referred to syphilitic phthisis, that is to say, a destructive process in the lung not due to tubercle but to syphilitic virus. It seems to me to be a difficult matter to determine whether or not there is such an affection. Tubercular phthisis varies so much in its symptoms that the points mentioned I think cannot be relied on. It seems to me that the criterion would be the presence or absence of the tubercle bacillus. The author referred to Dr. Porter as having examined the sputa from one hundred cases of supposed syphilitic phthisis without finding the bacillus. That number is so large for the short time that this test has been available, that it would make us a little doubtful of the methods employed. The fact that the bacillus is not found, is no proof that it is not present. The German Committee on the Collective Investigation of

Disease, studied this matter last year and came to the conclusion that so-called syphilitic phthisis had no real existence. Both syphilis and tuberculosis are common diseases and the one offers no immunity from the other, so that we should expect to frequently find them combined in the same individual.

Dr. J. H. MUSSER, of Philadelphia. I have never seen a case of phthisis which I considered of syphilitic origin. In my experience in the post-mortem room I have come across only one case in which the lesions bore any resemblance to what we should expect to find in syphilitic phthisis. This was the case of a young man with syphilis and cirrhosis of the liver, due to syphilitic interstitial hepatitis; there were also syphilitic gummata in the brain, and the patient died of syphilitic meningitis. There were scattered through both lungs innumerable miliary granules not at all resembling miliary tubercles. These were solid bodies made up of a yellow core which was moderately firm and surrounded by a ring which made up at least one-half of the nodule. The microscopical examination showed these bodies to consist of a ring of firm fibrous connective tissue in the centre of which there were degenerating cells. We were unable to find the bacillus of phthisis, but as has already been stated, the failure to find it is no proof of its absence. I should not call this a case of syphilitic phthisis, but rather a case of syphilis of the lungs.

Dr. E. FLETCHER INGALS, of Chicago. I have been much interested in the remarks of the gentlemen from Boston, but I apprehend that most of us have seen cases in which the syphilitic nature of the disease admitted of no question. Even if the bacilli are found it would be no proof that the case had not originated as a syphilitic trouble and that it had subsequently become tubercular. I recall one case in which the syphilitic manifestations were very prominent. There was consolidation of the lungs, particularly of the middle portion of one lung. There was a history of syphilis and distinct cutaneous lesion. The patient had been in Colorado and returned much worse. On his return to a lower altitude he was put on the use of iodide of potassium and ultimately apparently recovered.

The papers were also discussed by Drs. FORD, of Utica, and FRANK DONALDSON, JR., of Baltimore.

THE TREATMENT OF THE FINAL STAGE OF PHTHISIS, by Dr. J. H. MUSSER, of Philadelphia.

The paper consisted of a detailed account of the symptoms met with in the last stages of phthisis and referred to the various measures which he had found useful in these cases. To relieve the high temperature he had resorted to antifebrin with advantage. Quinine was found to act unsatisfactorily.

The president announced as the nominating committee. Drs. F. C. Shattuck, E. T. Bruen, Willis E. Ford, B. F. Westbrook and W. H. Geddings.

Adjourned to evening.

(To be continued.)

— *First colored citizen*: "Come ovah yur, Jim."
— *Second colored citizen*: "Whaffur?" — "Got suthin' good." "What is it?" — "Pollynaris watah." "Pooh! watah!" — 'S good, though." "Wha's taste like?" — "Like yer foot's asleep. — *Pittsburg Chronicle*.

THE BOSTON Medical and Surgical Journal.

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MEDICINE IN JAPAN.

Dr. NORTON WHITNEY lately read before the Asiatic Society, at Tokio, a valuable paper on "Medicine in the far East," in which was contained much interesting information respecting physic in Japan, and the current number of the *Westminster Review* gives a good exposition of the subject.

It is noteworthy that it is within the lifetime of the present generation that this great empire has been opened to intercourse with foreigners, and during the last two decades rapid strides have been made in the way of medical development. To give an account of the medical schools now flourishing in Japan, and their thorough equipment with modern appliances, would take more space than is at our disposal in this article. Women are also allowed to practise medicine there, and have the same general privileges as in this country. Japanese ladies also regularly come westward to pursue medical studies.

It is an interesting fact that the history of medicine in Japan bears a marked resemblance to the same history as associated with European civilization in its rise and progress. Among the primitive Japanese, the "medicine man" was a priest and a sorcerer, and physic was allied with divination, and this has been the case, by the way, with all primitive societies. There seems to have been an irresistible tendency to associate disease with the baleful volitions and the enmity of evil spirits, and hence the necessity of exorcism and propitiation. The whimsical, heroic, and often disgusting, methods of treatment seem based on the belief that the body of the patient may thereby be rendered too uncomfortable a place for the demon to continue to inhabit.

The Japanese seem early to have possessed some knowledge of anatomy, derived from the dissection of monkeys, and their speculations as to the composition of the human body resembled the views entertained by the old Greek philosophers. Man, said the former, is a compound of wind, fire, water, and earth, plus a soul. One of the winds circulates in the arteries, and so

causes the pulse (this was also in accordance with the physiology of the school of Hippocrates), while one of the fires displays itself in fevers, and another wastes the frame in old age. The derangements of the four elements give rise to diseases. This theory was not widely different (as the *Review* writer shows) from that held by Hippocrates, who taught that the elements of the human body are four, from which are derived the four humors — blood, phlegm, bile, and black bile — which rule the four temperaments, and whose irregularities constitute disease.

About the third century of our era, the Japanese, through conquest, came in contact with the Coreans, and subsequently, with the Chinese, and medical practice underwent modifications. The diabolical theory of disease gradually gave way to more rational views as to causation; the Japanese faculty came to recognize food and drink, atmospheric conditions, as wind and cold, heat and moisture, as causes of sickness. So impressed, in fact, was a celebrated Buddhist physician with the conviction that most stomach and intestinal disorders come from over-eating, that he adopted the practice of starving his patients into health — a mode of treatment that was often salutary and successful.

Shampooing, acupuncture, and the moxa, as well as the induction of anæsthesia by various narcotics (as hemp), have long been employed by Japanese surgeons. The medical school established A.D. 669, had a professor of shampooing, with ten pupils, and another of acupuncture, with twenty. In 820, five acupuncturists were attached to the Mikado. The operation, as practised by the Japanese, consisted "in driving fine gold, silver, or steel needles from one-half to three-quarters-of-an-inch into the flesh." The number of performances made at one time varied from one to twenty.

The use of the moxa was learned from the Chinese, who carry the date of its invention back to the year B.C. 2800.

A celebrated physician, Toku-hon, who lived in the sixteenth century, adopted common-sense methods in the treatment of disease, eschewed the stabbing and burning methods so much in vogue, and may be looked upon as the father of modern rational medicine in Japan. He died in 1630, at the age of one hundred and eighteen. "He held, like Asclepiades, that the true scope of his art was to help and foster the innate recuperative power of nature; and it is related of him, that being called to see a great man who lay ill of a violent fever, the first thing he did was to ask him what he liked and disliked most. The patient replied that, of all things, he should like to throw off all the bed-clothes, let the draughts blow around him, eat a melon, and drink plenty of cold water, all of which Toku-hon immediately and gravely prescribed. Can he have heard of Asclepiades, who, sixteen hundred years before him, professed it to be the physician's duty to heal safely, speedily, and pleasantly, consulting the patient's inclinations, and flattering his prejudices?"

MIDNIGHT CALLS.

DOCTORS are known to be exposed in various ways to dangers to which their non-medical neighbors are less liable, but there is one particular peril which menaces the doctor's safety from which other men are free. If a man is called out of bed at night and asked to go to a house where he is unacquainted, he naturally becomes suspicious and refuses to go, or takes precautions to guard against treachery. The doctor, however, finds it but a part of his ordinary experience to thus start out alone at dead of night, at the summons of a perfect stranger. We read of doctors who have thus been led into traps, but for the honor of humanity it may be said such occurrences are rare.

An attempt was, however, made a few nights ago to take advantage of this confiding spirit on the part of the profession. A medical man who lives in what may be styled the medical centre of Boston was roused by a ring at his bell, followed by a summons to a house in a street not far away, and in a perfectly respectable locality. The doctor made certain inquiries to make sure there was no mistake on the part of the messenger, but did not see the man at the door nor recognize anything different from an ordinary night call. He dressed and started. The street to which he went was brightly lighted on one side by an electric light, but the house to which he was called lay in deep shadow. The steps to the door were high with an area door below. When the doctor was within a door or two of the house to which he had been called he was suddenly conscious of some one moving in the dark at the side of the steps. It occurred to him that the messenger was either waiting to show the way or was just starting out to repeat the summons, and he turned to inquire of him if that was the house. His surprise was great to find himself facing a man who appeared to hold a pistol in his right hand (he certainly took the position naturally assumed by a man who threatens a traveller with a revolver, although the darkness left it a little uncertain whether he really held the weapon) and a cord in the left hand. At the same time the assailant said, "keep quiet, doctor; keep quiet, don't lift your hands." The doctor very naturally stood still and stared at the man and his revolver. His thoughts during the time he does not pretend to reproduce, but after a time, which may have been half a minute, though it certainly seemed much longer, he suddenly started across the street and took the road toward home. The man immediately ran parallel to the doctor on his own side of the street, as the doctor supposed to cut him off at the next crossing, but when the doctor turned at the corner he found that his assailant went the other way. The doctor therefore turned back, and followed far enough to see the man vanish in a labyrinth of small streets. A visit next day to the house from which the call was supposed to issue showed that nothing was there known in regard to the matter. Of course nothing can be certainly known as to the object of this midnight treachery, though robbery through intima-

tion was undoubtedly intended. The position of the man at a spot the doctor was sure to pass, and the cord in his hand leave abundant food for the imagination.

Inquiry reveals only one similar instance in this vicinity. A physician in active practice in Charlestown, was called at night to see a man on a ship said to be lying at a certain wharf. He did not like the locality and was tired and refused to go; inquiry on the morrow showed that no such ship was there.

Words are hardly adequate to express the feelings with which a medical man must regard such an occurrence, and the story needs no comments.

How doctors can guard against such treachery is not easy to say. To be forewarned is to be given a chance to be forearmed.

JACCOUD ON THE CAUSATION OF PNEUMONIA.

JACCOUD, whose work on "Internal Pathology" is one of the medical classics of the day, lately read before the Academy of Sciences a short paper, in which he takes a stand against the microbiotic theory of pneumonia, and argues in favor of the older view that pneumonia owes its origin to cold. He reports two cases occurring under his observation, where exposure to cold was the immediate antecedent of the attack and where the sputa before death, and portions of the lungs after death, presented multitudes of pneumococci.

His explanation of the presence of the latter is that these microbes are harmless to the healthy organism, but find a suitable habitat where they can multiply and flourish, when, from certain causes, the vital forces and the resistance of the tissues are weakened. "The human organism," he says, "contains constantly in itself multitudes of microbes of different species. It is a hostile environment for them when the functions go on normally, but when any severe perturbation impairs the physiological harmony, the vital resistance fails, and the previously hostile environment becomes a favorable one; the organism now becomes a prey to its own microbes."

This view is the one commonly held by the opponents of the bacterial pathology, and can only be disproved by facts of experimentation going to show that the supposed specific microbe is capable, of itself, of generating the disease, independently of the influence of cold or any other depressing influence.

MEDICAL NOTES.

— The somewhat ambiguous announcement has been sent to the JOURNAL: "Mantoni Giesshübler, the celebrated natural mineral water of H. Mantoni, at Karlsbad, Bohemia."

— A correspondent of the *Chemist and Druggist*, in describing how to make a percolator, mentions the following method of cutting a bottle: "I was first shown how to do it by an ingenious mechanic, and have since

seen the same published in Spons's "Workshop Receipts." Put the bottle on a level foundation, and fill up with oil (I use linseed oil, being able to use it in paint-making afterwards) as far as you wish the line of separation to be. Next get a rod of iron as large as possible, but small enough to go into the mouth of the bottle. Make the iron almost white-hot, and dip into the oil. In a very short time a crack will be heard, when the iron can be taken out, and the bottle will be found as neatly cut as if with a diamond. Should the bottle be very thick, and the crack not heard in a minute or so, a dash of cold water outside will settle the business."

— Mr. Thomas C. Platt, of New York, has adopted the somewhat remarkable course of resigning his quarantine commissionership *conditionally*, on the Governor's assuring him that he will appoint Col. Frederick D. Grant in his stead. The general condition of quarantine and health matters in New York seems to have been such as to require, in some cases, the application of disinfectants to the departments themselves, and Mr. Platt has not preserved his quarantine office in absolutely perfect odor. But, as the *New York Times* remarks, the laws of the State place the power to appoint quarantine commissioners in the hands of the Governor, and not in those of the out-going official.

— Reports dated the middle of May showed that, owing to the neglect of the Government in not enforcing vaccination, isolation, and disinfection, small-pox has become epidemic in the city of Santiago de Cuba. There are fully 500 hundred cases within the city limits, apart from those outside. The death-rate is estimated to be as high as 60 per cent., due to the fact that some 35,000 out of a population of 40,000 are supposed to be wholly unprotected by vaccination. The disease is spreading rapidly, especially among the 29,000 blacks in the city, and medical men expect that thousands will be swept away if stringent measures are not taken to check the disease. Meanwhile, steamers and other vessels sail daily to Havana, New York, New Orleans, and other ports. The epidemic of small-pox in the adjoining island of Jamaica is not over.

— The acting assistant-surgeon in charge of the quarantine at Delaware Breakwater, reports to the surgeon-general of the Marine-Hospital Service, that in the town of Lewes, Del., (population 1,900), from January 9th, when the first case appeared, to April 20, 1887, there were 836 cases of measles reported, and about 200 cases in the immediate vicinity of the town. The mortality was low, being only about 1.5 per cent.

The medical officer in charge of the Marine-Hospital Service, at Key West, (Passed Assistant Surgeon Glennan) under date of May 28th, reports to the surgeon-general that "out of a total number of five cases there have been three deaths and one recovery, and one with a probability of recovery," from yellow fever, "all originating in one infected premises. The danger apprehended was on account of the large number of unacclimated persons in the city, with every means

of outlet cut off. Many left in sailing-vessels, and, at my suggestion, Dr. Porter asked the Louisiana board to allow healthy persons to go from here this week, subject to inspection or detention at the New Orleans quarantine, which was granted. At this date no new cases have developed, but it is yet too early to say that the disease has been stamped out. In any event, the care exercised in this instance by the board of health, in guarding infected houses, fumigating and destroying infected material, and in promptly declaring the existence of the disease, (measures probably for the first time efficiently adopted in this place), has practically established an outside confidence in sanitary information emanating from here. . . . It is reasonable to suppose that the infection was introduced here by a Bolio family, who formerly kept the San Carlos and Fifth Avenue hotels in Havana. During the past winter they have brought over household goods and stored them in the adjoining house. It is said that Baker and his wife slept upon one of their mattresses. At a special meeting of the board of health this morning, at which I was present, this was recognized as probable. The disease may now be said to have three foci; and should the board of health now succeed in preventing its further spread, it will only be done by the utmost care and vigilance." A telegram, June 1st, reports four new cases in different localities. The War Department authorized the president of the board of health to use the hospital and the laundress quarters attached to the military barracks for the treatment of yellow-fever patients. Iron bedsteads and mattresses were sent from the marine-hospital stores.

The United States sanitary inspector at Havana, Dr. Burgess, reports that the furniture bought of Mrs. Bolio and used by the Baker family had been used in a hotel at Havana, and it is well known that many cases of yellow fever have occurred in that hotel during the last few years. He himself had treated five cases in it, and is of opinion that the old pillows, bedding, etc., were the sources of infection.

Inspection of vessels was commenced at the Delaware Breakwater quarantine June 2, 1887.

NEW YORK.

—The State Legislature adjourned without confirming Dr. Phelps as Health Officer of the port of New York, as was the case when the Governor nominated the same gentleman for the appointment last year, so that the perennial Dr. Smith still holds his own.

—The nineteenth annual commencement of the Woman's Medical College of the New York Infirmary took place May 30th, in the concert hall of the Metropolitan Opera House. There were seven graduates, and the address to the class was by the Rev. Henry J. Van Dyke, Jr. In the report of the Alumnae Association, which was read by Dr. Mary Bissell, allusion was made to the good work done by the graduates of the College in India, China, and Japan.

—There has been a considerable number of cases of pleuro-pneumonia among the herds in the neighbor-

ing county of Westchester, principally in the towns of Somers and Bedford, and some New York butchers recently went there and killed nearly two hundred of the diseased cattle. The owners receive from the National Government and the city of New York, jointly, \$40 per head for the stock thus killed, by direction of the State Inspectors. Most of the diseased cattle came from the West, and are supposed to have been infected when they arrived. Westchester County is for the present quarantined, and dealers there are prohibited from sending any cattle to the city.

Miscellany.

POISONING BY PILOCARPINE.

DR. A. G. GLINSKY, of the Kharkov Alexandravskaja Infirmary, reports, in the "Proceedings of the Kharkov Medical Society," part 1, 1886, page 109, as we learn from the *British Medical Journal*, a case of poisoning by pilocarpine — the first of its kind, according to the writer, in medical literature. A gentleman who had been in the habit of using a solution of pilocarpine as a stimulant for the hair, swallowed a considerable dose of the fluid, instead of a solution of quinine. About five minutes afterwards, profuse perspiration, first of the face, and then of the whole body, set in, together with salivation. These symptoms were speedily followed by dimness of sight, prostration, trembling of the limbs, a sensation of cold, noise in the head, and a general sense of confusion. On seeing the patient, about an hour after the accident, Dr. Glinsky found profuse, cold, clammy sweat, in big drops, on the face and body, coldness of the limbs, slight cyanosis of the hands and lips, a subnormal temperature; pulse 84, full, dicrotic; respirations 14; profuse salivation, great contraction of the pupils, spasmodic shiverings, general restlessness, extreme weakness, and trembling of the lower extremities. The treatment consisted of the internal administration of tannin and emetics, together with the hypodermic injection of atropine (1-30 of a grain, given in three doses). A quarter-of-an-hour after the injections a striking improvement took place; the perspiration ceased, the pupils became dilated, and tremor disappeared, and on the following day the patient was quite well. Dr. Glinsky adds that, in the period of 1879-85, 160 cases of poisoning by 23 toxic substances were admitted to the Alexandravskaja Infirmary. In 85 of these, phosphorus matches supplied the poisonous material. He shows, by statistics, that this kind of poisoning finds an increasing number of victims in Kharkov every year.

THE TREATMENT OF DIPHTHERIA.

THE *Therapeutic Gazette*, May, 1887, discusses the treatment of diphtheria and outlines the treatment which the editor personally has come to adopt. The primary and probably the most important part of the treatment is the free use of local remedies, of which Monsel's solution is, according to his thinking, the most efficacious. It should be painted very freely over the affected parts every four hours, either undi-

luted or diluted with an equal bulk of glycerin. It is essential to exercise a certain amount of care and not have the brush so wet that the solution will trickle into the larynx, unless, indeed, this organ has been invaded by the disease. Next to the local treatment comes the administration of mercurials. "We have so frequently seen an apparently severe attack of diphtheria abruptly aborted in its inception under the influence of large doses of calomel," say the writer, "that we can scarcely believe that the drug has no pronounced effect. A grain of it should be put dry in the mouth of the child every hour or two until frequent very loose liquid evacuations are produced. In diphtheritic, as in other forms of angina, tincture of belladonna has seemed to us to also exert an almost specific effect. In the treatment of severe ordinary sore throat our routine plan is the free local application of the solution of subsulphate of iron, diluted or undiluted according to the exigencies of the case, the administration of mercurials in the manner just described, and the use of belladonna, five drops of the tincture every two to four hours according to the age of the patient. The results which we have obtained in simple sore throat indicate that in diphtheria the treatment acts not by any specific influence upon the disease-germ, but by curing a local sore throat, which is the initial lesion of diphtheria, and causes through a septic poisoning the constitutional disturbance. As a specific antiseptic medication we have used the oil of eucalyptus with apparent advantage. It should be placed in small shallow vessels near to the patient, and a sufficient heat be steadily maintained to keep the liquid boiling. In this way large quantities of the eucalyptus oil can be volatilized and the respiratory passages be perpetually bathed with the antiseptic." The inhalations of turpentine as practised by Dr. Delthill of Paris and the improvement upon his method introduced more recently by Dr. Schenker are also referred to. The results obtained both by Dr. Schenker and Dr. Siegel from its internal use of turpentine indicate that it has considerable value in diphtheria.

THE INDICATIONS AND THE RATIONALE OF WASHING OUT THE PUERPERAL UTERUS.

DR. J. HALLIDAY CROOM, President of the Edinburgh Obstetrical Society, read before that Society a paper on the indications for, and method of washing out the puerperal uterus, which appears in the *Edinburgh Medical Journal*, May, 1887. He formulates the circumstances under which antiseptic washing out of the uterine cavity is indicated as follows:

Indications. — 1. Where, with localized tenderness over the uterus, there is a high pulse and temperature, and a fetid discharge. It is to be observed that the discharge must be fetid *from the uterus*. In order to decide this question, it is essential to wash out the vagina with an antiseptic wash — inodorous, such as corrosive sublimate — and then putting the finger up and into the cervix, to decide whether it is fetid or not. As I shall have occasion to point out in the sequel, all first washings out should be performed under chloroform, therefore I always explore the cavity of the uterus with the finger. I need not here refer to the case with which this can be performed, at least, during the first week of the puerperium. Even at a long period after labor, the carbolyzed fingers can be

comparatively easily introduced. In most cases some morbid product will be found, and in all cases, the necessary dilatation of the cervix will much facilitate the process of washing out.

2. Where, with a high pulse and temperature, there is any question as to the absolute complete delivery of the placenta; and, in this connection, it is impossible to emphasize too strongly the importance of examining closely the placenta after delivery, whether it be expressed, extracted, or delivered spontaneously. Such care will often eliminate at once any possible cause of infection.

3. Where portions of membrane have been retained *in utero*, and give rise to increase in pulse and temperature. Here, however, let me say it is possible to do harm in endeavoring to remove the membranes completely at the time of delivery. It is much better to leave a portion of membrane than to open up the genital canal in search for a small piece.

4. After the birth of a putrid fœtus.

5. Where the uterus remains abnormally large after labor, and where, as a result, owing to the presence of decomposing clot, symptoms of septic infection develop themselves. In such cases, washing out ought to be accompanied by the introduction of the finger within the uterus, and in all such cases quinine ought to be administered in large doses.

6. In cases where, late on in the puerperium, symptoms of septicæmia develop themselves.

7. In those somewhat rare, but well-recognized cases, where, from acute flexion of the uterus, the lochia are retained and decompose.

8. In some cases of imperfect abortion and premature labor, and in all cases where the uterus, under such circumstances, has been curetted.

9. In all cases where the hand has been introduced — say in cases of post-partum hæmorrhage, adherent placenta, or uterine hydatids — washing out the uterus with hot antiseptic water is the recognized treatment.

Rationale. "What is the *rationale*," the author next asks, "of washing out the puerperal uterus in septicæmia?" It seems, at first sight, open to doubt how far washing out the uterine cavity can prove effective in checking septicæmia if rapidly multiplying microbes have already passed into the system.

This point was alluded to during the interesting discussion which took place last session on the relation of microorganisms to puerperal fever, namely, that microorganisms require the condition of rest for their development. They do not multiply in the circulating blood. Dr. Freeland Barbour neatly and forcibly puts it thus: "That in those cases the toxic material does not multiply in the blood, but is generated in the uterus alone, from which it is served out into the system and eliminated by the excreting organs. The relation might be illustrated from the gas-supply of a city, in which the gas is, of course, produced at the retorts at the central work, and is simply served through the pipes and eliminated at the burners. By washing out the uterus, we put out the retorts and stop further production, the elimination of the poison being only a question of time." The value of washing out the uterus is confined to those cases where the septic material is developed in, and confined to, the uterine cavity. Where the development of the toxic material has gone beyond this, or where the septicæmia is developed originally outside the uterus altogether, obviously washing out the uterus will be of no avail.

Correspondence.

A NEW TREATMENT FOR PHLEBITIS OF THE LEG.

BOSTON, June 1, 1887.

MR. EDITOR,—I would record the fact that one case of recurrent deep phlebitis of the legs in an adult male, yielded well to a form of treatment *not* according to the routine generally followed and taught hereabouts.

In the patient referred to, three attacks to date have been under close study during the last eleven years; routine treatment was given during the two first attacks, namely, entire rest, elevated position of leg and opiates with hot fomentations. A very decided temporary paralysis of the feet and lower legs resulted from this disuse of the parts and the treatment. In this last attack no entire rest, no elevated position of the leg. No hot fomentations, no opiates were given, but the patient was ordered to force the exercise of the legs, just as soon as the clot

which formed was firmly fixed and the obstruction of the vein fully established, to rub into the leg freely (Metcalf's) lanolin and olive oil equal parts several times daily. When the pain of walking became excessive a temporary resting was indulged in by bending the leg upon the thigh, thereby compressing the arterial supply somewhat. A speedy complete recovery took place with no paralysis and no untoward symptom whatever, all existing oedema of the calf and ankle passing away at an early stage of the treatment. The theory is simple, that by these means the necessary collateral circulation around the obstructed vein was quickly formed by the tissues being softened and the pressure of the blood column remaining strong during the movements of the parts; opiates seem to be contraindicated where the tendency to stagnation of blood exists. Better is it to endure much pain than to risk adding to a disease. The patient can be seen by any one wishing to do so, and all inquiries will be gladly answered.

JOHN DIXWELL, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 28, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	732	280	17.22	14.84	2.66	9.24	1.22
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	266	100	20.52	14.06	1.90	10.26	2.28
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	127	39	9.48	14.22	3.16	—	.79
Boston	400,000	186	59	14.58	18.36	1.08	3.24	1.62
New Orleans	242,750	130	52	28.49	16.17	21.56	1.54	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	89	26	11.24	10.08	3.36	2.24	1.12
Pittsburgh	210,000	61	23	22.96	8.20	6.56	4.92	1.64
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	47	15	21.28	8.52	—	—	12.78
Richmond	100,000	23	11	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	8	27.77	—	16.66	—	—
Charleston	60,145	44	21	11.35	20.43	11.35	—	—
Portland	40,000	15	2	13.33	13.33	—	6.66	—
Worcester	68,383	16	2	12.50	18.75	—	6.25	—
Lowell	64,051	31	9	22.61	6.46	3.23	6.46	3.23
Cambridge	59,660	22	10	18.24	13.68	—	—	18.24
Fall River	56,863	16	6	—	12.50	—	—	—
Lynn	45,861	17	2	—	23.52	—	—	—
Lawrence	38,825	12	3	8.33	8.33	—	8.33	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	12	4	—	16.66	—	—	—
Somerville	29,992	11	3	9.09	27.27	—	—	9.09
Salem	28,084	17	5	—	—	—	—	—
Holyoke	27,894	10	—	50.00	—	10.00	20.00	20.00
Chelsea	25,709	5	2	20.00	—	—	20.00	—
Taunton	23,674	4	2	—	—	—	—	—
Haverhill	21,795	5	1	20.00	60.00	—	20.00	—
Gloucester	21,713	3	0	—	33.33	—	—	—
Brockton	20,783	5	2	20.00	20.00	—	20.00	—
Newton	19,759	3	1	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	4	0	—	—	—	—	—
Waltham	14,609	5	0	20.00	—	—	—	—
Newburyport	13,716	5	0	—	40.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,941: under five years of age 688; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 344, consumption 275, lung diseases 242, diphtheria and croup 121, diarrhoeal diseases 77, measles 35, scarlet fever 29, typhoid fever 27, malarial fevers 24, cerebro-spinal meningitis 14, erysipelas six, puerperal fever five, whooping-cough one. From scarlet fever, New York 14, Boston five, Brooklyn four, District of Columbia two, Pittsburgh, Providence, Lowell, and Salem, one each. From typhoid fever, Boston six, Pittsburgh four, Brooklyn, Baltimore and Providence, three each, Portland, District of Columbia, Nashville, Lowell and Waltham one each. From malarial fever, Brooklyn and New Orleans seven each, New York six, District of Columbia one, Baltimore three. From cerebro-spinal meningitis, New York eight, Boston and Lowell two each, Nashville and Fall River one each. From

erysipelas, New York and Boston two each, Brooklyn and Worcester one each. From puerperal fever, New York two, Boston, Baltimore and Pittsburgh one each. From small-pox New York four, Brooklyn one. From whooping-cough, New York one.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending May 14th, the death-rate was 19.7. Deaths reported 3,494: infants under one year of age 818; measles 235, whooping-cough 136, scarlet fever 47, fever 33, diarrhoea 27, diphtheria 20.

The death-rates ranged from 10.7 in Bolton to 29.0 in Huddersfield; Birkenhead 19.8; Birmingham 22.6; Bradford 21.6; Halifax 18.4; Hull 17.2; Leeds 22.7; Leicester 14.9; Liverpool 26.9; London 17.3; Manchester 26.4; Newcastle-on-Tyne 26.2; Nottingham 21.6; Sheffield 20.5; Sunderland 15.3.

In Edinburgh 23.8; Glasgow 23.7; Dublin 24.4.

The meteorological record for the week ending May 28, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																			
Saturday, May 28, 1887.	Daily Mean.	Dully Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, . . . 22	30.17	64.0	76.0	55.0	76.0	44.0	86.0	69.0	E.	S.	W.	5	12	11	F.	F.	C.	8	—
Monday, . . . 23	29.97	72.0	85.0	58.0	72.0	35.0	76.0	61.0	S.W.	S.W.	S.W.	18	24	20	C.	F.	C.	—	—
Tuesday, . . . 24	29.86	70.0	77.0	64.0	80.0	63.0	86.0	76.0	S.W.	S.W.	S.	16	17	10	O.	O.	O.	8	12
Wednes., . . . 25	29.69	67.0	72.0	64.0	94.0	80.0	92.0	89.0	S.	S.	W.	8	10	9	O.	O.	F.	8	20
Thurs-day, . . . 26	29.59	64.0	74.0	60.0	96.0	89.0	76.0	87.0	W.	E.	S.W.	5	11	13	O.	O.	O.	8	11
Friday, . . . 27	29.67	57.0	68.0	51.0	92.0	88.0	100.0	93.0	S.W.	E.	N.	5	18	18	O.	C.	R.	10	99
Saturday, . . . 28	29.82	48.0	52.0	46.0	93.0	100.0	95.0	96.0	N.E.	N.E.	N.E.	23	14	17	O.	R.	R.		
Mean, the Week.	29.824	63.1						81.6										34	1.42

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 28, 1887, TO JUNE 3, 1887.

PERLEY, H. O., captain and assistant surgeon. Relieved from duty at Fort Maginnis, M. T., and ordered for temporary duty at Fort Snelling, Minn. S. O. 49, Department of Dakota, May 23, 1887.

SUTER, WM. N., first lieutenant and assistant surgeon (recently appointed). Ordered for temporary duty at Washington Barracks, D. C. S. O. 122, A. G. O., May 27, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 4, 1887.

BRANSFORD, JOHN F., surgeon. Ordered to the Smithsonian Institution at Washington, D. C.

TRYON, RUFUS J., surgeon. Detached from the United States Steamship "Quinnebaug," and ordered home.

SIEGFELD, CHARLES A., surgeon. Ordered to the United States Steamship "Quinnebaug."

MARTIN, WILLIAM, assistant surgeon. Detached from the United States Steamship "Pinta," and ordered home.

FITTS, HENRY B., passed assistant surgeon. Detached from the Receiving Ship "Vermont," and ordered to the United States Steamship "Pinta."

FIELD, JAMES G., assistant surgeon. Ordered to the Receiving Ship "Vermont."

SOCIETY NOTICE.

NEW HAMPSHIRE MEDICAL SOCIETY.—The Ninety-Seventh Annual Meeting will convene in the Opera House, N. Main St., Concord, N.H., Tuesday, June 21, 1887, at 11 A.M. The programme for Tuesday, June 21st includes: (1) Annual Address by the President at 12 o'clock. (2) "Obstetrics: Thirty Years' Experience in a Country Practice," by Dr. William Child, of New Hampton; discussion will be opened by Dr. J. W. Parsons, of Portsmouth. (3) Oration: "Homœopathy," by Dr. George H. Sanborn, of Henniker; discussion opened by Dr. L. G. Hill, of Dover. (4) "Newmarket's Epidemic of Diphtheria in 1885 and 1886," by Dr. Charles A. Morse, of Newmarket; discussion opened by Dr. I. A. Watson, of Concord. (5) "Laceration of the Perineum," by Dr. F. B. Perkins, of Londonderry; discussion will be opened by Dr. S. C. Whittier, of Portsmouth. (6) "Report on Therapeutics," by Dr. Luther Pattee, of Manchester; discussion opened by Dr. C. B. Nichols, of Franklin Falls. (7) "Report on Surgery," by Dr. J. H. Cutler, of Peterborough; discussion opened by Dr. W. T. Smith, of Hanover. (8) "Dissection: The Confidence of the Public in Non-Professional Prescriptions," by Dr. W. S. Leonard, of Hinsdale; discussion opened by Dr. William Child, of New Hampton. (9) "Report on Necrology," by Dr. J. J. Berry, of Portsmouth.

OBITUARY.

MARCUS BLOOMFIELD LEONARD, M.D., M.M.S.S.

The death of this gentleman, already noticed in our columns, removed a practitioner of over thirty years' standing in East Boston. Dr. Leonard was a native of Sngar Grove, Pa. He attended the Albany Medical College, and in 1846 came to Cam-

bridge to study at Harvard College. He attended lectures by Dr. Channing, Dr. Oliver Wendell Holmes, and graduated in the class with Dr. William H. Thorndike, in 1849. He practised for a time in Worcester, but afterward came to East Boston, where he settled and has since resided. Dr. Leonard was a member of the Massachusetts Medical Society, and was also prominently identified with the Citizens' Trade Association of East Boston.

BOOKS AND PAMPHLETS RECEIVED.

Annual Announcement of Dartmouth Medical College. 1887. Transactions of the Rhode Island Medical Society. Vol. III. —Part IV. 1886.

Annual Announcement of the Buffalo College of Pharmacy for the Session of 1887-88.

Case of Herpes Omo-Brachialis. By James I. Tucker, A.M., M.D. Chicago, 1887. (Reprint.)

Feeding Patients against the Appetite. By Ephraim Cutter, M.D. New York: W. A. Kellogg. 1887. (Reprint.)

A Statistical Contribution and a Comparison of Methods in the Treatment of Tuberculosis of the Joints. 1886. (Reprint.)

Dermatitis Venenata: An Account of the Action of External Irritants upon the Skin. By James C. White, M.D. Boston: Cupples & Hurd. 1887.

Seventeenth Annual Report of the Massachusetts Homœopathic Hospital, and of the Ladies' Aid Association, for the Year ending December 31, 1886.

The Veterinary Service of the United States Army. By R. W. Shufeldt, M.D., C. M. Z. S., etc. Captain, Medical Department U. S. Army. 1887. (Reprint.)

Complimentary Banquet to H. H. Hill, M.D., given at the Augusta House, Tuesday, June 15, 1886. It being the Fiftieth Anniversary of His Continuous Practice of the Medical Profession. Augusta, Me., 1887.

Oration delivered before the Alumni Association of the Medico-Chirurgical College of Philadelphia, on the Evening of Thursday, April 7, 1887. By Dudley S. Reynolds, A.M., M.D., Louisville, Ky. 1887. (Reprint.)

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M.D., St. Louis, Lecturer on Neurology and Electrotherapy, St. Louis Medical College, etc. (Reprint.)

The Gathering of the Waters: or the Evolutions of Seas and Rivers. By D. T. Smith, M.D., Lecturer on Medical Jurisprudence in the University of Louisville, and one of the Editors of the Practitioner and News. Louisville, 1887. (Reprint.)

The Importance of Instruction in First Aid to the Injured. By W. Thornton Parker, M.D. (Munich), of Newport, R.I., late A. A. Surgeon U. S. Army; Member of the St. John's Ambulance Association, England. Chicago, 1887. (Reprint.)

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M.D., St. Louis, Lecturer on Neurology and Electrotherapy, St. Louis Medical College, etc. 1887. (Reprint.)

The Progress and Limitations of Operations upon the Abdominal Cavity. By J. Ewing Mears, M.D., Lecturer on Practical Surgery in Jefferson Medical College; Gynecologist to Jefferson Medical College Hospital; Surgeon to St. Mary's Hospital, etc. Being the Annual Address delivered before the Philadelphia Academy of Surgery, March 7, 1887. (Reprint.)

Lecture.

THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS.¹

BY GEORGE J. TOWNSEND, M.D., OF NATICK, MASS.

In obstetrics, the progress which has been made is well marked, and the change in method, in many respects, is well-nigh radical.

In our student days, we were counselled never to carry a pair of forceps with us to a case of labor; in fact, it was considered better that we should not even own a pair. This was to discourage what is called meddlesome midwifery, as objectionable now as it ever could have been. Yet those of us who have been called, as a last resort, to a patient worn out by days and nights of fruitless effort, and, after a successful delivery with forceps, have seen her succumb, plainly from exhausted vitality, can best realize the danger of a do-nothing policy.

Indiscriminate haste in interference with nature's processes is fraught with evil consequences, often entailing permanent disabilities, while too long delay in affording necessary aid is fatal in its effects.

The happy medium is now inculcated by our teachers, and ably carried out by our Fellows, so that we may reasonably hope that mothers undergo their severest ordeal with a minimum of danger and suffering.

Continued efforts are still made to perfect instruments; but however desirable it may be to have a pair of forceps perfectly adapted to their ends, we should not be allowed to lose sight of the fact that it is of much greater importance that the hand which uses them should be guided by a calm, dispassionate brain, and should be practised and skilled for its work.

In a well directed effort to avert the necessity of a resort to the most repulsive operation in difficult labor, craniotomy, one of our most progressive teachers has most persistently and ably advocated version where forceps have failed. This is a procedure dangerous enough to mother and child, and not lightly to be adopted. Yet it is demonstrable that it often will succeed in safely delivering the mother and saving the life of the child. Should it fail, the dread alternative is still practicable.

In no disease has there greater progress been made, in pathology and treatment, than in that most dread complication of the parturient state, puerperal, now known as septic fever. Less than fifty years ago this disease was accepted as an idiopathic fever, essentially consisting in peritoneal inflammation and not necessarily contagious. The treatment which we were taught in our student days, corresponded with this pathological view, copious blood-letting being the first requisite, the sheet anchor.

Very soon the occurrence of frequent consecutive cases in the practice of one physician after another, attracted attention, and an invaluable paper maintaining its contagiousness was published by a Fellow of this Society; who amongst the flattering homage of the whole literary world, has his crowning glory from our standpoint, in his well-earned reputation as the "faithful teacher." This paper is believed to be the first conclusive argument which had then been pub-

lished proving the fact, that the disease could be, and had been carried from one patient to another by the attending physician. After its perusal, no one could go from a case of puerperal fever, to attend a case of labor, without an inward consciousness, at least, of criminal carelessness.

It was reserved for more recent investigations, to show upon what this contagion depends, and how the hand which is used to comfort and assist becomes the vehicle of death.

Whether or no the germ origin of disease be yet accepted in its entirety, the results obtained by the systematic and rigid application of antisepsis before, during, and after labor, in abridging the frequency of the disease and diminishing its fatality, are simply astounding, and though in the present state of our knowledge we may not hope to see it entirely stamped out, the fact that we can render its occurrence infrequent and that we can abridge its mortality by means within the reach of every practitioner, will enable us all to breathe a sigh of relief.

The convincing incontrovertible paper prepared with most exhaustive care, the result of most exact observations, just published by the senior attendant of our "Lying-in Hospital," a paper which it would be well were it emblazoned in letters of gold and sowed broadcast throughout the ranks of our profession, leaves no longer room for doubt that the disease is the result of septic infection, introduced from without, that germicidal precautions and treatment will prevent its introduction and will modify its consequences when it has occurred.

In the outlying districts of our Society puerperal septicæmia is a rare disease. The seed to be developed must fall upon good ground. The more robust frames, the purer air, the simpler habits of life obtaining in those districts are all-important factors conducing to this end. But when it does occur, there is nothing in the whole category of disease more appalling, as all of us can realize, who, after leaving a newly-made mother, safely conducted through her dreaded ordeal, happy in the joys of maternity, have been hastily summoned to her bedside, by the onset of that dreaded rigor, too often the precursor of the final chill of death.

It is now but little more than twenty years since antisepsis was first suggested, and it was at once readily adopted, more especially by our surgeons, its methods carefully studied, its details minutely described and faithfully carried out. An able and earnest plea for its general reception has been made from this platform. Its wonderful results speak for themselves, limiting contagious disease to the individual in which it arises, arresting the progress of epidemics, and rendering practicable operations in surgery, previously regarded as formidable, as they were unsatisfactory in their termination.

In abdominal surgery its value is most readily noticeable. Witness the long list of ovariectomies, without a failure, in the practice of our most distinguished specialists, with a host of other triumphs in general, as well as in abdominal surgery.

There has been a difference of opinion as to the manner in which it acts in preventing disease, and it has been maintained by many that it is essentially only that cleanliness which is akin to godliness. Yet in view of recent developments, antisepsis is generally recognized as, not only the prevention of the presence

¹ Concluded from page 543.

of germs in abraded surfaces, but also the employment of germicides to render them inert should they escape our vigilance.

Its use is now by no means confined to our cities; though the denser the population the more necessary it is to guard against the communication of disease. In the remotest regions it is now habitually employed, and the country physician's satchel is rarely found without a supply of the bichloride, a box of antiseptic unguent, and a nail-brush.

The exclusive use of germicides, in the treatment of all disease, and its triumphant success in arresting morbid processes, is probably a therapeutic Millenium we may never see. For granting that every disease has its specific bacillus the killing of which will arrest the disease, a germicidal agent powerful enough, for that end, would be equally destructive to the organism in which the germ occurs. Yet a growing tendency to the employment of germicidal therapeutics is already noticeable, and the apparent results obtained promise a radical improvement in the treatment of many, especially the zymotic diseases.

We have admitted woman to fellowship in our Society.

Fully realizing the force of the objections urged against this, by many of our most experienced and able Fellows, not believing now, that numerically, she will ever become a large factor in the practice of medicine, we were early confronted with the fact that we had amongst us, conscientious, educated, competent female practitioners, and that they had become such without abating one jot or one tittle of those characteristic, inherent, feminine qualities, which constitute woman's priceless jewels. In the most dignified manner, with the utmost propriety, she asked permission to appear before our censors for examination, that, if found qualified, she might be admitted to our Society, shrinking from no ordeal, however severe, that they might deem necessary to prove her acquirements.

It would seem then that we owed it to our manhood, to our simple sense of justice, to grant her request, and by setting the seal of the Society's approval upon the successful candidates, to enable the public to discriminate between them, and a host of others, amongst whom may be those who are uneducated, unscrupulous, not to say profligate.

There are certain positions which a competent female practitioner, who is also a true woman, is peculiarly adapted to fill and in which her power for good is necessarily greater than that of any man can be. As an evidence of this fact, the good work of the late physician and afterward superintendent of our Female Reformatory Prison, is especially prominent. Her fostering care of the unfortunates committed to her charge and her humanizing influence upon them cannot be overestimated, and we have every reason to believe that the good seed so faithfully sown will bring forth lasting fruits, fraught with good results to the whole community.

But for an accidental circumstance she would probably have become the first female Fellow of our Society, and though now transferred to another more congenial and not less useful sphere, we can but regret her loss to our State.

For similar reasons there is another position which a competent female practitioner is peculiarly adapted to fill, that is, the medical supervision of the female wards of insane asylums, where a large proportion of

the cases, as large as one-tenth, if I am rightly informed, are erotic in their type, rendering the very presence of the opposite sex objectionable. The experiment has certainly been tried with success in a neighboring city.

Our good State enjoys the unenviable distinction of being the paradise of empirics. Aroused by the lamentable consequences of malpractice, resulting in one not very remote instance in the death of the victim and a verdict of manslaughter against his slayer, our Society appointed a committee to procure legislation regulating the practice of medicine. Mainly through the efforts of its indefatigable Secretary a bill for that end was framed and introduced into the Legislature, there to be killed by the strenuous efforts of its interested antagonists, aided by able counsel, and well supplied with the sinews of war. This is perhaps well, after all; for though our State is in a small minority, some twenty-six of our neighbors having enacted such a statute, and individuals must still suffer from maltreatment, the true method of overcoming empiricism, is by demonstrating to the public that only treatment by an educated skilled physician can produce the result most to be desired, the speediest possible restoration to health and usefulness. But by making this move we have at least shown our unselfish desire to promote the welfare of suffering humanity. For, had the bill become a law, in no possible sense could we personally have been benefited by it as not seldom our most profitable practice is in undoing the mischief which empirics have caused.

Brethren, the object of this superficial, imperfect sketch, for the half has not been told, is not mutual felicitation. We have sought only to adduce evidence enough to show beyond the possibility of doubt, that, while many of our master minds have originated improvements which constitute eras in medicine and surgery, the Fellows of our Society in general, each one according to his opportunity, have ever been found in the most advanced ranks of medical progress, abreast of its foremost wave.

The relations of our Society to the community in which we practice constitute a subject much misunderstood, yet of vital importance to our patients as well as of interest to ourselves. We have pledged ourselves to unselfishly give them the benefit of the latest researches, the most advanced thought in medical science, considering their welfare of the first, our own interests of secondary importance. We ask of them in return such reasonable compensation as may enable us to gain our daily bread, and we waive even that, in a host of cases where necessity and destitution may require it. This gratuitous practice necessitates more or less self-sacrifice, for though some of our Fellows are blessed with an abundance of this world's goods, if our professional income were divided up there would barely be enough to go round. And while this fact obtains, many an unblushing empiric acquires a large fortune. For as one of our eminent teachers once said to me, "that physician is a fool, who, if he has no principle cannot make money."

The tendency of many patients to frequently change from one physician to another, is one great obstacle to the systematic and effectual treatment of their cases; an obstacle of more moment to the sufferer than to his physician. For though it is by no means flattering to our self-esteem, after we have carried a case through its gravest phases to have it suddenly taken from us

and placed in the hands of some pretentious pathist, who readily asserts that the patient would have saved much time and suffering if he had only been called sooner, in the long run more patients will come to us under similar circumstances than will leave us.

We value our regular families who for one or two generations perhaps always depend upon us for aid in their hour of need, not because we are sure of their patronage and for the liberal fees which await us when our services are rendered and our attendance ceases; not because of the friendships which, however much the idea may have been depreciated in some quarters will spring up and abide between physician and patient; but because, familiar with their surroundings, their habits of life, their idiosyncrasies, we can render them more intelligent and efficient assistance. No physician, however familiar from long practice with the treatment of disease, can afford to lose sight of the weight of responsibility that rests upon him in the management of every grave case in which the issue of life or death depends upon his fidelity, judgment and ability. Any circumstance that will lighten that burden and make the successful issue more sure is of vast importance and is eagerly sought for by us all.

The causes of this tendency in the community are various. Success being naturally the touchstone, by which a physician's ability is tried, the occurrence of one fatal case after another, in spite of his most able and earnest efforts, often drives relatives to seek any change which promises better results, forgetful of the fact that one such disease awaits us all, no human power availing to ward it off.

Impatience of suffering and delay, a constant search after something new — the characteristic of our nation — misleading statistics, loud pretensions of superior methods, of new means, natural and supernatural, all are factors tending to this result, only to be combatted by a diffusion of the knowledge of the true powers and scope of medicine. There is one cause over which we have some control, and the influence of which we can diminish, and that is the too flippant use of the word *cure* — a word which, in its sense of restoration to health, it would be well were it eliminated from medical phraseology, and the fact stated that no patient was ever yet cured of any disease or disability by any medication or surgical operation. Medicine arrests pathological changes, abates symptoms, relieves suffering. Surgery removes foreign growths, adjusts displaced and fractured members, and, after all, in many instances, the patient fails to get well. Take any familiar disease, for instance, say diphtheria: many at first uncompromising cases recover, while another, in which the disease seems to have been overcome, the membrane disappears, the appetite returns, fails to do well, and finally succumbs.

So in ovariectomy, a most unpromising case, with extensive adhesions and other grave complications, gets well, while another, in which everything seems favorable for a successful operation, dies.

This, eliminating that general depressing effect of disease and operations, which is termed shock, is from a deficiency of a certain unknown quantity, which we have but limited means of estimating, and over which we have but little control, and which we call constitution, vitality. Whether this be a distinct principle, implanted in the economy with the breath of life, and growing with its growth, or the aggregate of the inherent

forces of organized matter, as has been ably maintained for and against, within our Society, is of no moment. The final cause is the same: the strength of that principle, the sum of those forces, determines the issue in every case.

The relations of our Society to other physicians in the community seems to constitute a topic which is to be treated very gingerly, and with great caution, for what reason is not apparent, unless, forsooth, because many of them with good social standing have a greater or less following of people intelligent and educated enough in other matters, but lamentably ignorant of the true scope and powers of medicine.

Under our by-laws, we can simply have no professional relations whatsoever with such practitioners, neither in general, in special, nor in hospital practice. In general practice, the language of our by-laws is explicit enough, and it makes no exceptions for special nor for hospital practice. In fact, the attempt of any Fellow of our Society to treat a special organ, while some pathist manages the rest of the system, would be a manifest absurdity. What, for instance, could an oculist do with the specific forms of iritis, while somebody else dealt with the systemic infection?

If, in hospital practice, the wards are kept distinct, there is nothing in our by-laws which forbids our Fellows taking charge of one part of a hospital, while some other physicians take charge of another part. But if the rules of such a hospital require, at any time, a consultation between the members of the different staffs, medical or surgical, no Fellow of our Society can consent to such a consultation without plainly violating his written assent to our by-laws, and imperiling his affiliation to the Society.

Our by-laws forbid such consultations, for good and sufficient reasons obvious enough to any unbiased inquirer, as it is impossible that any benefit could accrue from them, either to the patient, to medical science, or to the consultants. There can be nothing in common between two physicians, of whom the one, fitted by his experience and studies to cull from the broad domain of medical science all the facts which may throw light upon a given case, bases his diagnosis upon those facts, and shapes his treatment accordingly; while the other, having an exclusive theory to maintain, in all consistency, can only accept such facts as accord with his theory, and must reject or ignore all others.

What benefit could the patient derive from such a consultation? No argument is possible between the physicians, and neither of them can conscientiously yield his views. The patient has no new light thrown upon his case which his attendant accepts, no new treatment proposed which he can carry out.

Nothing is gained for medical science; for the more a case is discussed from such opposite standpoints, the wider the difference grows, until the consultants separate with a mutual feeling of dissatisfaction, if not of hostility.

What becomes of our boasted philanthropy when we decline such consultations, and refuse the benefit of our advice to a sufferer? We do not decline to aid any sufferer, as far as our time and strength will allow; but, as the responsibility of life rests upon us, we only ask that we shall meet one who is willing to see the force of our reasoning, and, assenting to it, will faithfully carry out our suggestions.

We have expelled from our Society, Fellows who

profess to cure diseases by any exclusive method, any pathy, and a howl of indignation at our uncharitableness and illiberality echoed from one end of the State to the other, which was as unreasonable as it was uncalled for: uncalled for, because we have ample and unquestionable authority to manage our own affairs, to establish our own by-laws and enforce obedience to them without outside interference or criticism; unreasonable, because the main point at issue has been either entirely misunderstood or wilfully ignored. Submission to the will of the majority is the cardinal principle of every organization in a republican government, without which there can be no permanency nor power in it, and our own affords no exception to the rule.

We have adopted a certain standard for ourselves; we are incorporated for certain definite purposes; we have established by-laws to enable us to carry out those purposes; we have provided a way to change those by-laws from time to time as expediency may dictate; we require all Fellows to comply with them, and we allow any Fellow to sever his connection with the Society, at his own will and pleasure, provided only that he has paid his dues and has made a written application giving his reasons therefor. When a Fellow openly and avowedly violates our by-laws with which he has agreed in writing to comply, and he becomes guilty of practices forbidden to Fellows, his conduct viewed by any standard of honor and probity, is unworthy an honorable physician and Fellow of this Society. It is simply giving the lie to his written promise. For this, because they deliberately violated their written word and sought to weaken and subvert an institution which they had promised to sustain, have Fellows been brought to trial, and when found guilty have been expelled from the Society; and not from any personal nor professional hostility to them. No other course was possible consistent with our self-respect and our regard for the permanency and influence of our Society.

Other physicians viewing these objects from a different standpoint, have organized societies professing certain methods of treatment and practising more or less consistently, according to those methods. With these we have no concern. We have no right even if we have the inclination to criticize them, much less to assert that they are dishonorable or unworthy practitioners. Our professional differences are irreconcilable, but there need be no personal nor social antagonism between us, any more than between others who hold opposite opinions upon various subjects.

The relations of our Society to its Fellows comprehend our mutual relations to each other. Our first duty, if we wish to promote the integrity and influence of our Society, is to guard well its portals, to see that none but good men and true enter there. The committee, appointed by our councillors, have with much labor prepared an exhaustive list of medical schools, which have given evidence of honest, faithful work in fitting students for our profession, and this list has been accepted by the council. A diploma from one of these schools, or its equivalent, is a prerequisite to an examination for fellowship required from every candidate. Yet there are Fellows of our Society to-day by no means necessarily incompetent physicians nor is the date of their admission remote who cannot show such a diploma or its equivalent. This is an evidence of laxity in discharging their duty

on the part of the censors who passed them, plainly forbidden by our by-laws. Though our Society thus far may have suffered no detriment from this, a continuance of the practice is clearly an injustice to those candidates who have complied with our requirements, and opens the door to others in the future who may be anything but desirable Fellows.

Once admitted to our Society we cannot sever the affiliation of any Fellow without preferring charges against him, and giving him a fair trial, in which he has an opportunity to explain and refute those charges. It is evident that it would not be an easy matter to convict one of a violation of the by-laws of our Society before he had given his assent to them, and it would necessarily appear that the fault should be laid at the door of the censors and not of the candidate.

Until quite recently there has been no attempt to secure anything like uniformity in the examinations by the censors of our different districts, and instances are not wanting where candidates rejected in one district have, after the prescribed time has elapsed, applied in another, with the hope of receiving an easier examination. The recent move by the censors to establish a definite system of examination throughout all our districts, is in the right direction, securing a practical, honest test of his acquirements to the candidate, one which every practitioner ought to be able to pass, and excluding only those who are clearly deficient in education and therefore incompetent.

One more topic I fain would not pass over, albeit a delicate one. Our organization is essentially a brotherhood. We are banded together for the public weal. Harmony and unanimity are necessary to the attainment of our ends. In the active competition of professional life, a competition which with many of us means a struggle for daily bread, collisions may occur, always fostered and enjoyed by outside parties ever ready to cavil at our profession, the evil effects of which are only to be averted by mutual concession and forbearance. Sharp criticism, disparaging remarks concerning a brother physician, are often thought to be sweet incense to our ears, whereas a greater insult cannot be offered us or our profession. It is rarely, indeed, the case that we cannot offset such remarks by the mention of some act of unselfish and successful devotion on the part of our abused brother.

We have admitted women to our Society. We all recognize her priceless influence in softening the asperities and promoting the amenities of social life, may we not hope for some of that same influence in our professional relations, so that when we are tauntingly asked, when doctors disagree who shall decide? we may answer, the woman.

Brethren, let us close our ranks, progress shoulder to shoulder, banish all personal animosities, do battle only against the King of Terrors and all his attendant miseries, and, though worsted at last in every encounter, with services often unrequited and even unrecognized, gathering consolation in that we have contributed our mite to diminish the sum of human suffering.

Thus may we expect to see our Society acknowledged as the power for good in the community, which it is; commanding the respect which is its due, because founded upon eternal principles of truth and benevolence.

Original Articles.

A CASE OF ANEURISM OF THE ABDOMINAL AORTA.¹

BY ISRAEL T. DANA, M.D., PORTLAND, ME.

ON the 6th of August, 1886, I was called to Naples, Me., to see Mr. A—H—, in consultation with Dr. John Y. Lord, of that town. Dr. Lord told me the patient had been under his care for a few weeks only; that he had been employed for years in the Cumberland Paper Mills; that his health had been gradually failing for a year or two, till now he was utterly incapacitated from all labor; that he suffered from beating and throbbing about the chest and stomach, dyspepsia, and great nervous disturbance and prostration; while the nature of the case remained obscure.

I found the patient presenting the general and local symptoms mentioned. Age thirty: of previous robust health, and great powers of endurance, having been famous for his long walks through the woods; had had most of the diseases of childhood, and also typhoid fever; maternal grandmother had died of consumption, and his father of heart disease.

He was emaciated, feeble and anæmic; his weight had become reduced from a hundred and seventy-two (estimated) to a hundred and twenty pounds; his stomach was sensitive, his digestion weak, and his pulse very frequent, unsteady, and irritable.

The most prominent subjective symptom was a constant sensation of beating and pulsation in and about the epigastrium. This, while constant, was subject to paroxysmal aggravations, easily induced by mental excitement or physical exertion, and sometimes related, he thought, to gastric derangements. The beating and pulsation were sometimes so pronounced that his wife said "it made her nervous to lie near him in bed." He suffered a good deal from thirst, and from sensations of heat and burning in the epigastric region, with more or less of associated soreness and tenderness. Of late these sensations had seemed to reach lower down, nearly to the level of the umbilicus. At times in rubbing over this region with his hand he would find the tender area to be scarcely larger than a silver dollar. He was subject also to sensations of sinking and faintness referable to the epigastric region. He had never had any fixed vertebral pain of the so-called "erosive" sort, but had had a good deal of pain of a neuralgic character, radiating from the epigastrium, and varying greatly both in intensity and extent.

He gave the following history. In August, 1884, while at work in the paper-mills, he was descending in a friction-elevator containing also a ton of paper. A man who was with him pulled by mistake a rope, removing the friction, and the elevator fell heavily to the floor below, a distance of ten feet. Mr. H. struck forcibly on the small of his back upon a narrow rail, across which his body was balanced. He was conscious of being badly bruised, and felt very sore at the point of the blow both internally and externally, but did not entirely give up work at the time. This remained a permanently weak point growing steadily more and more troublesome. As the months rolled on he observed that his powers of endurance were

waning, and he would get out of breath more easily. His wife also observed that he would get tired quickly, and then would have a feeble and distressed look. He would feel tired first at the very spot of the injury. Though gradually failing he did not give up work altogether till June 25, 1886, when he left the mill and went with his wife to her father's house in Naples.

On examination of the abdomen anteriorly, patient lying upon his back with limbs drawn up and supported, I found, through the thin walls, just above the level of the umbilicus and a little to the left of the middle line, a small roundish expansile tumor, not quite so large as a pullet's egg. Taking it between my fingers of both hands I recognized the fact that the expansion was equable. There was a single impulse related to the cardiac ventricular systole. There was no back-stroke. There was a distinct blowing sound audible through the stethoscope *gently* pressed upon the tumor. Percussion signs, owing to the rather small size and peculiar surroundings of the tumor, were rather vague.

On examination posteriorly, patient in sitting posture, I found a perfectly distinct independent centre of sound and pulsation, near the level of the twelfth dorsal vertebra. The sound was a double one and rhythmically related to the cardiac double sound. It was as if a miniature heart were there. The sounds were as distinct as those heard over the precordial region. Indeed they seemed sharper, and more intense, and the "booming" quality was pronounced. The area over which the sounds were so distinctly heard was sharply defined, and so limited as to be mainly included within the circumference of the trumpet-end of my stethoscope. Moving the ear upward along the back these sounds grew gradually fainter till entirely lost, the true cardiac sounds were faintly audible in the lower left intra-scapular region, and between these two centres of sound there intervened a region of silence. When I explained the case to the patient he said he had himself become conscious, within a few weeks, of the fact of a new centre of pulsation at the point indicated.

The *diagnosis* was clear. There was a small aneurism of the aorta just at its passage through the diaphragm. It was of traumatic origin. It seemed probable also that secondary inflammatory and possibly degenerative changes had involved the aortic coats higher up than the seat of the aneurism. Possibly some of the phenomena were due to pressure upon the solar plexus or splanchnic nerves.

My *prognosis* was guarded, and on the whole unfavorable. Some relief was however looked for, and in view of the remarkably favorable results, in cases lately reported, from the Bellingham-Tuffnell plan of treatment, some hope was encouraged of at least partial cure.

For *treatment* I advised (1) rest in bed, as nearly as possible absolute, to be maintained for perhaps two months, aconite and belladonna being used, *pro re natâ*, for the heat and the irritability of heart-action; (2) a diet of bread and meat, with cocoa, milk or tea, the total of solids to be ten ounces, and of liquids eight ounces per diem; (3) iodide of potassium, in doses of twenty grains, three or four times a day, as best borne. The plan went into immediate operation with the exception of the rigid diet part, which the patient, as I afterwards learned from Dr. Lord, was very unwilling to submit to. In view of this unwillingness, and of

¹ Reported at the annual meeting of the Association of American Physicians, June 2, 1887, at Washington, D. C.

the fact of the immediate and progressive improvement without it, it was not later enforced.

September 1, 1886, Dr. Lord wrote me, "our patient is improving steadily every day. The motion in the abdomen is hardly felt. The pulse has fallen to a hundred. His appetite is reasonably good and nothing which he eats seems to hurt him. He has rested well nights, and in fact has been comparatively comfortable. He is gaining some flesh." Under date of January 27, 1887, he wrote again as follows: "after two months of rest in bed, he began to sit up a little, and gradually resumed moderate exercise by walking. About the middle of November he began to ride out. I think he has gained twenty-five pounds of flesh. He has taken the iodide of potassium all the time with occasional omissions of a day or two. He says he feels so much better while taking it he is unwilling to leave it off." Later reports were in the same strain.

On the 10th of May, 1887, I saw him again at Cumberland Mills, to which village he had returned. His wife said he had been so much better, and was feeling so down-hearted at being so long idle, he had commenced the day before to do a little light work at the mills. His work consisted in watching the paper as it moved by him at a given point, and removing any soiled sheets. There was no lifting or other heavy work, and sometimes there would be nothing to do for twenty minutes at a time. I was waiting at his house for him when he came home to dinner. His wife was with him and he had been walking perhaps the sixteenth of a mile. He was slightly out of breath with the effort of walking, and remarked that the mere announcement that I had come out to see him, though he was glad to see me, had made his heart palpitate. His weight was a hundred and fifty-one pounds; pulse a hundred, even, and fairly strong; tongue clean and appetite good. He was somewhat anæmic, his nerves were easily disturbed, he was slightly dyspnoic on moderate effort, and palpitation was easily induced, but he had greatly improved since my first visit to him.

He gave the following account of himself. After my visit of August 1st, he had staid in bed for two months. In about three days after beginning the treatment the thirst and burning at the epigastrium suddenly left him. In October, when he began to get up, the heating and palpitation were greatly reduced. Since then they had largely subsided till now most of the time he does not notice them at all. He said that he was entirely free from them for weeks in the early winter, till in January he was thrown from a sleigh, after which he suffered more or less from them for several weeks. Exertion, excitement, or worry brings them on slightly. They have from the first been worse on waking in the morning, and he has been most free from them in the evening. Even within a few days, while considering the question of resuming work, he has had to sit up in bed, on waking, with heart-beating. The throbbing and tenderness, which he used to feel at the site of the aneurism, are only rarely and slightly felt now. Sometimes these sensations seem to him as if moved a little higher up, but his fingers recognize the aneurismal mass in the old spot. When he began to get up after his bed-rest, he could not at first bend directly forward to pick up anything from the floor, but had to get at it sideways. Now he can pick anything up naturally. He says he little thought at one time he should ever be as well as he now

is. He called my attention to two swellings at the base of the neck one on each side, just above the clavicles and near their sternal ends. His wife said if he gets cold and coughs hard, they swell to be as large as half-hen's eggs. They appear like sacular dilatations of the jugular veins.

On examination anteriorly, the aneurismal mass was found *in situ*, and not increased in size, while both impulse and expansion were diminished, and the blowing sound was but faintly recognizable through the stethoscope. On examination posteriorly, the independent centre of pulsation and double sound was found as before, but both motion and sound were greatly reduced in amount, and the "booming" quality of the sound was gone.

My conclusion as to the present condition is that a partial cure of the aneurism has been effected, the sac having been in large measure filled up with concentric layers of fibrine; also, that an inflammation which probably involved the walls of the aorta higher up than the level of the aneurism, has been largely or wholly reduced. The condition of the patient is therefore immensely improved.

My estimate of the chances of final and permanent recovery is not very hopeful. If the pecuniary circumstances of the patient were more favorable to rest of body and tranquility of mind; if he could live without either working or worrying about the support of himself and his family; and if he could have such recreation and change of scene as he might fancy, the prospect would be improved. But with all such conditions at the best, I should still make a very guarded prognosis. There are too many unfavorable liabilities. Embolism may easily occur; or suppurative inflammation may arise in the walls of the sac inducing pyæmia; or atheromatous degeneration may supervene, invading the aortic coats higher up which have already been the seat of inflammation; or in some other way, more or less direct, the aneurism may yet prove fatal.

WAS IT BERI-BERI?

BY G. B. STEVENS, M.D., GLOUCESTER.

ON May 13th, I visited at his home in this city the mate of the barque *Charles G. Rice*, which arrived in Boston the day previous from Manilla after a passage of one hundred and twenty days. He was perfectly well when he left the latter port; when about one month out he was taken with diarrhœa, having daily "nine to sixteen discharges of blood and slime." Great thirst began at this time, and continued for the rest of the passage. He drank very largely of the water caught from the ship's houses after rains, and polluted by "chicken dung and tobacco juice." After the diarrhœa had lasted for two months, he began to "feel tired in the calves of the legs"; three or four days later, that is, one month before arrival in Boston, he noticed, while sitting on the rail with his legs hanging, that the right leg below the knee was swollen. The left leg began to swell a few days later. One week before arriving in Boston the penis became œdematous. The œdema of the scrotum, which appeared three or four days later, would nearly disappear during each night. The diarrhœa had lasted up to this time, though during the latter part of the voyage the discharges averaged but two to four a day. This, he

thinks, may have been due to the better quality of the water, as they then used in part that stored in the butts. He never had any vomiting, but a disrelish for food, almost amounting to loathing. They had a plenty of fresh poultry, and canned food carried from the States a year and a half before. He did full duty until the last four days, and during that time did not give up entirely.

I saw the patient an hour or two after his arrival in this city. He was sitting up; through breathing his native air, perhaps, the anorexia of the sea-voyage had given place to a craving for food, and already preparations were making for the first meal in his old home to be of Gloucester's great food-product. He told me he had the "dropsical scurvy." This, he said, was the opinion of the captain, who had suffered similarly on a previous voyage, and at an English hospital this name had been given to the disorder. Looking for scurvy, I found no bleeding or sponginess of the gums, no ecchymoses in the cutaneous surface, no history of hæmorrhages excepting with the intestinal discharges. The dropsy, however, was evident enough. It was most noticeable below the trunk. The genitals were enormously swollen. The feet and legs were œdematous, pitting slightly on pressure. The left thigh was less swollen than the right. There was œdema over the pubes. The backs of the hands and wrists were somewhat puffy. The face appeared to be slightly swollen symmetrically, but there was no puffiness about the lids. I found no evidence of ascites, of pericardial or pleural effusion. The appearance of the face was that of plethora, and not of anæmia. The pulse was between 90 and 100, and somewhat irregular. The tongue was clean and moist. The bowels were acting four or five times daily, and the impulse to relieve them came very suddenly, and had to be quickly responded to, or the discharge would be beyond control. The urine was scanty. Thirst was extreme, and the appetite had become great. He said he was "well all but the swelling," which was very inconvenient.

He was ordered to bed, allowed to satisfy his appetite at first, but told that it would soon be restricted.

On the day following he was put on a diet of milk porridge with bread, and ordered three times a day fifteen minims of tr. digitalis with potass. acet. and gin. Dover's powder was prescribed for the diarrhœa. The next day, the 15th, a specimen of the urine was examined: the color was dark; the reaction, strongly acid; the specific gravity, 1.015; no albumen was found. On the 17th, diuresis had begun, but was not continuous. A specimen of the urine examined was pale, acid in reaction, of the specific gravity of 1.014. No albumen was found, nor anything abnormal under the microscope. Half an ounce of the infusion of digitalis three times a day, and an infusion of broom-top were substituted for the diuretic mixture first ordered. The porridge, he thought, caused a feeling of fulness at the stomach, it was accordingly omitted, and milk, eggs, and bread allowed night and morning, with fish and bread at noon. The appetite was still very large; thirst was great. The discharges from the bowels were thin and somewhat bloody, but were less in number. On the 20th, the kidneys were acting with great energy, principally during the nighttime. The œdema everywhere was much lessened. Pulse 72, full and regular. On the 21st, the œdema was to be seen only in the prepuce. The patient was sitting

up. The broom-top was omitted. On the 23d, the œdema was all gone. The appetite was more natural; thirst was less. The bowels were moving but twice or thrice daily; the discharges contained little blood. After the œdema had gone he complained of numbness in the legs, most marked below the knee, especially in the calves of the legs. Pinching or scratching the skin in this situation produced but little sensation. He never seemed to have noticed this on ship-board, and it certainly was not a symptom in the early part of the time he was under my care. On the 26th, the kidneys were acting freely, but not immoderately. Their secretion showed nothing abnormal. The digitalis was omitted, and fifteen minims of the tincture of the chloride of iron were ordered three times a day. The appetite was quite natural, and a more varied diet was allowed. The bowels were moving twice daily without blood. The patient walked out for the first time on this date, and was discharged.

The lax condition of the skin, even where the œdema had not been great, as, for example, about the hands and face, was very noticeable. A shrinkage, from a partial desiccation of the tissues through the large amount of water eliminated by the kidneys, seemed to have resulted. The patient said he had never been so thin. A pair of trousers, that fitted him four months before, were distended to their utmost when he reached home, and two weeks later they were loose almost to a ludicrous degree. He complained much of numbness of the legs. This seemed to have increased.

The case is not reported as positively one of beri-beri, but I think there is reason to believe it may have been. The dropsy was certainly of an uncommon form, and, in my opinion, was not traceable to the usual causes. On the other hand, the condition of the bowels was unlike that met with in most of the cases of beri-beri that I have read of; constipation has seemed to be the rule. The nervous symptoms, consisting only of impaired sensation in the lower extremities, were a late occurrence.

Clinical Memorandum.

A CASE OF TOXIC SYMPTOMS ARISING FROM THE USE OF COCAINE.

BY EDWIN W. BULLOCK, M.D., HAVERHILL, MASS.

DURING the last few months I have used cocaine quite freely, especially for producing anæsthesia of mucous surfaces. Therefore, the following case of toxic effect from the drug after giving me considerable anxiety for the time being, has seemed to be sufficiently interesting and instructive to warrant my reporting it to the JOURNAL.

Sunday, May 15th, Mr. P., aged 24, came to my office to have tonsillotomy performed. In order to obtain anæsthesia, I employed first, a spray of a four per cent. solution of cocaine (Squibb's four per cent. solution with boric acid being the one used), then, by means of a sub-cutaneous syringe, made six injections of the same solution into the tonsils, at three different points in each.

About two drachms were used in the spray, and forty (40) minims was the whole amount injected. The operation was entirely successful, perfect anæsthesia being obtained and but very little blood lost. At 3 p. m., about four hours after the patient had left my

office. I was summoned in great haste to see him. It seems that about 2 P. M., he was suddenly seized with a very severe headache and vertigo, soon followed by a "burning sensation" in his stomach and nausea but no vomiting. His face became much flushed, respiration quite difficult, and finally delirium came on. When I first saw him he was tossing about in bed in a half-unconscious condition, muttering to himself. I was able without great difficulty to rouse him sufficiently to answer questions, after which he quickly relapsed into his former condition.

He complained of tingling sensations in the extremities, dryness and constriction of the throat, "burning sensation" in the stomach, nausea and intense headache. The pupils were widely dilated, there was some cyanosis of the face, but not of an extreme degree, respirations varied from ten to fourteen, pulse was 126 and very weak. I at once administered about $\frac{z}{3}$ of brandy, and a few minutes later twenty drops of tincture of digitalis. This was vomited fifteen minutes later.

I then gave a sub-cutaneous injection of five grains of carbonate of ammonia, and applied hot sinapisms to the chest and epigastric region. A little later I again gave some brandy and digitalis, and this time it was retained. In about twenty minutes the pulse grew stronger, beating 115, and the respirations became less labored. I kept on administering brandy and digitalis at frequent intervals, and at 5 P. M., had the satisfaction of seeing the patient drop off into a quiet sleep. Pulse was 105 and quite strong, and respirations 18, while the cyanosis of the face had nearly disappeared. He slept quietly until 9 P. M., when he awoke and stated that he felt much better, but still had some headache. Pulse was 95, and respiration 20. He soon went to sleep again, and slept quietly the greater part of the night. The next morning, the 16th, he complained of a good deal of numbness and tingling in the extremities, intense dryness of the throat, and blurred vision. These symptoms gradually passed off during the day, and by night he was as well as before the attack. On looking up the subject of cocaine poisoning, as far as possible, I have been unable to find any case in which so long an interval occurred between the time of administration of the drug, and the first appearance of the toxic symptoms, nearly three hours intervening in this case.

Then too, the amount of drug absorbed was quite small, the patient only getting about a grain and a half by means of the injection; and allowing that one-half of the amount used as a spray was absorbed, about two-and-a-quarter grains from this source, making a total of three-and-three-quarters grains for the whole amount absorbed.

— Dr. Zschokke, of the University of Geneva, has been making some experiments on tania, in the course of which he himself, with six students, who volunteered for the somewhat hazardous experiments, each swallowed five cysticerci. The results show the successful propagation of the tania in every case, except that of one student, who was, at the time, undergoing a copaiba treatment.

— The newspapers report that W. Irving Bishop, the "mind reader," is suffering from a cataleptic attack which occurred last week.

Reports of Societies.

THE ONE HUNDRED AND SIXTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 7TH AND 8TH, 1887.

THE becoming harmony between nature and her devoutest followers, the physicians of the State, was never better exemplified than in the physical environment of the one hundred and sixth annual meeting of the Massachusetts Medical Society, held in Boston on the 7th and 8th of June. The skies were fair, and the sun shone on both days; while, on the other hand, the attendance was good, the programme interesting, and the dinner and its succeeding exercises enjoyable. As of late years, the large hall of the Institute of Technology building was used for the literary exercises, and the dinner was served in the Clarendon Street Rink.

AT THE HOSPITALS.

The morning of the first day was devoted to hospital visits, the wards and amphitheatres of the two large hospitals, and of the Children's Hospital, affording, as usual, cases of medical and surgical interest.

At the City Hospital, the following operations were performed: Three cataracts removed by DR. H. W. WILLIAMS, by the Von Graefe method, with cocaine. DR. GAY opened an aneurism of the axillary artery, and ligatured the subclavian, and also did the following: amputation at the hip for hip disease, with extension into pelvis, previous excision; amputation at the hip for necrosis of the femur; imperforate anus; cancer of tongue and lower jaw, removal of anterior half of tongue and half the lower jaw. All instruments were kept in 1-40 carbolic acid, and the wounds were washed with the same. Iodoform and boracic gauze dressings were used.

In the amphitheatre of the Children's Hospital, DR. E. H. BRADFORD performed Kocher's operation upon an ankle of a boy of four, for the removal of carious astragalus; also MacEwen's operation for the radical cure of an indirect, reducible, inguinal hernia in a boy of ten. Several interesting cases were shown in the wards. A girl of thirteen was well of hip disease six years ago. The thigh was flexed upon the body at a right angle, because of bony ankylosis. The girl walked with marked deformity and limp. Six weeks ago, Dr. Bradford did an osteotomy upon the femur, just below the lesser trochanter. The deformity was almost corrected, and the case treated as a fracture of the femur high up. At present she walks with slight limp, the sole of her foot being but from one-half to one inch above the floor when she stands erect. Union at the point of fracture is complete. Two cases of empyema were shown: one a recovery after an incision high up, with resection of a bit of the rib; the other, in which an opening had been made high up, and pus evacuated. The sound was introduced and cut down upon when it reached the bottom of the chest, thus securing drainage and the possibility of free irrigation. Other cases were shown of wry-neck, treated by open incision, hip disease, spinal caries, club-feet, etc.

FIRST SESSION.

Shortly after two o'clock on Tuesday afternoon, the President of the Society, DR. THOMAS H. GAGE, of Worcester, called the assembled Fellows to order, and

the exercises were begun by the reading of the first paper, entitled.

TUMORS OF THE BLADDER,

by GEORGE W. DAVIS, M.D., of Holyoke.

Dr. Davis referred briefly to the methods of exploration of the bladder — by perineal section, by the supra-pubic operation, by bimanual palpation, and by the cystoscope and electric light — and then, after discussing the symptoms suggestive of a diagnosis of tumors of the bladder, proceeded to consider therapeutic measures. He took the ground that no cystic neoplasms, except of a syphilitic nature, could be affected by medicine, and advocated the treatment of symptoms, and the removal of the new growth when there was no special contraindication.

DR. C. B. PORTER, of Boston, referred to a case of his own, where great suffering from vesical tenesmus and difficult micturition was completely relieved by the perineal operation, the patient ultimately succumbing to the disease. He inclined to the supra-pubic operation, as it was less dangerous, more easily done, and gave a better chance for exploration. In some cases a perineal exploration might first be made, but it was very difficult in stout subjects.

DR. F. S. WATSON, of Boston, said that tumors of the bladder were not so rare as the brief mention in the text-books would lead one to presume. He favored the supra-pubic operation, and believed in operative measures, even when there was slight prospect of a cure.

DR. JOHN HOMANS, of Boston, mentioned two cases where, in performing ovariectomy, he had accidentally cut into the bladder. In both cases the wound was sewn up, and healed without trouble.

The next paper was upon

CASES OF BURNS, WITH SPECIAL REFERENCE TO COMPLICATIONS, SEQUELE, AND TREATMENT:

by JAMES E. CLEAVES, M.D., of Medford.

The reader cited a series of cases from his practice, from which he derived a belief that treatment should be directed to the following ends: to relieve pain, overcome shock, support the strength, check granulations, aid healing by grafting, avoid cicatricial contraction, and overcome deformity.

DR. G. E. FRANCIS, of Worcester, said that, from the first moment, every effort should be made to use antiseptic treatment. It was better to die from shock than undergo the torture of prolonged granulation, and suppuration could be prevented by complete antiseptics.

This was followed by a paper on

LAPAROTOMY FOR PUS IN THE ABDOMINAL CAVITY AND FOR PERITONITIS.

by JOHN C. IRISH, M.D., of Lowell.

The reader began by a discussion of the causes of pus within the abdominal cavity, illustrating his theme by cases under his care, and drew the conclusion that when there was pus within the peritoneum, the proper treatment consisted in incision, drainage, and antiseptics. In the case of perineal abscess, this would seem indisputable, and it was reasonable in acute general peritonitis, which rarely occurred without the effusion of a purulent fluid. Even in tubercular peritonitis, where, at first sight, incision would appear foolish, brilliant results had been attained; and in peritonitis

succeeding abortion, medical treatment was useless, and laparotomy might afford a chance.

DR. JOHN HOMANS declared his belief that no abscess entered the pelvic cavity, except it entered from outside. Ovariectomies during peritonitis are usually successful. The procedure advocated by Dr. Irish was the only one possible. In peritonitis succeeding abortion, it was difficult, if not impossible, to effect a cure by any method.

The next paper was entitled

FRACTURE OF THE SPINE: ITS IMMEDIATE TREATMENT BY RECTIFICATION OF THE DEFORMITY AND FIXATION BY PLASTER-OF-PARIS JACKET.

by HERBERT L. BURRELL, M.D., of Boston.

Dr. Burrell suggested that there were but three methods of treatment of spinal fracture: the expectant (appropriate to a certain class of cases), the operative (condemned, except in gun-shot fractures), and reduction and fixation (which had yielded some good results). The reader illustrated his remarks by a series of tables compiled from all the cases that had occurred at the Boston City Hospital, and gave in detail two cases occurring in his service at the Hospital, in which he had successfully used the method of fixation [the patients were shown upon the platform]. He drew these conclusions: That rectification and immobilization was a rational method for many fractures of the spine; that almost any risk is justifiable under the circumstances; that if, as has been seen, softening of the cord may occur within forty-eight hours from pressure of fragments, treatment should be immediate; that suspension is but one means of rectification.

DR. A. N. BLODGETT, of Boston, cited two cases within his own knowledge, and endorsed the views of the reader.

Then followed a paper entitled

OBSERVATIONS ON THE PUERPERAL PELVIC LIGAMENTS.

by STEPHEN W. DRIVER, M.D., of Cambridge.

Dr. Driver presented a series of statistics compiled from records of some three hundred cases in his own practice, from which it appeared that, in a large percentage of cases, there was an increase of about one-third of an inch in the pelvic diameters from the relaxation of the pelvic ligaments. From these observations, and from his subsequent study of the pelvis, he deduced the following conclusions: That the presence of the relaxation of the pelvic ligaments depends upon the constitution of the woman; that a certain degree of relaxation is normal; that there may be much relaxation with little lameness, and little relaxation with much lameness; that the lameness depends upon a pathological change; that a small degree, even, may facilitate delivery; that these conclusions may be invalidated by farther observation.

Next came a paper upon

THE RELATION OF TEA DRINKING TO DISORDERS OF THE NERVOUS SYSTEM.

by WILLIAM N. BULLARD, M.D., of Boston.

This paper exhibited the results of the study of a series of dispensary cases, where the habitual use of tea to such a degree that it might be considered toxic, was evidently a large factor in the production of a variety of nervous symptoms, — palpitation, migraine, nervous irritability, paræsthesia, hysteria, mental asthenia, etc.

This was succeeded by a paper upon

PULMONARY TUBERCULOSIS AS A SEQUEL TO ORDINARY PLEURISY WITH EFFUSION,

by HERMAN F. VICKERY, M.D., of Boston.

The object of the essay was to show the possibility of a pleurisy with serous effusion being clinically the first step towards consumption; or, in other words, that a man who has heretofore been apparently sound and falls ill with acute pleurisy, may be destined finally to succumb to pulmonary tuberculosis. The reader advocated this position by the citation of authorities and by the result of a series of cases under his observation, and drew the following practical conclusion: that in all cases of pleurisy with effusion, the patient is, long after apparent recovery, in danger of pulmonary tuberculosis, and demands all possible hygienic precautions.

The last paper on the programme,

THE SURGICAL TREATMENT OF CHRONIC EMPYEMAS,

by MAURICE H. RICHARDSON, M.D., of Boston, was omitted on account of the unavoidable absence of the reader.

EXHIBIT.

At the adjacent building belonging to the Institute, there was held, under the direction of the committee of arrangements, an exhibition of official pharmaceutical preparations, instruments, surgical appliances and apparatus. It was unusually varied, well arranged, and interesting, including a large display of instruments, and several invalid beds and operating chairs.

THE CENSORS' CONFERENCE.

The annual conference of censors was held Tuesday afternoon at the Medical Library, Dr. John Crowell, of Haverhill, in the chair. Dr. John H. McCollom, of Boston, was chosen clerk. Reports from various districts were presented, showing a general maintenance of a high standard for admission. The question of the admission of members of other State medical societies without examination was brought up, and the general weight of opinion was strongly in favor of insisting upon an examination.

SECOND SESSION.

The exercises of the second day were begun soon after nine o'clock, when the President, Dr. Gage, called to order the Fellows assembled for the business of the annual meeting.

The records of the last annual meeting were read by the Secretary, Dr. Francis W. Goss, of Roxbury, and the annual reports of the Secretary and of the Treasurer, Dr. Frank W. Draper, of Boston, were presented and accepted. From these it appears, that there was last year in the Treasury, an unexpended balance of \$1,767.37; receipts during the year, \$10,516.21; expenditures, \$8,201.00; leaving a balance of \$2,315.21, and there are invested funds to the amount of \$32,420.17, bearing 3 4-5 per cent interest. Dues to the amount of \$55.00 have been remitted. During the year 95 new members have been admitted; 26 have died; 12 have lost their membership by removal from the State; 4 have been dropped from the roll for non-payment of dues; leaving 1,661 members, a net gain of 55 over last year.

A communication was presented from the finance committee of the coming International Medical Con-

gress, inviting a contribution from the Society to assist in defraying the expenses of the congress. It was voted to instruct the secretary to reply to the committee and state that the Society's charter forbade such use of its funds.

Dr. EDWARD H. BRADFORD, of Boston, on behalf of one of the sections of the Suffolk District Medical Society, moved the appointment of a committee by the chair, to investigate the subject of physical culture in our schools and report at a future meeting. It was so voted, and the following were appointed as such committee:—Dr. Z. B. Adams, of Framingham; Dr. E. H. Bradford, of Boston; and Dr. C. F. Withington, of Roxbury.

The literary exercises were then begun anew, by a paper entitled

A CONTRIBUTION TO THE STUDY OF THE ETIOLOGY OF THE SUMMER DIARRHŒA OF INFANTS,

by HENRY C. HAVEN, M.D., of Boston.

This paper was in continuation of the reader's paper of last year, and represented conclusions derived from a series of tables compiled from literal copies of the returns of death throughout the State. From them Dr. Haven argued that urban residence, while not without importance in its relations to diarrhœal diseases, was not a marked etiological factor. The cause was rather to be sought in alterations in the food ingested.

This was followed by a paper on

SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA,

by S. ALLEN POTTER, M.D., of Roxbury.

The important cause of summer diarrhœa the writer considers to be fermentative changes in the food. For three fermentative processes a specific micro-organism has been found, and possibly one will be for the others. The reader's conclusions, therefore, were, that micro-organisms bear a causative relation to the processes which contribute to summer diarrhœa; that, therefore, antiseptics are necessary in treatment; that antiseptics are to be found not only in drugs but in the environment of the patient; and that there is room for farther study of the subject.

Dr. HAVEN endorsed the reader's views heartily.

Dr. H. J. MILLARD, of North Adams, believed in preventive treatment, in getting good milk from one cow, and in keeping the cow in good condition.

The next paper was upon

TRAINING NURSES,

by ALFRED WORCESTER, M.D., of Waltham.

The reader spoke of the need of skilled nursing by the middle classes, who cannot afford to pay the present high prices that trained nurses command. To meet this need, which the large hospital training-schools are unable to do, physicians must themselves train nurses. Dr. Worcester presented in illustration the training-school at Waltham, where a class of seven was graduated last year, which has now a class of eight, and which continues in successful operation. He believed that in the smaller cities and towns, similar schools could be maintained.

Dr. WALKER CHANNING, of Brookline, took issue with the reader, saying that while such a plan might possibly be feasible in the smaller cities, it was impossible in the country, since the only real success is found where there is abundance of clinical material.

Just as no medical school succeeds well outside of a large city.

The concluding paper of the session was entitled
THE VALUE OF PUBLIC HEALTH MEASURES TO THE STATE,

by SAMUEL W. ABBOTT, M.D., of Wakefield.

This was a paper replete with statistics in reference to Massachusetts and with arguments and conclusions founded upon them. Among other matters, the reader alluded to the fact, that, while one hundred cities and towns in the State have a system of water-supply, hardly half-a-dozen have a good system of sewerage; and yet, in spite of this, the death-rate has slightly diminished. And it has diminished so much in the preventable diseases as even to suggest the disappearance of some of them in time. The average age of death, too, has increased from twenty-seven in 1851, to thirty-three in 1885. Among the recent valuable laws are the food and drug act, the act in relation to water-supply, and the act creating as an independent organization the State Board of Health.

Dr. H. I. BOWDITCH, of Boston, after referring to his deep interest in the State Board of Health, went on to speak of the physical condition of the children of the State. Massachusetts stood to-day in a ridiculous and improper position in regard to physical exercises. Hardly a day passed that some young woman or young man did not come to him who had a mind over-stimulated and was dying of consumption. School-masters are constantly stimulating the minds of these young people and neglecting their bodies. It is arrant nonsense—gross stupidity—to go on in this way. How can you have a sound mind if there is no sound body to keep it in? We ought to have some physical exercises in our schools. The children ought to be exercised physically every morning and afternoon, and the exercises ought to be practical gymnastic training.

Dr. EDWARD COWLES, of Somerville, superintendent of the McLean Asylum for the Insane, said that his experience in the Asylum led him to think that there was something wrong in the present school training.

Dr. ASA MILLETT, of East Bridgewater, said that one cause of the general apathy in the matter, arose from the neglect of physicians to properly inform the people, who are densely ignorant on sanitary matters, in support of which view he cited cases in his own experience.

The following delegates were then introduced by the President, and responded with brief speeches: Dr. Wallace K. Oakes, Auburn, Me.; Dr. William T. Brown, Jewett City, Conn.; Dr. Norman P. Wood, South Londonderry, Vt.; Dr. Philander A. Harris, Paterson, N. J.; Dr. Daniel Lewis, New York City.

THE ANNUAL DISCOURSE.

This carried the exercises up to twelve o'clock, and after a brief intermission, the Fellows were again called to order to listen to the annual address, delivered by Dr. GEORGE J. TOWNSEND, of South Natick, upon

THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS,

which is published in full in this and the preceding number of the JOURNAL.

(To be continued.)

AMERICAN CLIMATOLOGICAL ASSOCIATION.¹

FOURTH ANNUAL MEETING.

EVENING SESSION, AT 8 P. M.

CAUSES OF CARDIAC FAILURE IN HIGH ALTITUDES, by DR. FRANK DONALDSON, of Baltimore.

The important fact that there is often great dyspnoea and sudden cardiac failure on going to high altitudes, has not been sufficiently emphasized. Many patients are sent for general or special reasons to high altitudes, and are thereby done great injury, especially if they suffer from any form of functional or organic heart disease. From some experiments with the pneumatic cabinet, the author had come to the conclusion that this treatment should not be employed in cases in which there is any valvular disease of the heart, or fatty degeneration of its walls. Before being subjected to treatment in the cabinet, an examination of the heart should always be made. It has been asserted that the cause of the cardiac failure in ascending to high altitudes is want of oxygen. The speaker had performed certain experiments with reference to this point. At altitudes within ten thousand feet, there is sufficient oxygen to supply the hæmoglobin. In ascending to high altitudes, the pressure of the air within and without the lungs is the same, but on the heart the action is different. The pressure is removed from the outer surface of the heart, while the internal blood-pressure remains the same. There consequently must be dilatation of the heart-walls. This, in the author's opinion, was the cause of the heart-failure under these circumstances.

DISCUSSION.

Dr. B. F. WESTBROOK, of Brooklyn. I have no doubt that the explanation of the author with reference to the effect of high altitudes on the heart is correct, but in the pneumatic cabinet the conditions are different. Where the patient inhales compressed air, or sits in a rarefied atmosphere and inhales air at the ordinary pressure, there is an absolute or relative increase of pressure within the thorax. The heart is, therefore, submitted to a relatively increased pressure. As a matter of practical experience, I have found that patients with mitral stenosis or mitral regurgitation, with pulmonary congestion, can be put in the cabinet with safety. I should scarcely claim that the same rule could be applied to cases of aortic disease. I should hesitate very much before putting a patient with aortic regurgitation into the pneumatic cabinet. In mitral disease, however, the tendency is to assist, rather than exhaust the diseased heart.

Dr. H. F. WILLIAMS, of Brooklyn. Certain New York observers have claimed that in weak heart, particularly the "tobacco-heart," they have obtained with the pneumatic cabinet an effect similar to that of digitalis, due, probably, to a stimulation of the circulation through the coronary arteries.

Dr. S. S. COHEN, of Philadelphia. The heart is habituated to a certain pressure of the atmosphere (754 mm. of mercury). When the individual goes into a rarer atmosphere, there is a disturbance of the relationship between external and internal pressure, and this disturbance will necessarily bring upon the patient disease. The inhalation of compressed air in cases of dilated heart has been recommended by Waldenburg and others. I have recently employed

¹ Continued from page 562.

this measure, with beneficial results, in alleviating the dyspnoea and defective circulation due to a dilated heart.

DR. JAMES T. WHITTAKER, of Cincinnati, O. The condition met with in a rarefied atmosphere cannot be compared with that met with in the pneumatic cabinet. It does not seem possible to exert any mechanical pressure upon the heart in the cabinet. The conditions which have been observed admit of easier explanation by a study of the effects on the surface vessels. When the pressure is removed from the superficial vessels, the dilated heart propels the blood easier than before. This is one of the most efficacious means of treating irregular heart. I have used the cabinet for two years, and have seen no ill effects from its use, although I should not subject a patient with advanced cardiac disease to this plan of treatment.

SOME HOSPITAL CASES OF PHTHISIS: MARKED IMPROVEMENT UNDER GENERAL TREATMENT, WITH SPECIAL REFERENCE TO ALIMENTATION.

by DR. F. C. SHATTUCK, of Boston.

The cases reported had been treated in the Good Samaritan Hospital of Boston, which is devoted to the care of chronic disease. Many of the patients had been exposed to unfavorable hygienic surroundings. The treatment employed was devoted largely to improvement of the general condition. Search had been made for a specific treatment. If the disease is of a parasitic nature, it is natural to suppose that such a treatment would be of avail. At present, no such method of treatment is known. There are few individuals to whose lungs, at one time or another, the bacillus does not gain access. The fact that certain individuals are affected, while others escape, forces us to believe that there is a predisposition to the disease. The treatment employed by the author had consisted in relieving symptoms, improving the digestion, and the administration of as much food as the patient could take in the natural way. Artificial feeding had not been resorted to, but the patient was fed six or seven times a day. From two to ten raw eggs, with milk, were given daily to each patient. Alcoholic stimulants were not administered to these patients as a routine treatment, but were used only temporarily for special purposes. He had, for several years, been systematically cutting down the quantity of alcohol used in chronic cases, and had seen no reason to regret it. His experience had been that alcohol was not used with sufficient discrimination in chronic cases of diseases. Beef, milk, eggs, and other nourishing articles are more expensive than alcohol, but if they can be consumed in sufficient quantity, they are more useful. In 1883, the amount expended per patient for alcoholic liquors had been \$2.70, while in 1886, it had been only thirty-four cents. The patients received no injury, even if they were not benefited by this reduction. Eight cases of well-marked phthisis were reported, in which a decided gain in weight and general improvement resulted from the employment of the plan of treatment above described. About sixty cases had been under treatment.

DISCUSSION.

DR. E. T. BRUEN, of Philadelphia. Of the therapeutic measures under the control of the profession, diet, climate, and suitable hygiene are of principal importance. It is possible, by climatic and dietetic

treatment, to so change the nature of the tissues, that they shall not be suitable culture media for the growth of the bacillus of tuberculosis. I wish, however, to refer more particularly to the use of the Bergeon method by the injection of sulphuretted hydrogen. To antagonize the specific cause of the disease, this method has been a failure, so far as my experience goes. Since February last, I have had under treatment sixty-one cases by this method. Systematic examinations of the sputa have been made by Dr. E. O. Shespeare. There has been no apparent reduction in the number, or change in the character of the bacillus. This method should be classed among the methods at our disposal for the treatment of this disease. The good effects in my hands have been reduction of temperature, reduction of expectoration, very often a complete suppression of bronchial catarrh, and relief of cough. This leads to improved digestion, and enables the dietetic treatment to be carried out with great thoroughness. Forty-four of these cases showed improvement to a certain extent, the average gain in flesh being about five pounds. In one-half of the cases the temperature has been brought to the normal, while in the remainder, although the temperature has not been brought to normal, it has been reduced two or three degrees. In fifteen cases the results have been negative, but in no case did any harm follow the use of this plan of treatment. The improvement has been most marked where there is considerable catarrhal element. Those cases in which there has been more or less thickening of the lung, with the general symptoms well marked, wasting, loss of flesh and weight, without much rise of temperature, I have found were not specially benefited by the injection of gas. I have had the opportunity of making a post-mortem in one case which had been subjected to this treatment. Although the cavities in the lungs were unusually clean, I did not observe any evidence of cicatrization. With reference to the strength of the solution, I have not found strong solutions at all satisfactory. The best results have been obtained from a solution of five grains of sulphide of sodium, with five grains of chloride of sodium in one-and-a-half pints of water. I have never found it desirable to administer more than a gallon-and-a-half of gas at one time. I insisted that the injection be made slowly, and that one-half to three-quarters-of-an-hour should be occupied. I have not derived as much satisfaction in the treatment of the various forms of phthisis to which I have referred from any method as I have from the injection of sulphuretted hydrogen. I have always tested the breath for the presence of sulphuretted hydrogen. I have had negative results in, at least, eight out of every ten cases.

DR. S. S. COHEN, of Philadelphia. The experience of Dr. J. Solis Cohen and myself differs in some respects from that of Dr. Bruen. We have obtained the most decided benefit from strongly impregnated waters. The best results were obtained in those cases in which the patient had a decided taste of sulphuretted hydrogen, which continued for two or three hours after injection. The best effect has been obtained in those cases in which suppuration is about beginning. Bergeon states that the treatment is directed especially to the suppurative process. In employing this measure, great attention must be paid to detail. In about fifty per cent. of the cases, the condition has been greatly ameliorated. In another twenty-five per

cent. there was slighter amelioration, while in the remaining twenty-five per cent. there was more or less benefit to certain symptoms. I have seen no case in which no results were obtained.

DR. JAMES T. WHITTAKER, of Cincinnati. I have for a month used sulphuretted hydrogen by inhalation, having previously employed it for a month by injection. I began the use of inhalation carefully, and finding it well borne, I have pursued the method more boldly. I now put the patients in the cabinet, and allow them to have all the gas they will take. It has produced no unpleasant results in any case. The effects obtained have been about the same as those resulting from injection. In about one-third of the cases there were no results. I have searched the literature for records of bad results following the use of sulphuretted hydrogen, and have found only two in which a fatal result followed. It has been asserted that the good effect is due to the carbonic acid, but I am entirely incredulous of the effect of this agent.

DR. ROLAND G. CURTIN, of Philadelphia. It has been recommended by Dr. H. C. Wood that the sulphuretted hydrogen be taken by the stomach, using a saturated solution, through which carbonic acid has been passed. I have tried this in four or five cases, and have had the same effects as from injection.

DR. J. H. MUSSER, of Philadelphia. I have used the gaseous injections to a certain extent, but my results have not been as marked as some which have been reported. My best results have been in two cases: one was a case of incipient phthisis, in which the patient gained thirteen-and-a-half pounds in four weeks. The second case has gained eight pounds in four weeks, and has much improved in general condition. I attribute my want of good results, in part, to the want of enthusiasm on the part of those whose duty it is to carry out the details of the treatment.

DR. F. C. SHATTUCK, of Boston. I have used the sulphuretted-hydrogen gas, and in several patients it produced collapse in varying degrees, with weak pulse, nausea, vomiting, and headache. In several other cases, although the treatment was well tolerated, it produced no good effect. In one case of asthma, with chronic bronchitis and emphysema, thirty-four injections of the gas were given. While the treatment did not disturb the patient, it did no good. With the use of the gas was combined the administration of iodide of potassium and other remedies, and the patient recovered in about the same time as on a previous occasion, when the latter remedies were given and no gas used.

(To be continued.)

ASSOCIATION OF AMERICAN PHYSICIANS.

SECOND ANNUAL MEETING.

THE second annual meeting of the Association was held in the Army Medical Museum Building, Washington, June 2 and 3, 1887.

THURSDAY, FIRST DAY. — MORNING SESSION.

The meeting was called to order, at ten o'clock, by the President, DR. S. WEIR MITCHELL, of Philadelphia, who delivered a brief address, in which he referred to the purposes of the Association as being purely scientific, and difficult ethical questions and medical politics as having no place among the works of this

Society. He referred to the great desirability of making the meeting of the Congress of American Physicians and Surgeons, to be called in the autumn of 1888, a success. In conclusion, he reported the death of three members: Dr. Thomas F. Rochester, of Buffalo; Dr. Thomas A. McBride, of New York; and Dr. E. D. Hudson, Jr., of New York.

After the transaction of routine business, the first paper, entitled,

CIRRHOSIS OF THE LIVER IN CHILDREN,

was read by DR. R. PALMER HOWARD, of Montreal.

He reported two cases in which cirrhosis of the liver was present in children, brother and sister. He exhibited sections of the organ.

DISCUSSION.

DR. WM. A. WELCH. I recall one case, in which I made autopsy, in a case of cirrhosis in a child, twelve years of age. He came from the coast of Africa, and suffered with malaria. Both the liver and spleen were deeply pigmented. The clinical features of the case could not be obtained. Most of the cases of cirrhosis of liver of malarial origin have been reported from the coast of Africa. Very little has been brought forward in this country with regard to the malarial origin of cirrhosis.

DR. F. FORSHEIMER, of Cincinnati. I have seen two cases that may possibly be called cirrhosis. One was that of a child of eight years. At the post-mortem, the characteristic hob-nail liver was found. In this case, I considered the cirrhosis due to syphilis. The second case is now under observation in the Children's Hospital of Cincinnati, the patient being in the last stage of cirrhosis. In this case there is a history of syphilis, and the child has hereditary syphilis of the nervous system. To my mind, it is clear that syphilis is the most common cause of cirrhosis of the liver in children.

DR. WILLIAM PEPPER, of Philadelphia. I have the complete records of a case in which cirrhosis of the liver followed measles in a child, eight years of age. There was no syphilitic history. During the attack of measles there were symptoms of hepatic disorder, as shown by occasional attacks of catarrhal jaundice. Subsequently, the symptoms of developing cirrhosis made their appearance, and death in a comatose condition finally occurred. The whole duration of the case could not have been less than a year. At the autopsy, a typical hob-nail liver was found. The liver had been much enlarged, but it had gradually contracted, so that at the time of death it was of about the normal size.

OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART AND DIRECT FUNCTIONAL MURMURS,¹

by DR. JOHN GUIERAS, of Charleston.

In a previous paper on malignant endocarditis, the author had dwelt upon the significance of mitral, direct pre-systolic murmurs, which were proven by the autopsy to be unconnected with any lesion of the mitral orifice. The lesions were those of intense aortic regurgitation. He had attributed the murmurs to the recoil of the blood upon the mitral leaflets, holding them tense against the stream of blood coming from the auricle. In the opinion of the late Dr. Flint, direct functional mitral murmurs were limited to a

¹ To be published in a future number of the Journal.

small number of cases of aortic regurgitation, but the author thought that functional mitral murmurs were not so rare. Obstructive functional murmurs are common in aortic regurgitation.

Pulmonary systolic murmurs are more frequent than any other form of cardiac murmurs. In examining one hundred consecutive cases, he had found, in sixty-two, systolic pulmonary artery murmurs. In these, the murmurs were present during tranquil breathing, or during respiration, in such a way as to produce changes in the pulmonary circulation. If account is taken of the bruits heard in this region, the proportion becomes greater. The clearness with which these murmurs are heard depends upon the proximity of the artery, the thinness of the chest-walls, the nature of the surroundings, and finally, the proximity of the main trunk to the capillary distribution. Systolic pulmonary murmurs can be developed in the majority of healthy individuals, if we exclude those with thick chest-walls, and those who are not intelligent enough to modify their breathing as directed. The author held that such a murmur was a dynamic, obstructive, valvular murmur, and is produced by the effect of changes of blood-pressure upon the semi-lunar valves. A certain degree of pressure in the artery must tend to prevent the opening of the valve. This causes a slanting position of the valves and a narrowing of the orifice, with the production of a sonorous whirl. The fact that such murmurs are not more frequently developed at the aortic orifice is due to the greater power of the ventricle, and the wider distribution of the systemic circulation. There are, however, cases in which increased arterial tension is expressed not only by accentuation of the aortic second sound, but by an aortic systolic murmur. He had heard it in atheroma and in Bright's disease, where there was no marked anæmia. Pulmonary-artery murmurs, as heard in ordinary breathing, are confined to the expiratory act, and are loudest at the beginning of the act. The murmur is sometimes only heard with the first beat that occurs with expiration. In order to further develop this murmur, it is only necessary to arrest respiration. It is better to stop breathing during expiration, especially at the end of normal expiration. A full expiration makes the murmur louder. At the end of inspiration it is more difficult to develop the murmur, for several reasons: (1) because it requires entire arrest of respiration to produce engorgement of the main trunk; (2) because prolonged inspiratory effort is accompanied by a continued hum of the intercostal muscles; (3) because the expansion of the lung interferes with the transmission of any murmur that may be present. A slight murmur is frequently heard in inspiration if the arrest of breathing is pushed far enough. The speaker asked: Are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valve, which, together with the leakage at the tricuspid orifice, tends to prevent engorgement of the lungs by retardation of the flow of blood in the systemic veins, so that, continued for a time, it does no harm? In reference to the murmurs of anæmia, the author thought that they were due to some disturbance of the valvular apparatus. In this condition, there is a marked reduction in the quantity of blood. The valves require a certain amount of expansion of the vessels, in order to allow them to apply themselves to the walls. Venous hums and basic murmurs, he thought to be of valvular origin.

DISCUSSION.

Dr. A. L. LOOMIS, of New York. Many different explanations of murmur within the heart cavities have been given. We should recognize that they are due to many different causes. Many are obstructive in character while others are due to the impinging of currents of blood upon each other in the heart. They are also due to the force with which the blood current is carried from the heart into the vessels. They are also due to or greatly intensified by the condition of the blood. It seems to me that they may also be due to irregular action of the heart produced by nervous condition. The obstructive mitral murmurs referred to are, I think, of frequent occurrence in connection with aortic disease where there is dilatation and feebleness of heart power, but on autopsy I have always found such changes in the mitral valves as seemed to me to account satisfactorily for the murmur heard. I have heard the murmurs so readily produced during respiration, but when these murmurs have been persistent I have always found conditions of anæmia and failure of the right heart. It seems to me that the explanation is either anæmia or failure of heart power. I think that we shall, as we study the cases more, find that they are due not so much to changes in the valvular orifices as to changes in the heart cavity, and in the heart walls. Murmurs have come to be of very little pathological significance to me unless there are other changes associated with them. The worst cases of heart disease that I have met with, have had the simplest and least distinct heart murmurs.

Dr. E. T. BRUEN, of Philadelphia. In a case of anæmia which I have recently studied, the blood corpuscles were reduced from the normal to 1,800,000, with a great reduction in the hæmoglobin. There was also great relaxation of the vascular system, so much so that as the arm hung out of the bed, there was a venous pulse at the back of the wrist. This was attributed by Dr. Osler and myself to relaxation of the capillary vessels to such an extent as to permit the systolic impulse of the left ventricle to force the blood through the capillaries into the veins. There was no venous pulse in the neck. In this case there were murmurs at each of the valves of the heart. As the anæmia improved and the crisis of the blood was restored, the venous pulse disappeared, and the murmurs gradually lessened and the man has now no murmur whatever. This case is corroborative of the view of the author that in anæmia the murmurs are due to some functional disturbance of the valve.

Dr. F. P. KINNICUTT, of New York. It has been claimed by certain observers that pulmonary systolic murmurs are transmitted from the mitral valve into the auricular appendage. The condition required that this may occur is said to be dilatation of the appendage causing it to approach the chest wall. In some anatomical examinations made a few years ago, I found that in the normal condition the auricular appendage was concealed beneath the pulmonary artery and when fully dilated, its tip only could be seen beyond the edge of the artery. It was even then one-and-a-half inches from the internal surface of the chest.

Dr. F. C. SHATTUCK, of Boston. When auscultation was first introduced, all cardiac murmurs were considered of bad omen. It was then discovered that many systolic murmurs were practically of no importance. We are now finding out that all diastolic mur-

murs are not of evil import, and that they may be transitory and functional. A murmur by itself is next to nothing, there must be something beside the murmur to make it of much importance. The author has stated that in anæmia there is a reduction in the quantity of the blood. I would ask, is not the reduction more in the quality,—a corpuscular reduction and a reduction in the capacity of the corpuscles for carrying hæmoglobin?

DR. SAMUEL C. CHEW, of Baltimore. With reference to the diagnosis between aortic, regurgitant and mitral direct murmurs, I would say that I think that the diagnosis can usually be made by attention to the following points. An aortic diastolic murmur, although it may be intense at the apex, becomes manifestly louder as we reach the right side of the sternum in the second intercostal space. It will then occupy the whole diastole. If the murmur is mitral in origin, it generally will be presystolic, and will be also heard in the scapular region. The aortic murmur is not apt to be heard in the latter situation.

DR. BEVERLY ROBINSON, of New York. I have occasionally found in acute strain of the heart, not necessarily brought about by great muscular exertion, murmurs which unquestionably had nothing to do with organic changes in the heart, and cannot be explained as due to any special modification in the blood. The murmurs seemed to be due to more or less acute dilatation or obstruction of the mitral orifice. These murmurs I think, have considerable prognostic importance, for if they do not receive careful attention and proper treatment, they may continue for a considerable length of time, and then become of more or less grave import.

DR. ISRAEL T. DANA, of Portland. I have had under my observation two sisters, one forty years of age and the other thirty-three. The mother died of organic heart disease. Both of these sisters have had a mitral regurgitant murmur. In the elder sister the murmur after remaining for five or six years, disappeared. It remained absent for one or two years and then returned and has continued for the past two or three years. In the second case, the murmur after having been present for five or six years, disappeared and has since remained absent. I would ask if it is possible that a murmur connected with organic heart disease should disappear with improvement of the health and reappear when the health again fails?

PNEUMATIC DIFFERENTIATION,

by DR. HOSMER A. JOHNSON, of Chicago.

In the absence of the author the paper was read by the secretary. The author had compared the results obtained by the cabinet with those obtained by the Waldenburg apparatus, and he held that the former accomplished no more than the latter. The pneumatic cabinet he considered cumbersome and expensive, with nothing to especially commend it in the treatment of pulmonary diseases.

The last paper of the morning session was entitled

METHODS OF LITERARY RESEARCH,²

by DR. JOHN S. BILLINGS, U. S. A.

The author referred to the best way of using libraries with especial reference to medical literary work. He also spoke of the great importance of carefully prepared catalogues of books.

²To be published in a future number of the Journal.

AFTERNOON SESSION.

THE ANTIPYRETIC TREATMENT OF FEVER.

by H. C. WOOD, M.D., of Philadelphia.

In order to make the matter as brief as was possible, he had prepared certain propositions which he would read, and then give what he thought to be the proof of their correctness.

First, "Fever is a disturbance of calorification in which through the influence of the nervous system heat-dissipation and heat-production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system we have at present no proof of its existence." If an animal's temperature rises, there must be a certain number of heat-units used in producing that rise. If the temperature falls there must be a corresponding lessened production of heat. In his experiments the agent used to produce the fever has been the pyrogenic principle found in ordinary commercial pepsin. After the substance has been introduced the animal is put into a calorimetre. The animals used in the experiments have been dogs. In the normal animal heat-production and heat-dissipation are correlated functions. When the poison is injected it is found that heat-dissipation increases at the time that heat-production is diminishing, so that the fall of temperature was in part the result of heat-dissipation, and in part the result of diminished heat-production. It is impossible that there should be this wide disturbance of these two functions simultaneously, unless the poison which produces the fever acted upon some one central organ, and that must be the nervous system. McCallister, of London, while believing that fever is often produced through the nervous system, thinks that at times it may be produced by wide-spread tissue change caused directly by the poison, his reasoning being that in the advanced stage of fever the temperature is higher than at the beginning. He says that the time when the poison is at its maximum, does not correspond to the time when the fever is at its maximum. The objections to this argument is that we do not know that the poison of the disease is the direct cause of the fever. The poison which causes the disease in scarlet fever, etc., is probably not the poison which causes the fever. The latter is probably generated in the system.

Second. "Heat-production is regulated by a nervous apparatus, our knowledge of which is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting upon the trophic cells of the gray matter of the spinal cord. It is possible, also, that there is a centre which when excited, increases tissue change, but its existence has not yet been proven." The speaker then gave a *résumé* of the experiments which he had performed, which in his opinion, proved the truth of the above proposition.

Third. "Heat-dissipation is regulated through the vaso-motor system so that vaso-motor paralysis is followed by an enormous loss of animal heat, and under unfavorable circumstances, by death from cold." If section of the cord is made in such a way as to get vaso-motor paralysis without destruction of the respiratory centres, the heat-dissipation rises enormously. If the animal is kept in a temperature of fifty or sixty degrees, it dies in a few hours of progressive loss of heat. If kept in a warm chamber it lives for days.

The cause of the rapid heat-dissipation is the opening of the bloodvessels of the surface of the body.

When these remarks are applied to a study of antipyretics, it is seen that drugs may lower bodily temperature, in health or in fever, by increasing heat-dissipation. In this way act all agencies which causes vaso-motor paralysis. Antipyretics acting in this way may be called false antipyretics. Then it is conceivable that there may be drugs which act on heat-production through the inhibitory nerve apparatus, of which mention has been made. Such drugs may for convenience be called true antipyretics. Aconite, veratrum viride, and drugs of that class, belong to the false antipyretics. Whether or not there are any true antipyretics has until recently been a question which we have been unable to answer. With regard to antipyrine certain experiments made in the University of Pennsylvania, seem to give some positive results. Care must be exercised in these experiments, not to confound a normal defervescence with the action of the drug administered. In the dog, the use of antipyrine diminishes both heat-production and heat-dissipation; the former being diminished more than the latter. It is probable that heat-production is primarily affected. The question arises, whether this result is due to an effect on the circulation? He had found that antipyrine had no effect upon the circulation. The blood-pressure was uninfluenced by its administration. He therefore concluded that the action of antipyrine upon the bodily heat was entirely independent of any action upon the circulation, and the probabilities are of course that it acts through the nervous system. Beyond this our present knowledge does not extend.

THE TREATMENT OF TYPHOID FEVER BY ANTIPYRINE AND THALLIN.³

by FRANCIS MINOT, M.D., of Boston.

The following conclusions were reached. (1) Both antipyrine and thallin have a remarkable power of reducing the temperature in typhoid fever. (2) In no case was the use of these refrigerants apparently followed by any unfavorable effect upon the course of the disease. (3) The general condition of the patient was more comfortable after taking antipyrine and thallin, which were often followed by sleep. (4) The refrigerant medication by antipyrine and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. It often contributes much to the patient's comfort, perhaps indirectly promotes his safety. (5) The effect of antipyrine and thallin in promptly lowering the temperature shows that the danger in typhoid fever does not consist in high temperature alone, and that the latter is rather an index of the violence of the abnormal condition which we call fever, though perhaps adding somewhat to the danger. (6) By the internal use of antipyrine and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the dangers of exhaustion and shock consequent on the fatigue of removal from bed. (7) These remedies may be given without danger to the youngest patients, in suitable doses, and indeed their beneficial effects are more decided and the unfavorable consequences are less observable than with adults.

DISCUSSION.

DR. I. E. ATKINSON, of Baltimore. So far as the temperature-reducing power of these agents is concerned, there can be no question; but, as has been said, we are coming more and more to realize that elevation of temperature is far from being all there is in pyrexia. As regards the relative merits of thallin, antipyrine and antifebrin, I think that the tendency to chilling after the use of thallin, is decidedly greater than after the use of antipyrine, while the latter is more apt to produce nausea and vomiting. I am disposed to disagree with the statement that the use of these drugs can take the place of the external application of cold water. My experience with the latter measure has been limited. It has recently been reported that one observer abroad has treated two hundred cases in private practice by the use of baths, with a mortality of nothing. In army hospitals he has had a mortality of five per cent., and in ordinary hospital practice a mortality of less than eight per cent. Although with antipyretics we can reduce the temperature at pleasure, yet the duration of the case is not lessened, and in some cases it has been thought to have been prolonged.

DR. H. C. WOOD, of Philadelphia. We must not look upon the use of cold water as acting merely by the abstraction of heat. I am convinced that the action is more than this. It probably exerts some influence through the superficial nerves.

DR. GEORGE L. PEABODY, of New York. I have found that a certain proportion of cases which do not bear the cold bath will bear the use of antipyretic drugs, while on the other hand, the bath may be used in a certain number of cases in which antipyretics cannot be applied. From clinical experience I have been convinced of the truth of the statement of Dr. Wood, that the cold bath accomplishes more than the simple reduction of temperature. Its soothing effect upon the nervous system is greater than that accomplished by the reduction of temperature by antipyretic drugs. I believe that in many instances the course of the disease is favorably modified by the use of the cold bath.

Another important matter is that since the introduction of these methods of antipyresis, the number of relapses seem to be greater and more fatal.

I understood Dr. Wood to say that antipyrine acted solely by diminishing heat-production and that it did not increase heat-dissipation. I must differ from him on that point. It seems to me that the increase of heat-irradiation from the surface is very great, not only where it produces sweating, but also where it does not.

DR. W. W. WELCH, of Baltimore. I should like much to hear discussed the question how far rise in temperature is an important element in fever and an element which calls for interference on the part of the physician. There is comparatively little evidence that the grave symptoms of fever are referable to the elevation of temperature. There is no doubt that temperatures of 110° to 113° produce serious symptoms, but whether or not ordinary temperatures of 105° to 107°, exert any serious action on the body, is a question which is certainly unsettled. It has been shown that rabbits can be kept in a box with a continuous rectal temperature of 107° for at least two weeks, provided the precaution is taken to keep the box well ventilated and the animals supplied with

³ To be published in a future number of the Journal.

moist food. Patients may have a perfectly clear brain and no grave symptoms, with a temperature of 106° or 107° . On the other hand, there are severe and fatal cases of typhoid fever in which the temperature has never registered a great height. While in most cases there is a certain proportion between the height of the temperature and the severity of the disease, yet there are certain cases where this proportion does not exist.

DR. WILLIAM PEPPER, of Philadelphia. From my experience, I have been disposed to think that antipyrene and antifebrin were superior to thallin; between the two former I have not noticed any marked difference. I have used both largely in a variety of cases and have not seen any of the dangerous symptoms which have been mentioned by some writers. The action of these drugs seems to be purely through the nervous system. I have seen no effect upon the circulation, upon the respiration, or upon the secretions, save that of the skin. Some of my observations have been of interest with reference to the relative value of the external use of cold water and the internal use of antipyretics. In the sudden acute pneumonia of children with a temperature of 106° or 107° , with initial convulsions, where the prompt and repeated use of cold baths has been without gratifying results, full doses of either of these antipyretics have produced a remarkably successful effect. In a recent case in a child with double croupous pneumonia involving two thirds of the left lung and one-third of the right lung, with a temperature in the rectum of 107° , and with repeated convulsions, cold baths failed to relieve the symptoms, although repeated at intervals of three hours. Antipyrene in repeated doses controlled the pyrexia at the beginning and on several occasions during the course of the disease, and after a severe struggle the child recovered. As to the ability of these agents to replace cold baths under all circumstances the evidence is not adequate. In the sudden hyperpyrexia occurring in the course of rheumatism, I am not prepared to accept the view that these drugs are capable of replacing the cold bath. In these cases we have direct evidence that the high temperature is the direct cause of the symptoms, at least of the severe nervous symptoms. I am not one of those who consider high temperature in itself a dangerous symptom. There is no proof that high temperature, provided the high temperature has not induced secondary changes, should be regarded otherwise than as one symptom of the disease. I have had many patients with typhoid fever with a temperature of from 103° to 105° , who have done perfectly well without any measures directed to the reduction of the fever. We, however, meet with cases in which these temperatures are attended with certain symptoms for which there is apparently no other cause. In such cases we must consider that the hyperpyrexia calls for treatment. I have noticed the effect to which attention has been called, that is, the deep and tranquil sleep which follows the administration of these antipyretics.

DR. GEORGE B. SHATTUCK, of Boston. I have used both antipyrene and antifebrin largely, the former for several years, and it seems to me that antifebrin offers all the advantages of antipyrene without its disadvantages. It has none of the disadvantages which belong to thallin. Three or four grains of antifebrin accomplishes the same results as are produced by a larger dose of the other drugs. The disagreeable

symptoms which some writers have referred to as following antipyrene, are probably due to the fact that they follow the original recommendation and give two grammes of the drug. The same benefit can often be obtained from one gramme, and often from seven grains. With reference to the point suggested by Dr. Welch, I would say that, whether pyrexia is or is not a dangerous feature of the disease, we find clinically, that where a patient has high fever, is irritable, impatient and uncomfortable, the administration of one of these antipyretics or the external use of cold water, produces a tranquil and refreshing sleep, and the patient awakes in a condition much better fitted to continue the struggle with the disease.

DR. J. C. WILSON, of Philadelphia. I am led, from my experience, to agree with other speakers that antifebrin has many advantages over thallin, particularly in its cheapness and in the smallness of the dose. A recent observation which I have made is interesting, as bearing on the question of heat-dissipation. I have lately been treating a case of typhoid fever, in which, from time to time, antifebrin in five-grain doses was given. These were repeated whenever the temperature reached 104° . This caused copious sweating, with the usual reduction of temperature, amounting to three-and-a-half or four degrees. On the last occasion, one-ninety-sixth of a grain of sulphate of atropia was given with the antifebrin. No sweating occurred, and the temperature was reduced only one-and-one-half degrees.

DR. JAMES T. WHITTAKER, of Cincinnati. I would differ from the gentlemen who seem to accept the view that fever is a neurosis. We have, I think, no proof that the nerve-centres are distinctly irritated, and we have no proof that the agents which reduce fever act directly on the nervous centres. Is it not more probable that the antipyretic action is really an antimicrobial action? We have some observations which go to show that the disease is caused by bacteria, or, if not directly by bacteria, by some of their products, the ptomaines. Would it not be more rational to study the habits of these bacteria, and address ourselves rather to the removal of the cause than to the counteracting of the effects?

DR. H. M. LYMAN, of Chicago. With regard to antifebrin and antipyrene, my experience has been that of previous speakers, and my preference for the former drug is growing. I am disposed to regard their great value as proceeding not so much from their power to reduce temperature, as from their general effects, especially upon the nervous centres. I regard them as valuable adjuvants in the treatment of disease, largely from their hypnotic and tranquilizing effect upon the nervous system, to which allusion has already been made. I have observed that in many instances where, in abrupt febrile affections, relief has not been secured from antifebrin and antipyrene, this failure is frequently due to the presence of the condition we call rheumatic, and there salicylic acid gives the relief that we fail to get with antipyretics.

DR. JOHN GUITERAS, of Charleston. I have had some experience with these drugs in the treatment of the continued fevers of warm climates, but here the results have been rather negative, and have showed the advantage of stopping their use after they have been continued for a certain length of time. I have been called in consultation where the drug has been continued for ten or fifteen days, each time that it was

given producing a certain reduction of the temperature, but having no permanent benefit, and the patients have begun to improve as soon as the drug was stopped. It has seemed that, when given continuously in this way, they have an effect on the vaso-motor system. The pulse is weak and dicrotic, and I have considered it advisable to give digitalis. The effect of cold-water baths in these continued fevers of the South has seemed to me more beneficial. If continued for two or three days, they often favorably modify the course of the disease.

DR. GEORGE L. PEABODY, of New York. With reference to the point suggested by Dr. Whittaker, there is no question in my mind that a considerable proportion of cases of typhoid fever can be aborted by antiseptic treatment of the intestinal ulcers with naphthaline or resorcine. For the past two years, I have treated all cases coming under observation during the first ten days of the disease with a calomel purge (ten grains), followed by naphthaline in such doses that, at least, seventy or eighty grains are taken during the twenty-four hours. Under this treatment, I have without doubt succeeded in aborting many cases in which the symptoms were quite pronounced. I have not succeeded in cases coming under observation at the end of the second week.

DR. H. C. WOOD, of Philadelphia. In regard to the dissipation of heat by sweating, I would state that in the dog on which the experiments were made there are but few sweat glands. There are a few in the paws and about the mouth so that there could be no heat-dissipation from this cause. Sweating in man does undoubtedly cause a dissipation of heat. With reference to the possible influence of antipyrine on fever through some action on the bacteria causing the fever, I would state that in the experiments to which I have referred no microbes were concerned in the production of the fever which was induced by the pyrogenic principle of pepsin.

DR. JAMES TYSON, of Philadelphia. In a recent case of rheumatism, the temperature suddenly went up to 105° with alarming brain symptoms. Antifebrin in five-grain doses failed to produce any effect. The patient was then put into a cold bath and the temperature of the water gradually reduced to 72°. The discomfort experienced by the patient then prompted his removal from the bath. The thermometer in the rectum showed a reduction of only one-half of a degree, but within the course of half an hour the temperature fell three degrees. I scarcely think that this was a natural defervescence but must attribute it to the effect of the bath. The fall in temperature was followed by a disappearance of all the symptoms, and the recovery of the patient. While I have never seen any serious results from the use of thallin and antipyrine, yet there have been symptoms which caused much alarm to the attendants. I have not seen such symptoms follow the use of antifebrin.

DR. R. PALMER HOWARD, of Montreal. I want to emphasize the fact that internal antipyretics and the cold bath are not equivalents, they are substitutes, and important auxiliaries to the physician. These measures relieve special symptoms but whether or not they shorten the duration of the disease is a question not yet settled. Another important point is with reference to relapse in typhoid fever. This is a subject which requires investigation. I think that every relapse, so-called, is due to the absorption of fresh

poison. It is really a fresh attack. It is really an initial attack. It runs a severe course and often proves fatal.

(To be continued.)

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.¹

NINTH ANNUAL CONGRESS.

FRIDAY, SECOND DAY. — MORNING SESSION.

FURTHER RESEARCHES UPON THE FUNCTION OF THE RECURRENT LARYNGEAL NERVE, BEING A SERIES OF EXPERIMENTS FROM THE BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY,

by DR. FRANK DONALDSON, JR., of Baltimore.

At a previous meeting, he had read a paper criticising certain conclusions advanced by Dr. F. H. Hooper, of Boston. The conclusions which Dr. Donaldson reached were: That the constrictors do not cease to act under deep narcosis or suspension of consciousness from any cause; that we do not always obtain abduction on irritation when consciousness is suspended; that the abduction was not reflex, and was not dependent on unconsciousness; that it is with weak stimuli that abduction takes place, and the movement passed into adduction as the stimulus was increased. These results invariably followed, whether the animal was slightly or deeply narcotized, or when the medulla was destroyed, or when local death had taken place. That, after strong or continued stimuli, the abductor muscles became worn out, and did not respond to stimuli.

These conclusions had been strongly criticised, and the present series of experiments were performed to test the correctness of the above views. He had shown that abduction of the vocal bands can be obtained without ether, and that it is a physiological fact that opening or closing of the larynx depends upon the strength of the stimulus. With weak stimuli abduction was produced, while with strong stimuli adduction was caused.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE: FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL,

by DR. FRANKLIN H. HOOPER, of Boston.

The anatomy of this nerve is now complete and exact, but up to a very recent date, much confusion existed on this subject. To find out why these nerves are recurrent, it is necessary to begin with the embryo. The recurrence is due to certain changes in the bronchial arches, and the descent of the heart into the thorax. At one time in the period of development these laryngeal nerves are straight, but, as the heart descends, they are brought down. The proof of this is found in the abnormal condition of the nerve in cases of irregularity of the great vessels which branch from the aorta. These nerves (at least, in dogs and cats) contain no sensory fibres. The larynx possesses three functions, controlled by three distinct sets of muscles, all innervated by the recurrent nerves. These functions are: (1) Respiration. (2) Sphincter action, which closes the larynx and prevents the entrance of foreign bodies, and plays an important part in expulsive acts. (3) Phonatory action.

Stimuli applied to recurrent nerves produces adduction in certain animals (dogs), and abduction in other

¹ Continued from page 558.

animals (cats). Only a few experiments have been made in man, but, as far as they go, they seem to show that stimulation closes the glottis. Under ether or profound morphia narcosis, stimulation of the recurrent nerve produces opening of the glottis in dogs. Three hundred and twelve experiments were reported. Some of the animals were under the influence of chloral, chloroform, morphia, or ether. Under ether, dilatation was produced with weak currents, while contraction could not be produced with even the strongest current. As the dog begins to come out of the ether, dilatation cannot be induced with any current, while contraction is brought about by currents decreasing in intensity as the effect of ether passed off. A similar effect was observed in one case after the use of a large dose of morphia. After small doses of ether, stimulation produces two effects: first, vibration; second, closure. Under large doses of ether, four effects were observed, according to the intensity of the irritation, vibration, complete dilatation, mixed movement, and closure. After small doses of morphia, chloral, and chloroform, stimulation produces the same effects as after small doses of ether.

DISCUSSION.

DR. F. I. KNIGHT, of Boston. Such different results are obtained in different animals, resulting from differences in size, weight, and other conditions, that they must be applied with a great deal of reserve to the human being. I saw some of the experiments of Dr. Hooper. In one case, I saw a failure to get the ether effect, which was attributed to the size of the dog. I saw a case in which a huge dose of morphia was followed by dilatation.

DR. S. W. LANGMAID, of Boston. In one of Dr. Hooper's experiments recently made, the skull was trephined and insensibility produced by pressing a plug against the cortex. In this case, dilatation was very marked under stimulation of the recurrent nerve. That is the only case in which I have seen dilatation similar to that which I think Dr. Donaldson describes. In some cases, I found it difficult to say exactly what I did see.

DR. ALLEN M. STARR, of New York. I recently had an opportunity to see, in Paris, some experiments by Charcot on hypnotized individuals. It is well known that, in this state, slight percussion of a nerve will produce contraction in the muscles supplied by that nerve. In one of these cases, slight stroking in the course of the recurrent laryngeal nerve over the trachea, below the larynx, produced such adduction of the vocal cords, and so interfered with breathing, that it became a question whether it would not be necessary to resort to tracheotomy.

DR. F. H. HOOPER, of Boston. We have been trying to get this effect with feeble stimuli, which Dr. Donaldson describes, but have been unable to do so. The only point on which we disagree is with reference to the effect of weak stimuli in unnarcotized animals. I have done a number of experiments, following the method of Dr. Donaldson, but have not gotten his results.

AFTERNOON SESSION.

CERTAIN MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHE,

by DR. WILLIAM GLASGOW, of St. Louis.

The most severe symptoms in this condition are the pain and sense of constriction of the forehead. If the

pain is analyzed, it will be found that it is of two kinds: one gives a dull sense of fulness and occasional throbbing over the temple; the other is of the sharp, lancinating character so generally known as neuralgia.

At times, both of these varieties are present in the same case. In the one there is fulness of the vessels, and in the other disordered nerve-action. Both varieties are often due to the same pathological condition of the nasal chambers. During congestive headache, if we examine the nose, we find the cavernous bodies are full and tense. The degree of tenseness corresponds to a certain extent to the degree of headache. The method of treatment which he had adopted during the past four years had been the local abstraction of blood. A knife is not required; a simple prick is sufficient. In many cases the relief is immediate. The operation may have to be repeated in a month or two. He has seen few cases in which permanent relief had not followed a repetition of the operation from two to six times. The amount of blood drawn rarely exceeds an ounce. A number of illustrative cases were cited.

DISCUSSION.

DR. J. N. MACKENZIE, of Baltimore. The paper goes to prove certain views which I have stated with reference to turgescence of the turbinated bones during the menstrual periods. I think that a number of headaches occurring during menstruation are due to congestion of the turbinated bones. Some years ago, I advised that, in acute coryza, an incision be made in the turbinated tissues with a sharp-pointed bistory.

DR. C. C. RICE, of New York. My experience is somewhat different from that of the author. So far as chronic hypertrophic catarrh is concerned, I have come to look in these cases of headache for hypertrophy over the middle turbinated bone, pressing against the septum. I have seen many such cases. There has not been much congestion, but simply contact. In these cases I have used the galvanic cautery, and have not tried to draw blood. I have had the best results from this treatment. I think that it is sufficient to cause counter-irritation without bleeding.

DR. HARRISON ALLEN, of Philadelphia. I am more in accord with the last speaker than with the author. The trouble may come from the turbinated bones, but I have attributed it to pressure effects. We know that when the septum is deviated it is usually with the convexity to the left, but if a careful examination is made, it will be usually found that there is in the upper part a deviation in the opposite direction. This brings it in contact with the middle turbinated bone. The proper treatment is to separate the parts. I do not hesitate to etherize the patient, introduce the finger, and push the septum into place. In one case, a lady came to Philadelphia with a complication of disorders. There was astigmatism and also a lacerated cervix. She was under the care of an oculist and of a gynecologist. Each of these gentlemen attributed the trouble to the condition belonging to their special department. She had reflex headaches which was so severe as to lead to a fear of mental aberration. On examining the nose I found the condition referred to above and insisted that the headache was due to the trouble in the nose. I etherized the patient and separated the parts with the finger. The headache entirely disappeared.

DR. C. E. SAJOUS. While the lesions described

by Dr. Allan may be found in a number of cases I am more inclined to consider headaches originating in the nose as due to hyperæsthesia. I think that this is proven by the effect of light cauterization, and the treatment of Dr. Glasgow also goes to show that by depleting the cavity he reduces the stretching and pressure on the nerves and therefore reduces the hyperæsthesia.

DR. F. H. BOSWORTH, of New York. It is a fact that in many cases where we find contact between the middle turbinated bone and the septum there are no symptoms that can be referred to this condition. Judging from analogy we have in no other portion of the body neuralgia caused by the contact of mucous surfaces. In the vagina and urethra, we have mucous surfaces in contact. We may, however, safely say that it is a proper course to pursue to put the nasal cavity into a condition as near normal as possible.

DR. W. C. GLASGOW, of St. Louis. The paper said nothing at all about hypertrophy. No one recommends bleeding for hypertrophies, for these do not bleed. The fulness of the cavernous sinuses is simply the sign of the fulness of the frontal sinuses. I do not regard it as the cause of the trouble. I take blood from this part simply because this is the most convenient place to do it.

A CASE OF LEUCOPLAKIA. RECOVERY,

was the title of a paper by DR. W. C. GLASGOW, of St. Louis. It was read by the title.

DISCUSSION ON THE TREATMENT OF LARYNGITIS IN PROFESSIONALS WHO ARE UNABLE TO REST.

DR. J. SOLIS COHEN, of Philadelphia, opened the discussion. I do not know that I am any better able to treat these cases without rest than are others. Sometimes a professional will consult me with hoarseness, the result of laryngitis, and want to use his voice in a few hours. The best method to accomplish this that I have found has been the administration of a sharp emetic and then let the patient rest until the time of the performance, sucking pieces of ice and keeping a cold compress to the neck. In chronic laryngitis, I have found nothing of the same service as the use of a weak solution of sulphate of zinc, two grains to the ounce, used in a spray apparatus. In the intervals of the play, the patient may inhale a little compound tincture of benzoin if he finds that he is hoarse. Another remedy of considerable service is the use of a respiratory with turpentine, terebene or eucalyptol, or something of that kind. I sometimes direct the patient to sprinkle a little turpentine on the floor of the bedroom. I am, however, not aware of any special method which is adapted to this class of individuals.

DR. T. A. DEBLOIS, of Boston. I have had some experience with these cases, and have endeavored to keep up the systematic use of sulphate of zinc, but I have found that the hoarseness continues unless the voice is rested. I have occasionally had to treat vocalists who could spare a few hours, and I have found excellent results from the use of nitrate of silver, and the most disastrous results from the use of cocaine. There seems to be a certain amount of relaxation following the use of muriate of cocaine. I think that it may be said that in these cases unless there is rest there is no cure.

DR. BEVERLY ROBINSON, of New York. My ex-

perience with the class of cases under discussion would lead me to believe that so far as the acute cases are concerned there are milder measures than the use of an emetic. I have found under these circumstances that the use of tablet triturations of chloride of ammonium, repeated as often as once every fifteen minutes, is one of the most efficient methods of overcoming the difficulty. For local application I do not think that there is anything better than the carbolyzed spray. In the chronic form of laryngitis in vocalists, I believe that we cannot obtain much information from the appearance of the mucous membrane. In these cases I have often found the membrane red, and this may continue after the trouble with the voice has disappeared. I believe that here the trouble is chiefly in the nervo-muscular apparatus. I have found the internal use of a good wine of coca with the application of a faradic current to the neck very useful. The faradism should be repeated once or twice a day.

DR. F. H. BOSWORTH, of New York. I think that there is no such disease as laryngitis, as that term is used to mean an inflammatory process. The seat of the disease is not in the larynx, but I think that it is in the nasal passages. If you apply cocaine to the nasal mucous membrane, causing contraction of the blood-vessels and follow this by the use of chromic acid, thus eliminating the cold in the head, it will usually be found that the laryngitis has disappeared. Relaxation has been spoken of as following the application of cocaine. Although I have used the drug in many cases, I have seen this result in only two, and they were cases of hay fever. My method of using cocaine is to suspend it in fluid cosmoline and direct the patient to spray the nose and throat with it.

DR. C. E. SAJOUS, of Philadelphia. I have treated many cases of this trouble. The action of cocaine in laryngitis is pernicious. I have used it in a four and in a ten per cent. solution, and every time that I have done so, I have had occasion to regret it. In cold in the head cocaine is useful, but it should not be used within four hours of the time when it is desired to use the voice. In the majority of the cases of chronic laryngitis the condition is due largely to fatigue. I have found that the use of quinine and nuxvomica internally with the external use of a weak faradic current are the best measures to employ. I also think coca wine advantageous.

DR. W. C. GLASGOW, of St. Louis. In this class of cases, I have devoted myself entirely to the larynx and have not treated the nose. I employ applications of carbolyzed iodine to the larynx. This is a soothing application and relieves congestion. It also acts as a stimulant and enables the person to keep at his work, but it does not cure the condition.

DR. NORRIS J. ASCH, of New York. I think that the best way to treat the acute cases is that which we pursue in other acute cases, which is the treatment suggested by Dr. Cohen, with the omission of the emetic. The employment of muriate of ammonia is useful. I give it in solution in compound liquorice mixtures which contain a little tartar emetic. The chronic cases are more difficult to treat, because the patients cannot quit work. I have found nothing equal the application of astringents. I have used the spray in some cases, but more good is done by the use of the brush. The solution which I most frequently used is one of perchloride of iron, thirty to sixty grains to the ounce. Where a person has to use the

voice in a few hours, a single application will put it in good condition temporarily. Another point to be considered is that these individuals live usually irregular lives, drinking wine and eating heartily. There is therefore nearly always some hepatic trouble which requires attention. I do not believe that it is possible to put the larynx of a singer in perfect order as long as he has to work.

DR. F. H. HOOPER, of Boston. In these professions there is sometimes an alteration in the quality of the voice the result of over-exertion. Here there seems to be want of tension in one vocal cord. To relieve this I have used electricity outside with the internal use of the aromatic spirits of ammonia, thirty to forty drops in half-a-glass of soda-water.

DR. J. N. MACKENZIE, of Baltimore. I think that Dr. Bosworth is to a great extent right with reference to the dependence of laryngeal disease on nasal trouble. I think that the vast majority of cases of laryngitis are associated with disease of the nasal passages, and upon the recognition of this fact, depends the successful treatment of many cases of chronic laryngitis. While I admit the existence of chronic primary laryngitis, I consider that the majority of cases are due to disease higher in the respiratory passages. I would give a caution with reference to the indiscriminate use of cocaine in diseases of the nose and throat. I should never use it just before a person was going to use the throat. The sensation which it produces in the larynx is only next to that of hanging. In the nose the effect is very pleasant, provided some of the solution does not trickle into the nose or larynx.

DR. B. F. WESTBROOK, of Baltimore. While it is true that many of these singers and elocutionists suffer from strain and over-work, it is probable that, in the majority of cases, the seat of the whole trouble is in some derangement of the digestive apparatus, which predisposes to these affections. I think, therefore, that an emetic or active purgative is indicated in many of these cases. After the emetic, I give small doses of the mineral acids, frequently repeated, say one or two drops of dilute muriatic or nitric acid, repeated every hour.

(To be continued.)

AMERICAN MEDICAL ASSOCIATION.

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE 7TH, 8TH, 9TH AND 10TH, 1887.

FIRST DAY'S SESSION.

THE Thirty-eighth Annual Session of the American Medical Association convened June 7th, in Central Music Hall, Chicago, with a very large attendance.

DR. CHARLES GILMAN SMITH, the Chairman of the Committee of Arrangements, called the Association to order shortly after eleven o'clock, when Dr. S. J. McPherson offered prayer. Dr. Smith introduced Mayor Roche, who made the following address of welcome:

MR. PRESIDENT AND GENTLEMEN, Representatives of the Science of Health and Life: In the name of the citizens of Chicago, I welcome you to this city, distinguished for the large number of able and eminent members of the medical profession, and for the exemplification, in all the avocations of life, of the precept: "Whatsoever thy hand findeth to do, do it with thy might." Your mission, to preserve health and re-

move disease, to prolong life and make it a blessing, is a beneficent and noble one, worthy of all honor, and, though you have not yet succeeded in overcoming death, you have robbed it of half its terrors.

The present generation has seen great progress in medical science, and the medical profession, I think, has kept pace with the other learned professions, if it has not even excelled them, in original investigations and practical discoveries for the benefit of mankind. When in health we laugh at the doctors, and sometimes enjoy a joke at your expense. But in sickness you are our hope and refuge, and to the worn and wasted patient, just struggling back to life from the gates of death, you are like "the shadow of a great rock in a weary land."

The interchange of ideas and experience, and the discussion of theories and experiments by large bodies of educated men gathered from different and distant sections of the country, by which the individual thoughts and knowledge of each becomes the common property of all is a comparatively modern outgrowth of Society, and must contribute greatly to the interest and usefulness of the medical profession, being full of promise for the future. These gatherings for mutual comparison and consultation minimize differences, soften asperities, cultivate the amenities, strengthen the humanities, stimulate inquiry and investigation, extend the horizon of mental and moral vision, enlarge the boundaries of human knowledge, and tend to the unification, improvement and well-being of the whole community. Gentlemen, I come here as the official representative of a great and hospitable city, whose latch-string is always out, to emphasize the welcome of Chicago to this large, intelligent and representative convocation of a profession whose chief occupation is to save life and not destroy it, and whose cardinal doctrine is that a sound mind in a sound body is essential to the best performance of the duties of this life, and a great help in fitting men for the life hereafter.

Dr. Charles Gilman Smith then read the programme of the session, and introduced the President, Dr. ELISHA A. GREGORY, of St. Louis, Mo., who delivered the Annual Address, the subject being,

CELL ANTAGONISM,

which forms the foundation of symptomatology and pathology, conjoined with cell changes, the basis of pathological anatomy, embracing at once the universe of life and all the possibilities of life, disease being but one of multitudinous phases of life.

In concluding, Dr. Gregory said: I need scarcely remind you, gentlemen, that we shall have with us, after a few weeks, the medical men of all nations. Soon we shall extend the hand of friendship to those with whom we have heretofore been united in interest and sympathy in the cause of science. We know that everything is being made ready and that success is assured. Again you will join me, I know, in the declaration that a hearty American welcome awaits their advent, and that the ninth meeting of the great congress will be memorable in the history of its organization.

SANITATION OF EMIGRANT SHIPS.

DR. A. N. BELL, of the *New York Sanitarian*, read a report on the above subject, which should have been presented at the meeting of the Association last year.

The report dwelt upon the manner in which the laws are evaded, and also upon the incompetency of the physicians who are carried by ocean steamers. The report advocated the appointment of a competent assistant medical attendant upon vessels carrying more than six hundred persons in passengers and crew, and that physicians shall give their services free of cost to passengers and seamen alike, and that medical officers shall be compelled to attend to sanitary examinations of the vessels, and to see to it that passengers' and seamen's quarters shall be kept in a proper sanitary condition; that each vessel shall carry a competent medical steward and a good and sufficient supply of medicine; that physicians of vessels shall be compelled to make a report upon every case of disease or imbecility on boards of vessels of which they have charge to the health officer of the port in which they arrive, in order to prevent the landing of persons who may become charges upon the State. There should be such laws enacted by Congress as would prevent the introduction of diseases which might prove epidemic; also, to prevent the fearful mortality which now occurs among emigrants who are imported to these shores by various steamship lines. A resolution was adopted forwarding a copy of the report to the Secretary of the treasury, to Congress and to the Senate at the next session.

DR. ROBERTS, of Nashville, Tenn., read some resolutions condemnatory of an article in the daily press, which were subsequently tabled.

DR. BRODIE, of Detroit, moved that a section on dermatology and syphilography be created. The motion prevailed.

DR. GASTON, of Atlanta, Ga., from the special committee on inoculation as a prevention of yellow fever, to memorialize Congress, presented the report. From investigations which had been made in various countries the committee had been convinced that there was merit in the inoculation process as a preventive of the epidemic of yellow fever. The committee had endeavored to secure an appropriation from Congress of only \$10,000 to carry on the work, which had been refused.

SECOND DAY. MORNING SESSION.

The session was opened with prayer by Rev. Dr. Gunsalus, of Plymouth Church, after which Dr. Charles Gilman Smith invited the members to an exhibition of the police patrol ambulance service on Michigan Avenue, near the Leland Hotel, at nine o'clock.

The Board of the Journal of the Association reported that Dr. N. S. Davis, would continue as its editor during the ensuing year. The paper had been a success. Dr. Davis rendered a full account of his stewardship.

DR. N. S. DAVIS presented the report of the special committee on changes in the plan of organization and by-laws of the Association. It was an exceedingly lengthy document, and the amendments proposed were that the general committee or council should be composed of two members from each State and Territorial medical society entitled to representation by delegates and from the medical departments of the United States army, navy, and marine hospital service. The term of the general committee was fixed for two years. The general committee is named for the nominating committee; the board of trustees is to consist of nine

members, three of whom shall be members of the general committee. Several minor amendments to the by-laws were also suggested.

DR. VON MANSFELDE, of Nebraska, moved to adopt the report, with the amendments to the constitution and by-laws. This occasioned a lengthy discussion upon the question whether amendments to the constitution could be adopted by a *vive-voce* vote. Dr. Bell, of Brooklyn, N. Y., moved that as the question had already been before the Association for one year, and duly considered, that the amendments should therefore be now adopted.

The Association at this stage got into an entanglement of motions, points of order, etc., and the president, though a famous physician, could find no palliation for the muddle into which the meeting had brought itself. Finally, some one moved to table Dr. Bell's resolution. The chair forgot all about this motion, and put the question upon adoption or rejection, which resulted in 272 votes for, and 232 against. The chair declared that a decision had been reached in this matter, and that the amendments had been passed.

The following committee on nominations was announced: Alabama, W. C. Cross; Arkansas, G. C. Ewing; California, J. W. Robertson; Connecticut, W. H. Whittemore; District of Columbia, J. M. Toner; Florida, M. B. Phillips; Georgia, A. G. Whitehead; Illinois, E. P. Cook; Indiana, T. B. Harvey; Iowa, William Watson; Kansas, W. L. Skenck; Kentucky, D. S. Reynolds; Louisiana, T. G. Richardson; Maine, D. E. Marston; Maryland, T. B. Evans; Massachusetts, E. W. Cushing; Michigan, William Prodie; Minnesota, J. A. McGaughey; Mississippi, T. A. Trotter; Missouri, J. M. Allen; Nebraska, W. M. Knapp; North Carolina, E. Grisom; New Hampshire, J. W. Parson; New Jersey, Lott Southard; New York, Darwin Colvin; Ohio, X. C. Scott; Pennsylvania, E. A. Wood; South Carolina, Thomas Legarn; Tennessee, J. B. Murfee; Texas, R. W. Park; Vermont, S. H. Griswold; Virginia, L. M. Nash; Wisconsin, J. K. Bartlett; United States Navy, D. Bloodgood; United States Marine Hospital Service, H. M. Goldsboro; Dakota, E. M. Darrow; New Mexico, Russell Bailey.

DR. J. S. LYNCH, of Baltimore, delivered his address as Chairman of the Section on the Practice of Medicine, which was listened to with marked attention.

The address was devoted to a glance at some of the discoveries or pretended discoveries, advances or hoped-for advances in the departments of medical science presided over by the speaker, not of the last year alone, but of the past few years. Antipyretics were discussed, and Dr. Lynch said:

Unquestionably the means of safely reducing and keeping down morbidly high temperatures constitute the most powerful weapons we possess in combating a large majority of the diseases to which mankind is heir. As I grow older and my experience enlarges, I become more and more convinced that fever is the lethal agent which destroys life in almost every disease in which that functional derangement is present. Whether in specific diseases or common inflammations, it is most frequently the morbid high temperature by its wasting destruction of tissue, the arrest of nutrition, and the associated derangements of function that determine the fatal result. Of course, in the so-called specific fevers it is the sole destructive agency.

In consumption (which in temperate climates de-

stroys nearly one-sixth of the population) it is the accompanying fever and its grade which determine the duration of the disease. Ninety cases in a hundred of pulmonary consumption die from asthenia long before the destructive processes going on in the lungs have deprived the patient of a sufficient amount of his respiratory apparatus to destroy his life. He dies, not of apnoea, but of asthenia. Even in ordinary inflammation it is usually the fever that kills, and not the destruction of the organ inflamed, while the fever, although perhaps at first directly caused by the inflammation, reacts upon it and continues and intensifies it.

Until a very few years ago we had but a single agent that could be used successfully as an antipyretic, and this was so uncertain and so irritating to the gastric mucus membrane that it often failed us, and still more frequently could not be tolerated in doses sufficiently large to do its work. Indirect antipyretics of great activity we possessed in *veratrum*, *viride*, *aconite* and *digitalis*, but these were too energetically poisonous to be safely used on all occasions. Apyretics — that is, medicines which increased heat-loss — we had in abundance, but these could not be continued long, for, although the nervous system may be protected from the directly injurious effects of heat by them, they did not arrest the too active combustion going on, and the patient died of exhaustion almost as soon as if left alone. We may heap ice on our steam boiler and thus prevent the formation of steam, or perhaps cause its recondensation as soon as formed, but we do not stop the combustion of coal in the furnace underneath. And so, too, we may by bathing, sponging, or sweating, keep down the temperature of the body externally, but the combustion is still going on internally — not quite so rapidly perhaps, but still at a sufficient rate in protracted fevers to produce final exhaustion and death. What we wanted, then, was something more certain and effective than quinine, less disagreeable to the stomach, and less injurious to the nervous system, and free from any poisonous effect, that would put out the fire by stopping combustion — an antipyretic.

With antifebrin Dr. Lynch had had but a very limited experience; he recognized its merits, however.

In antipyrine, with which his experience seems to have been extraordinarily fortunate, Dr. Lynch thinks we have such an agent. He began its use in 1884, in all diseases attended with fever, and his estimate of its value may be inferred from the statement that since that date he has not seen a single person die of enteric fever, scarlatina, or measles, only one of croupous pneumonia (seen too late), and that the duration of cases of phthisis seems to be very nearly doubled. In acute inflammatory rheumatism it seems to be scarcely, less efficient than sodium salicylate. The dose should be about one gramme repeated at first every hour until three doses have been taken, and afterward every three or four hours. It is very soluble in water, has a slightly pungent and bitterish taste, and rarely excites nausea. If it should do so, it may be given in lime water or combined with other alkalies.

Strophanthus and sparteine were noticed, but neither of these cardiac stimulants had given satisfaction in the practice of the speaker.

The rest of the address occupied itself with tuberculosis, its nature and treatment. The conclusion was drawn that it is not a contagious and infectious disease, and while it cannot be denied that infection may and

probably does set up consumption in those who have suffered either from catarrho-pneumonia or scrofulosis, we must remember after all that it is bad hygienic surroundings which cause the pathological lesions which constitute the basis of fully ninety per cent. of all the cases of consumption we meet with, and invite the injurious action of the pathogenic microbe which brings to a fatal termination lesions which might otherwise remain quiescent for many years, and even be not inconsistent with a fair degree of longevity. Here, then, is a field in which we can work for the good of our common humanity.

In regard to Bergeon's treatment of pulmonary phthisis by gaseous enemata, Dr. Lynch can report nothing favorable: he thinks there is nothing in it except money to the sharks and charlatans that are unfortunately so numerous in our profession. While the antiseptic or rather the aseptic treatment may have a certain value in surgery and in obstetric, in medicine it must always remain an impossibility. For, admitting all that is claimed as to the agency of microbes in setting up and keeping up disease processes, it must be remembered that they are biologically as high in the plane of life, and, if all experiments can be believed, have a higher resisting power than the cells which compose the living elements of our tissues. Any germicide, therefore, which can destroy the one must inevitably also destroy the other.

After the paper of Dr. Lynch had been read, the general session adjourned to meet at three o'clock in the afternoon.

(To be continued.)

Recent Literature.

Dermatitis Venenata: An Account of the Action of External Irritants upon the Skin. BY JAMES C. WHITE, M.D. Boston: Cupples & Hurd. 1887.

"The number of native plants or those introduced into the United States which are capable in some degree of injuring the skin, is, as above stated, far greater than is generally known." This extract may be taken as the text of a book which could only have been written by one who was a trained botanist as well as dermatologist. The introductory chapter gives a clear and succinct description of the various cutaneous lesions which occur in connection with dermatitis venenata, together with directions as to its proper treatment. The rest of the book is taken up with the consideration more or less in detail, according to their several importance, of all substances, to which may be attributed upon trustworthy evidence, the property of exciting cutaneous inflammation by reason of their irritant action upon the human skin. This list includes more than sixty plants; it comprises also, various substances, coming under the head of drugs and chemicals, many of which are applied to the skin with therapeutic intent; and certain animals, such as the medusæ and polyps among marine organisms and the various insects, parasitic or otherwise, which are capable of exciting cutaneous irritation. The work is a distinct and valuable addition to the literature of the subject, and much credit is due to the publishers for the excellent manner in which the book is issued from the press.

G. H. T.

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THURSDAY, JUNE 16, 1887.

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THE TEETH OF LOUIS XIV AND THE REVOCATION OF THE EDICT OF NANTES.

PHYSICIANS of a historico-philosophical cast of mind have often amused themselves with thinking what changes in the world's history might have been made had the maladies of sundry great men received different treatment, and hence possibly experienced a different termination. In a previous volume of the JOURNAL, we have referred to the ingenious speculations of Dr. MacDonnell, in a paper before the Athenæum Club, regarding the diseases of certain English monarchs. James the First died, as it seems, for the want of a shilling's worth of quinine, and the disease from which the much-married Henry VIII suffered might, in the light of modern treatment, have been prevented from affecting his unborn children.

"Catherine of Aragon," says Dr. MacDonnell, "might have been the mother of many Tudors, the Stuarts would never have been heard of, the Reformation would have been postponed, and Henry himself would have been talked of to-day as a model father and husband. Queen Mary's cruel disposition, if not the actual result, was certainly intensified by the disappointment which followed her fruitless marriage. . . . A course of aloes and iron might have changed the course of events in England and Europe." *Per contra*, we are lost in reflection as to what would have been the result had the mothers of the Neros and the Caligulas, on the one hand, or of the Augustuses and the Alfreds on the other, been, in their youth, subjected to the present fashionable surgical treatment for ovarian neuralgia.

This line of thought is suggested by an article in the *L'Union Médicale* for April 2d, by Dr. T. David, entitled "Les Dents de Louis XIV." Its facts are obtained from the reports of the physicians and dentists of that grand monarch. This reign of seventy-two years, the longest recorded in authentic history, fell to the lot of a man of phthisical ancestry (his father died from consumption)—a man who suffered from anal fistula, and who drank deeply of the most exhausting pleasures and vices. Yet he did a vast

amount of work, especially if we include his diplomatic plotting and scheming. It happened, however, that the teeth of the monarch were very unsound. Before he reached middle age, all the teeth of his upper jaw were gone, or reduced to carious stumps. His appetite did not reduce itself in conformity with his diminished facilities for the preliminary treatment of his food. Hence dyspepsia, and from this origin, suspicion, malice, cruelty, and all the foul brood of that dreadful monster. No cunning artificer was at hand to construct the substitute, comely in appearance and admirable in function, for the frail product of nature. Throughout the memorable year 1685 the king suffered from osteitis of the upper jaw, following the extraction of a stump, and to this was added suppuration of the antrum and decomposition of the pus. On one occasion, the actual cautery was applied fourteen times in one day to the carious alveolus. Who can fail to see the necessity, in order to overcome the repugnance excited by his loathsome condition in the ladies of the court, of more abundant largess of gold and jewels, and hence, of greater oppression of his subjects to gain the requisite money? A few grains of gold, applied at the proper time and place by a skilful dentist, might have saved the value of millions, which were spent to make the king's attentions endurable to his favorites. The saving of this money would have quenched that spark of discontent, which, after smouldering for a century, burst forth in the flames of the Revolution.

But the great crisis in which the failure of dental and surgical science culminated occurred, according to Dr. David, in October of that year of suffering and self-loathing, when the grand monarch signed the Revocation of the Edict of Nantes, and 400,000 Protestants, secure for nearly a century in their religious liberties, were driven forth from France, to carry the knowledge of all manner of handicraft to enrich the coffers of other nations. Had the king been less foul-mouthed, he had surely been sweeter spoken towards the Huguenots. Little wonder that what he breathed out was threatenings and slaughter!

Fortunately, perhaps, for our peace of mind, it is given to but few of us to bear, as medical men, the undivided and heavy responsibility of the physical welfare, and so of the mental state or intellectual activity of the world's great men. The physicians who failed to regulate the deranged digestion of Carlyle must have been overwhelmed if they had any premonition of the widespread consequences of their failure. When Mr. Gladstone has had an attack of laryngitis on the eve of one of his great efforts in the Commons, the doctor who had charge of his vocal apparatus might well feel that upon his skill rested the political future of Ireland for the next half-century. When Bismarck finds himself getting too "sleek and fat" to be dangerous, and resorts for help to his physician, it makes much difference to European politics whether the latter person succeeds in relieving the chancellor of fifty or of two hundred and fifty pounds of flesh. What wonder, then, that Dr. Schweininger magnifies his office!

WHY PHYSICIANS SHOULD MAKE CAREFUL NOTES OF THEIR CASES.

THE advantages which accrue to the professional man from making accurate memoranda of his cases, are threefold: first, to himself, second, to his patient, third, to the medical confraternity generally.

The habit is one which is highly beneficial to the physician, leading him to greater accuracy in investigation and in diagnosis, and giving him a better command of all the details of the case. It cannot fail to be of benefit to the patient, for the latter will profit by the greater knowledge which his physician acquires of his malady, and the certainty that a case well understood is better treated. A physician who studiously makes notes, and keeps a careful account of his cases, will be more likely to communicate valuable practical experience to the medical profession, than one who is careless about preserving the important facts that continually come under his observation.

The amount of time requisite for writing such daily observations respecting each patient, as are necessary to give precision and continuity to the record of the case, is not considerable, especially if the record be made about the time of the visit; and a suitable memorandum book for the purpose may always be at hand. Many physicians waste in profitless loafing, hours of leisure which might better be spent in reading up their cases, or in doing something to add to the general stock of knowledge of the profession. Some with mental powers and educational attainments of a high order, get into a careless, slipshod, and hap-hazard way of diagnosis: devote no time to writing up their cases, and too little time to watching and mastering the symptoms; and suddenly, some morning, awake to a realization, that the supposed case of ephemera was a bad form of typhoid, that the disease diagnosed as pneumonia was pleurisy with effusion, that the simple attack of colic was one of peritonitis, and the trifling case of angina, one of malignant scarlatina.

How much valuable experience is lost to the world, because physicians under whose observation come hosts of rich and varied facts (and under this category we must include great numbers of country practitioners), fail to record, communicate, or even definitely to remember what they have witnessed, is, of course, an unknown, but immeasurably vast quantity.

No better example can be appealed to of what can be accomplished by the kind of industry which we have above commended, than that of the late Dr. Austin Flint, whose whole life was devoted to the perfection of his own powers, the promotion of the highest welfare of his patients, and (as an ulterior but by no means secondary end), the improvement of the profession of which he was a member. The twelve large manuscript volumes of record of cases which he has left, without which his numerous treatises on medicine, now become classical, could never have been written, attest his indefatigable care, diligence and painstaking, all of which, it is true, were supplemented by an almost invariable physical health and vigor.

Many physicians complain of their want of time to accomplish anything outside of their ordinary daily routine of drudgery, but it is a significant fact that those men who have had the least leisure, have done the most good work of the kind to which we have alluded. We refer to the recognized leaders, whose professional duties have always been most arduous and exhausting—the Jacksons, the Brodies, the Watsons, the Trousseaus, the Charcots, the Flints, of medical literature—who have found time amid their pressing labors to record facts of personal observation and experimentation, and compose those works which have been, in an eminent degree, helpful to the present generation of medical men, and will never cease to have an influence on professional opinion and practice.

MEDICAL NOTES.

—The small-pox has increased, both in the number of cases and in the severity of the malady, in the eastern portion of Cuba. At Havana the cases are few.

—The President of the Key West Board of Health reported by telegraph, under date of June 5th, that “yellow fever has ceased to be sporadic, and absolute segregation of patients in hospital impossible, as friends conceal cases, and violently oppose removing sick; therefore, for these reasons, the Board will declare the disease to be fast assuming an epidemic character.” The Secretary of the Treasury has authorized the employment of nurses and guards to assist the Board of Health at the Barracks Hospital. Total cases to June 10th, 22; deaths, 8.

—Dr. I. Vroz, writing to the *New York Medical Journal* from the Virgin Islands, British West Indies, where he has had a large experience with malarial fevers of various types, speaks most highly of the use of permanganate of potash. He says: “Most of the inhabitants of the district where I practised, lived in thatched huts, badly ventilated, with the natural soil for the floor. As the country abounds in rivers, and rain is constant, they were very damp. The food eaten consists of carbohydrates and boiled fish—a diet which, with their surroundings, certainly renders them unfit to resist disease. I was consulted by women with fever and amenorrhœa or dysmenorrhœa due to exposure, and malarial anæmia or toxæmia. It was to them that I first administered permanganate of potassium, and it cured them not only of their uterine symptoms, but of their malarial fever also. I afterward gave it to men and children, and with very interesting and successful results. The usual dose was from half-a-grain to a grain, in water, three times a day. In private practice I give five grains of pepsin after the dose, to prevent the nausea, which is the only drawback to the use of the drug. Since my appointment as medical officer of the Virgin Islands, I have been using the same treatment here with good results. I have not heard or read of its having been used before for malarial fevers. As to the *modus operandi* of the permanganate, I will say but little,

and that what I know — namely, that, as a germicide, it is one of the best, and one that is harmless even in strong solutions."

BOSTON.

— A boy was killed at the "South Cove" Boston, last week, by coming in contact with a wire for supplying a Brush electric light. It is not known whether he took hold of the wire or fell against it. It was carried over a coal shed of the Boston & Albany Railroad and ran from a dynamo operated with an eighteen horse-power engine to supply nineteen lights, each of two thousand candle power. It is said that the wire was not only not insulated but that it was in appearance just like ordinary telegraph wire. The accident happened just before dark at the moment when the light was turned on. The boy was held in contact with the wire several minutes and was burned deeply through his clothing at one point on his leg, with a smaller burn on the neck. He died before reaching the hospital. The employee who finally released him from the wire was himself powerfully effected by the current and did not recover from the shock for several hours.

NEW YORK.

— On the eighth of June, Governor Hill listened to an argument from Mr. W. A. Purrington, counsel of the New York State and County Medical Societies, in favor of the bill regulating the practice of medicine and codifying the laws of the State, which was recently passed by the Legislature at Albany. It simply requires that before beginning the practice of medicine in New York State, one should have studied his profession and passed for his degree at a chartered school or before one of the Regent's Boards, and it does not prohibit any system of practice. It codifies existing laws and makes clear doubtful sections, and the new matter contained in the measure is as follows: *First*, a provision of forms for registration and indorsement, to secure uniformity and prevent mistakes often arising from the careless methods at present in vogue, by reason of which the records are untrustworthy and the aim of the law defeated; *second*, the enumeration of the following offenses, all of a fraudulent nature, are made punishable as prescribed by the Penal Code, in analogous cases; perjury in false affidavit of registry, counterfeiting, buying, selling, and altering diplomas, or falsely personating another practitioner, and practising after conviction of felony; *third*, a civil action for a penalty given by the Revised Statutes, the reason being that when a person is practising under forged papers, purporting to be issued by a foreign university which he has never attended, as in a pending case, it is not possible for the prosecution under existing laws to issue a commission to take testimony.

Those who would be punishable, if the bill become a law, are persons making false affidavits in order to register; those who fraudulently buy, sell, counterfeit and use diplomas to deceive the public; those who falsely personate other practitioners, appropriating their names and credit; convicted felons who, as in

the case of one now in New York, may serve as many as three terms of imprisonment for criminal malpractice and return to renew their illegal procedures.

Correspondence.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

CHICAGO, June 10, 1887.

MR. EDITOR, — The meeting of the American Medical Association which closed at noon to-day may fairly be regarded as a successful one. Upwards of one thousand delegates and permanent members were registered during the four days of the meeting. The *personnel* of the body was about the same as usual; but regular attendants on the meetings of the Association in former years note the relative decrease in the proportion of eminent men of the profession, especially from the East, in attendance upon this meeting. The Association assembled in something of a mass meeting, and occasionally, as was witnessed on the second day when the report of the Committee on Changes in the organization was under consideration, it assumed the appearance, by its uproar and confusion, of an old-fashioned town-meeting.

The President's Address on "Cell Antagonism," was a scholarly production; it was a most interesting and graceful, even poetic, exposition of the pathology of the hour.

The work of the Sections, it is generally conceded, has been exceptionally good from a scientific standpoint, which is certainly hopeful for the future of the body. It is manifestly the aim of those who are guiding, or trying to guide, the destinies of the organization to have more work done in the Sections and less in the general meetings, to the end that it may have less the character of the mass-meeting and more that of a scientific body. In this they are succeeding. Hereafter the formal addresses by the Chairman of Sections are to be delivered before their respective Sections and not before the full convention, while three set addresses before the general body are to be read by prominent men specially and formally invited, on medicine, surgery, and "public medicine" respectively.

The report of the Committee on Changes in the Organization embodied propositions for changes in the Constitution which must lie over a year, on the sensible ruling of the President, although the Association had practically voted at the turbulent session that they were adopted then. They ought to be adopted next year, and probably will be. One provides for a permanent general committee to make all nominations and consider nearly all general matters of business coming before the Association — it takes vital matters out of the hands of the mass-meeting, where they are as likely as not to be spoiled, and places them in the hands of a smaller body of fairly-selected men who may justly be entitled to the designation of a deliberative body.

Another provides for a Board of Trustees of nine, to have charge of the properties (the *Journal* and the treasures) of the Association. The Trustees are to be nominated by the General Committee. If these amendments are adopted the general meetings of the Association will be nearly deprived of opportunities to do mischief by taking hasty, ill-considered and hot action on momentous subjects, to be regretted with chagrin afterward.

The Association voted this morning that hereafter there shall be a dinner provided as one of the entertainments at the meetings, and that members who attend shall pay a fixed fee which shall be different for those who do and those who do not have wine — when a member registers his name and pays, he is to designate to which of these classes he desires to belong, and the banquet hall is to be arranged for the accommodation of this arrangement. It is an amusing fact, that was not lost sight of, that the proposition was made by Dr. N. S. Davis, a life-long, unflinching enemy of the use of wine anywhere, at any time.

The social features of this meeting have not been neglected. On the first evening there were four receptions

given by citizens, only one of whom was a layman, and on the third evening there were three similar receptions. But the general reception at "Battery D," on the second evening is conceded to have been the most useful as well as the most enjoyable. It was in a hall sufficiently large to enable every person attending the meeting to move about with perfect ease and meet every other person. It is doubtful if the dinner of next year will take the place of this grand reception as a means of bringing members together in a social and helpful way.

It was a pleasant surprise to most of the visiting members that the *Journal and Examiner* and the *Standard* issued daily editions containing commendable full reports of the proceedings. This is especially true of the latter, which not only had good reports of the sessions, but editorial comments upon them that were always able, if at times a little severe. Its editor, Dr. Kiernan, wields a trenchant pen which he can dip in gall when he tries to.

Notwithstanding the animadversions of the *Standard*, the writer heard almost no complaints of the work of the Committee of Arrangements, and other committees, but abundant thanks and praise for them all, and especially for the genial and courteous Chairman of the Committee of Arrangements, Dr. Charles Gilman Smith.

As to the *Journal* of the Association, not a word was heard in favor of any change in its place of publication or its editorial management. The editor's report was a favorable showing of progress for the publication, and the members were generally aware of an improvement in its character during the past year, so the satisfaction at the disposition of this item of business was general.

The Association wanted a thousand dollars for the International Congress, although Dr. Davis protested that half that sum ought to do, as all the balance in the treasury was needed to improve the *Journal*. This was the only reference to the Congress in the proceedings of the meeting.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 4, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	627	265	22.08	13.28	3.20	11.68	.48
Philadelphia	993,801	352	127	12.04	11.48	1.40	3.08	2.80
Brooklyn	745,108	231	85	18.92	12.90	4.30	8.17	.43
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	132	44	12.16	12.16	5.32	2.28	1.52
Boston	400,000	132	38	10.64	21.28	.76	.76	3.80
New Orleans	242,750	131	56	22.04	11.40	16.72	.76	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	64	21	24.96	13.04	8.80	3.12	1.56
Pittsburgh	210,000	65	23	24.64	13.86	7.70	3.08	1.54
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	42	19	11.90	14.28	2.38	—	2.38
Providence	121,000	27	—	33.33	44.40	—	18.50	11.10
Richmond	100,000	45	20	11.11	13.33	—	—	2.22
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	24	15	41.58	4.16	29.10	4.16	4.16
Charleston	60,145	32	13	15.65	12.52	12.52	—	—
Portland	40,000	14	3	—	23.56	—	—	—
Worcester	68,383	20	4	—	30.00	—	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	21	5	15.52	14.28	—	—	4.76
Fall River	56,863	17	5	17.64	10.76	—	5.88	—
Lynn	45,861	12	2	—	16.66	—	—	—
Lawrence	38,825	8	3	—	12.50	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	17	6	5.88	17.64	—	—	5.88
Somerville	29,992	7	1	—	28.56	—	—	—
Salem	28,084	9	3	22.22	22.22	—	22.22	—
Holyoke	27,894	8	4	37.50	—	—	—	—
Chelsea	25,709	7	0	—	28.56	—	—	—
Taunton	23,674	9	1	22.22	22.22	—	—	—
Haverhill	21,795	7	1	14.28	28.56	—	—	—
Gloucester	21,713	4	0	—	—	—	—	—
Brockton	20,783	6	1	16.65	—	—	—	—
Newton	19,759	6	1	—	16.66	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	4	0	—	50.00	—	—	—
Waltham	14,609	3	0	—	—	—	—	—
Newburyport	13,716	4	0	—	25.00	—	—	—
Northampton	12,896	1	0	—	—	—	—	—

Deaths reported 2,095; under five years of age 765; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 361, consumption 301, lung diseases 206, diphtheria and croup 120, diarrhoeal diseases 89, measles 33, cerebro-spinal meningitis 14, typhoid fever 21, malarial fever 21, whooping-cough 15, scarlet fever 29, erysipelas eight, puerperal fever seven, small-pox (New York) four. From scarlet fever, New York 16, Philadelphia and Brooklyn four each, Baltimore two, Boston, District of Columbia and Pittsburgh one each. From typhoid fever, Philadelphia six, Pittsburgh four, Boston three, New York and Brooklyn, two each, District of Columbia, Nashville, Chelsea and Taunton one each. From malarial fevers, New York eight, New Orleans six, Brooklyn three, District of Columbia two, Philadelphia and Charleston one each. From whooping-cough, New York six, Philadelphia three, Baltimore and District of Columbia two each, Boston and Pittsburgh one each. From cerebro-spinal meningitis, New York three, Philadelphia, Dis-

trict of Columbia, Fall River two each, Boston, Newport, Milwaukee, Taunton and Brockton one each. From erysipelas, Brooklyn five, New York two, Philadelphia one. From puerperal fever, Milwaukee two, New York, Boston, Pittsburgh, Providence, and Cambridge one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending May 21st, the death-rate was 20.3. Deaths reported 3,594; infants under one year of age 865; acute diseases of the respiratory organs (London, 289), measles 237, whooping-cough 158, scarlet fever 48, diarrhoea 47, diphtheria 22, fever 19.

The death-rates ranged from 12.3 in Wolverhampton to 31.1 in Manchester; Birmingham 18.2; Blackburn 21.4; Brighton 18.1; Hull 18.8; Leeds 16.8; Leicester 14.2; Liverpool 25.4; London 19.0; Newcastle-on-Tyne 27.9; Nottingham 17.5; Portsmouth 19.3; Sheffield 18.3; Sunderland 14.9.

In Edinburgh 15.7; Glasgow 24.6; Dublin 25.4.

The meteorological record for the week ending June 4, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 4, 1887.																			
Sunday, ... 29	29.93	48.0	50.0	46.0	91.0	93.0	95.0	93.0	N.E.	N.E.	N.	13	14	10	O.	R.	R.	10	03
Monday, ... 30	30.15	53.0	58.0	47.0	87.0	84.0	91.0	87.0	N.E.	E.	E.	4	11	8	O.	C.	C.	—	†
Tuesday, ... 31	30.36	53.0	57.0	51.0	82.0	85.0	87.0	85.0	S.E.	E.	E.	6	10	14	C.	O.	O.	—	—
Wednesday, ... 1	30.22	52.0	56.0	48.0	96.0	100.0	100.0	99.0	E.	N.E.	N.	22	16	9	R.	R.	R.	11	65
Thursday, ... 2	29.97	58.0	65.0	51.0	94.0	95.0	93.0	94.0	N.F.	E.	S.	5	8	5	O.	O.	C.	5	42
Friday, ... 3	29.69	65.0	74.0	61.0	91.0	64.0	82.0	79.0	S.	N.W.	W.	9	10	12	O.	O.	F.	3	†
Saturday, ... 4	30.02	53.0	63.0	50.0	89.0	90.0	80.0	86.0	N.E.	E.	N.E.	13	20	12	O.	O.	O.	—	—
Mean, the Week.	30.049	54.6	60.0	51.0				69.0										34	1.11

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 4, 1887, TO JUNE 10, 1887.

FRYER, B. E., major and surgeon. Granted two months' leave on account of sickness, permission to apply for an extension. S. O. 28, Division of the Pacific, May 28, 1887.

FRYER, B. E., major and surgeon. Granted sick leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

TREMAINE, W. S., major and surgeon. Sick leave still further extended two months, on account of sickness. S. O. 129, A. G. O., June 6, 1887.

BROWN, PAUL R., captain and assistant surgeon. Granted leave of absence for four months. S. O. 126, A. G. O., June 2, 1887.

APPEL, A. H., captain and assistant surgeon. Granted leave of absence on surgeon's certificate of disability, six months. S. O. 127, A. G. O., June 3, 1887.

WOOD, LEONARD, first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Huachuca, A. T.; relieved from duty at Headquarters' Department, Arizona. S. O. 126, A. G. O., June 2, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 11, 1887.

VAN REYFEN, W. K., surgeon. Ordered June 8th, for examination preliminary to promotion as Medical Inspector.

ROBINSON, SOMERSET, medical inspector. Ordered June 20th, before a Retiring Board convened at Mare Island, Cal.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 4, 1887.

GOLDSBOROUGH, C. B., surgeon. Detailed to represent the Service at the meeting of the American Medical Association, at Chicago, Ill., June 6, 1887. June 1, 1887.

BANKS, C. E., passed assistant surgeon. When relieved to rejoin station at Boston, Mass., May 23, 1887.

NORMAN, SEATON, assistant surgeon. When relieved to rejoin station at Cape Charles Quarantine, May 26, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Ninth Annual Report of the Trustees of the Danvers Lunatic Hospital, for the Year ending September 30, 1886. Boston, 1887.

Anæmia. By Frederick P. Henry, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Philadelphia: P. Blakiston, Son & Co. 1887. (Reprint.)

Report of the Committee on Disinfectants, Presented at the Fourteenth Annual Meeting of the American Public Health Association, held at Toronto, Canada, October 5-8, 1886.

Phosphorus-Necrosis of the Jaws. By J. Ewing Mears, M.D., Professor of Anatomy and Clinical Surgery in the Pennsylvania College of Dental Surgery; Surgeon to St. Mary's Hospital, Philadelphia, etc. Philadelphia: Wm. J. Dorman. 1886. (Reprint.)

Lomb Prize Essay. Healthy Homes and Food for the Working Classes. By Victor C. Vaughan, M.D., Ph.D., Professor in University of Michigan. Concord, N. H.: Republican Press Association. 1886.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886. Francis Delafield, M.D., President, James Tyson, M.D., Secretary, James T. Whittaker, M.D., Recorder. Philadelphia, 1886.

The Practitioner's Handbook of Treatment, or the Principles of Therapeutics. By J. Milner Fothergill, M.D., Physician to the London Hospital for Diseases of the Chest, etc. Third American from third English edition. Philadelphia: Lea Brothers & Co. 1887.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association, Washington, D. C., December 10, 1885. With an Appendix. Second Edition. Concord, N. H.: Republican Press Association. 1886.

Sur un Nouveau Traitement de la Métrite Chronique et en particulier de l'endométrite par la Galvano-caustique. Chirurgie intra-utérine, par le Dr. G. Apostoll, professeur libre de Gynecology et d'Electrothérapie à l'école pratique, etc., avec 9 figures dans le texte. Paris: Octave Doin, Editeur. 1887.

Dose and Price Labels of all the Drugs and Preparations of the United States Pharmacopœia of 1880; together with many Unofficial Articles that are frequently called for as Medicines or used in the Arts for the use of Pharmacists, Physicians and Students. Second Edition. By C. L. Lochman. Philadelphia: Dunlap & Clarke. 1887.

Elementary Microscopical Technology. A Manual for Students of Microscopy. In Three Parts. Part I. The Technical History of a Slide from the Crude Materials to the Finished Mount. By Frank L. James, Ph.D., M.D., President St. Louis Society of Microscopists, etc. St. Louis: St. Louis Medical and Surgical Journal Company. 1887.

Practical Lessons in Nursing: Maternity, Infancy, Childhood, Hygiene of Pregnancy, Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training-Schools for Nurses, etc. By John M. Keating, M.D. Philadelphia: J. B. Lippincott Co. 1887.

Earth as a Topical Application in Surgery. Being a full exposition of its uses in all the cases requiring topical applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a period of six months in 1869. By Addinell Hewson, M.D. Second Edition. With four photo-relief illustrations. Philadelphia: The Medical Register Co. 1887.

Elements of Botany. Including Organography, Vegetable Histology, Vegetable Physiology and Vegetable Taxonomy, and a Glossary of Botanical Terms. Illustrated by nearly five hundred engravings from drawings by the author. By Edson S. Bastin, A.M., F.R.M.S., Professor of Botany, Materia Medica and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engellhard & Co. 1887.

Cyclopedia of Obstetrics and Gynecology. The Pathology of Labor and the Uses of Ergot; being Volume Three of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the supervision of, and with notes and additions by Egbert H. Grandin, M.D. In four volumes. 248 fine wood engravings. New York: Wm. Wood & Co. 1887.

Lecture.

METHODS OF RESEARCH IN MEDICAL LITERATURE.¹

BY JOHN S. BILLINGS, M.D.,
Surgeon, United States Army, Washington, D. C.

WHEN I promised to speak briefly at this meeting on medical bibliography, it was not because I had anything new to say on this subject, but because it seemed possible that a few remarks might start a discussion by the medical writers and teachers of this Association as to the methods which they have found useful, and as to what they think can and should be done here to facilitate this kind of research. From the days of Galen to the middle of the seventeenth century, bibliographical work was the most important business of the medical teacher. The great majority of the writers of the Middle Ages busied themselves, not so much with observation of facts, or with experimental inquiry, as with seeking to find out what Hippocrates, Galen, Avicenna, and other old masters had said about the matter. When the discovery was made that, in order to determine the precise anatomy of a part, the function of an organ, or the results produced by a disease, it was best to look for one's self, instead of consulting the fathers, and when this discovery had become popularized, bibliographical and historical research fell for a time into neglect. Within the last fifty years, however, there has been a revival in interest in the collection of medical libraries and in historical research, which last has become a necessity in many cases, if one would avoid doing useless work. Attempts to learn what has been done, or said, or thought, by our predecessors are due to widely different needs, and may be pursued by widely different methods.

As specimens of subjects with regard to which bibliographical work is most frequently called for, I give the following:

(1) To gather and compare the records of all reported cases of particular forms of abnormality, disease, or injury. The rarer and more anomalous the abnormality or the disease, the more important it is to find the widely-scattered records.

(2) To obtain statistical data with regard to the circumstances affecting the prevalence of a certain disease, the relative frequency of particular symptoms, and the comparative merits of different modes of treatment, or the results of special operations.

(3) To obtain information as to details of methods which have been tried in experimental physiology, pathology, or pharmacology, and as to the results; in order to avoid waste of time in devising apparatus, or in trying methods, which have been already found worthless, or to obtain suggestions as to new modes of experimentation.

(4) To trace the origin and development of medical organization in a particular city or country, or to gather materials for a biographical sketch of some celebrated physician, or for the history of a medical society.

(5) To obtain data for a comparison of the laws and customs of different countries affecting medical education, or the right to practice, or the care of the insane, or public hygiene, etc.

In literary research for biographical purposes, or to trace the development of theories or institutions, the

work must be done mainly by the writer himself; and, while at the commencement he may be greatly helped by systematic works of medical bibliography, he will soon find himself wandering off into all sorts of curious by-paths and out-of-the-way corners, into which he is led by obeying the golden rule for this kind of work, namely, to "verify your references." In the first book which he consults he will probably find two or three references, which will indicate to him as many different books or articles which he will wish to consult. When he gets these, each of them will probably give a few more references, to be hunted up in like manner.

Meantime, it will not be an unprecedented or very remarkable occurrence if, in the course of his reading, he stumbles over several interesting points not precisely connected with his original quest, but still having some relation to it, and which it seems a pity not to look up while he is about it, so he makes note of these, and of the references connected with them, and sends for a fresh lot of books. He finds, also, that some of his quotations are erroneous, that "some one has blundered or plagiarized," and proceeds with a sense of refreshment and satisfaction to hunt down the culprit. And so the work expands, for, as Teufelsdröckh remarks, "any road will lead you to the end of the world." To those who like this sort of literary work it has a great fascination, and there are few educated men who do not enjoy a short hunt of this kind, if they have time and facilities for it. From a strictly utilitarian and merely pecuniary point of view, the results of such bibliographical excursions are not usually very remunerative, but they afford capital mental exercise, and occasionally result in the production of some really interesting and valuable additions to medical literature.

Men engaged in this line of research do not usually, except just at first, care much about subject catalogues or indexes. They know what books they want to see, and the catalogue which interests them most frequently is a catalogue of authors in alphabetical order. The questions which they ask of the librarian are something like the following: Have you got such a book in the library? Who is the author of a book having such a title? John Smith published a book about such a date—what is its title? I want to see all the books that Peter Brown wrote or edited. How many editions were published of "Jones's Surgery," and what translations were made of it? When did the *Ohio Medical Repository* begin and end, and who were its editors? These are all simple questions, which almost any physician can answer for himself by the aid of good, ordinary author-catalogues.

If the question is as to a collection of laws regulating medical practice in Brussels, or the number of supplements to the "Catalogue of the New York Hospital," some physicians might be troubled a little to find the desired information in an author catalogue, not knowing the rule that a government or corporation is considered to be the author of its laws, reports, etc., and that, therefore, Belgium is the author of the first book, and the New York Hospital of the second.

But while a simple alphabetical catalogue of authors will serve many purposes in bibliographical research, and is, perhaps, the one most used by the librarian, there are many points on which it fails to give the desired information, and for which bibliographical lists or subject-catalogues are desirable; and just here

¹ Delivered before the Association of American Physicians, Washington, June 2, 1887.

a few definitions may be useful. By a bibliography I mean a list of titles of books, and of references to articles or paragraphs which relate to the subject in hand. By a critical bibliography I mean a list in which shall be indicated those books or articles which are of real value, as containing some addition to knowledge. In many, perhaps most, cases, such lists are best published in chronological form, thus indicating the successive dates on which new information was given; but, in making them, the use of separate slips or cards, arranged in alphabetical order, is the most convenient. The more complete such lists can be made, the more valuable they are, but often too much time is wasted in attempts to make them absolutely perfect. The great thing to be kept in view is to make them accurate as far as they go, and one of the best means of doing this is to indicate distinctly for each title quoted as to whether you yourself have or have not seen and examined the book. It should be constantly borne in mind that the proper object in giving bibliographical lists is not to impress the reader with the extent and variety of the author's research, but to give him the means of verifying the author's statements, and of pushing the research further. It is analogous to giving details of methods used in an experiment in physiology. Hence the references given should not be too condensed. They should be so clear, that from them it shall be easy to find the books, and for this reason I ask your attention to the desirability of using a uniform system of abbreviations of titles of journals and transactions in referring to them, and venture to suggest that the set of such abbreviations given at the beginning of Vol. VII of the Index Catalogue may be found useful for this purpose.

I have elsewhere called attention to the essential differences between medical bibliography, properly so called, and subject-catalogues of particular libraries. No matter how large and complete a medical library may be, its subject-catalogue can never form anything like a satisfactory medical bibliography; it only makes a good foundation for one.

On the other hand, when you wish to use bibliographical lists prepared by others, you have usually much difficulty in finding some of the books referred to, while the references which you do find in a subject-catalogue of a given library, can at all events be verified by visiting that library. The labor of preparing bibliographical lists, and of research, after one has been furnished with such a list, is in many cases very considerable, and such work can usually only be carried on to advantage in a large library. As this is preëminently an age of division of labor, it is natural to apply this principle also to bibliographical research. There are many cases in which what may be called mechanical bibliography and literary research may be used to excellent advantage, and the field for this kind of work will expand in the future. It is especially applicable in those cases, indicated in a preceding part of this paper, in which it is desired to compare the records of cases and operations, and to prepare statistics. It is often much better for the busy practitioner to have this work done for him than to attempt to do it himself, and especially is this the case if he does not easily read other languages besides his own. It is true that by employing others to do such work, he loses both pleasure and instruction, but the field of professional work and study is now so wide that it is impossible for any one man to cover it all, and he

must be content with coöperative effort. It is also true that such work is not only sometimes expensive, but that it is often difficult to tell beforehand what it will cost. There are several physicians in Washington who are willing to undertake work of this kind in the library of the Surgeon-General's Office, for physicians at a distance who cannot conveniently visit this city, and their charge for such work, hunting up references, making abstracts, translations, etc., is one dollar per hour. You can readily see that there can be no very definite relation between the time occupied and results produced: a half-page abstract may require two hours to prepare, or it may be done in ten minutes, and sometimes it may cost less to purchase a pamphlet than to obtain an abstract of it in this way. Nevertheless the demand for this kind of work is steadily increasing, and a supply will arise to meet the demand.

In order to obtain satisfactory results from bibliographical work done in this way it is necessary that the points to be looked up shall be stated as concisely, and as precisely, as possible; in other words that the person who requests the search shall know clearly what he wants. I have elsewhere called attention to this by quoting the warning which is printed on the title-page of the Washington City Directory, namely, "If you want to find a name in this directory, you must know how to spell it," which is the same as the old Latin proverb, "*qui nihil affert, nihil refert.*" When I receive a letter stating that the writer is about to prepare a paper for his county medical society; that he has selected for his subject, tumors of the liver, or locomotor ataxy, or the causes of insanity in modern times; and that he would be glad to have as complete a list of references as possible to all articles, reports of cases, or statistics connected with these subjects,—and that his paper must be prepared in two weeks,—I know of course that what he wants is one of the recent encyclopædias of medicine, and advise accordingly. The problem is not always so simple, however, and I must confess that I am sometimes very much puzzled as to what to reply to some of the queries which I receive. Nevertheless, we are all learning gradually how to use medical libraries, and in a few years more I predict that the wonder will be how we ever got on without them.

I have here a few of the books which are most used in this library for subject-references, a list of which is appended to this paper. I include in this list the catalogues of certain libraries for reasons already given. For other valuable works consult in the index-catalogue the headings, Bibliography Medical, Biography Medical, and Medicine, History of. With regard to the index-catalogue of this library, with which you are all more or less familiar, I may say that its most important defects are those of omission, that is, the failure to give under subject-headings all the references to books and articles actually in the library which really belong there, and it requires a little practice to enable one to get the best results from it.

There are many books and journal articles which different men would classify under different heads, and in most cases when one consults the index for a particular subject he finds more references than he cares to be bothered with, although the list is almost always incomplete owing to the fact that we have not yet obtained all the medical books which have been printed. We are, however, making fair progress in this direc-

tion; I think we now have over three-fourths of all medical books which have any special value or interest, and at least two-thirds of all the medical literature which has been printed.

In consulting the index on any given subject it will usually be found possible to select from the rather formidably large mass of titles those which are most likely to be of interest by giving a little attention to author's names, to the place and date of publication and to the number of pages and plates, if it is a journal article. The cross-references should be consulted, and under the headings to which these will guide you will often be found new cross-references which should also be looked up.

Since the year 1800, about one-half of the medical literature which has been published, consists of medical journals and transactions. Nine-tenths of the demands made on this library are based on references to this class of literature, and it is therefore of the greatest importance in medical bibliography. The number of medical journals and transactions now received by this library, excluding those devoted to pharmacy and dentistry, is over seven hundred, and it has been steadily increasing for the last five years.

If we take Ploucquet's *literatura medica digesta* to be as complete an index of the medical literature in existence at the beginning of this century as the index catalogue is of the medical literature now in existence, it is evident that the number of references has more than quadrupled during the present century. Nine-tenths at least, of it, becomes worthless, and of no interest within ten years after the date of its publication, and much of it is so when it first appears. Of that which is really new and good a large part is pretty promptly made use of by systematizers and compilers, but there is also a considerable portion which we cannot use in our present state of knowledge but which become valuable building material hereafter. To get this roughly sorted out, classified and labelled, so that it can be found when wanted, is the object of indexing; to bring it into use is the object of bibliography.

One of the most useful pieces of work which could now be undertaken for the benefit of medical writers and investigators would be the preparation of a dictionary of critical bibliography of medical bibliography, in which should be indicated for each subject in alphabetical order a reference to where the best bibliography relating to that subject can be found. This could only be well done by a coöperation of a number of writers, each taking a special field.

I have not attempted in this brief paper to eulogize bibliography or to comment on the desirability that there should always be a few men interested in the study of the history and literature of medicine. I think that you will all agree with me that they may be sources of much pleasure, and that this alone is a fairly good reason for giving them some attention, and for exerting the influence of the profession to make it possible in at least one place in this country to carry out such studies with a full supply of material.

And while the librarian is in one respect only a sort of hod-carrier, who brings together the bricks made by one set of men in order that another set of men may build therewith—he is apt to take quite as much pride and satisfaction in the resulting structure, provided it be a good one, as if he had built it himself; and he has constantly unrolling before him a

panorama which, though at times a little monotonous, contains as much wisdom, humor, and pathos, as any other product of the human intellect with which I am acquainted.

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Original Article.

OBSERVATIONS ON THE USE OF ANTIPYRINE AND THALLIN IN THE TREATMENT OF TYPHOID FEVER.¹

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IN the autumn and winter of 1885-86, and in those of 1886-87, I ordered antipyrine and thallin in twenty-four cases of typhoid fever in the Massachusetts General Hospital, with the object of ascertaining, as far as possible, to what extent they could be relied upon as remedies of positive value in the treatment of that disease. An abstract of each case was made, and compared with the temperature-chart, the latter including, in a considerable number of cases, the hourly varia-

tions after each dose, as well as the regular morning and evening range. The main points for investigation included:

- (1) The dose of each drug required to produce a depression of two or three degrees of temperature.
- (2) Conditions affecting the action of the drugs.
- (3) Effects on the condition of the patient.
- (4) Effects of the drugs in fatal cases.
- (5) Effects of antipyrine and thallin when given in continuous doses.
- (6) Comparative effects of antipyrine and thallin.

The twenty-four cases include all the typhoids that were submitted to the action of these drugs in the wards under my charge during these two terms of service.

The regular treatment of typhoid fever in these wards was expectant. A considerable proportion of the cases required no special interference. The patients were carefully fed, chiefly with milk, plain or peptonized, and occasionally with animal broths. All were regularly sponged several times daily with plain water, either cold or tepid. In cases where there was much prostration, brandy or whiskey was given, in doses ranging from one to two drachms, every three or four hours, to one ounce every hour. The patients were very lightly covered, often with only a sheet. Very few required opiates.

Antipyrine or thallin were given only when the temperature rose above 102.5° (Fahr.).

DOSE.

The doses employed varied according to the age of the patient, and the degree of pyrexia. From twenty to thirty grains of antipyrine were generally given to an adult, eight grains to a child of twelve years, and five grains to a child of three years, whenever the temperature reached three-and-one-half degrees (Fahr.) above the normal standard. If retained by the patient, this invariably had the effect of reducing the temperature two or three degrees, and sometimes more, in the course of one or two hours; the mercury then rose during the same length of time, till it reached its original level, or a degree below that. The same results followed the use of thallin in much smaller doses. In one case (an adult), two grains reduced the temperature from 105.7° to 101.2°. In general, four grains of thallin were given to an adult. When given in continuous doses, every three or four hours, for example, it was found, in some cases, that after one full dose, much smaller subsequent ones were sufficient to maintain the temperature at a given level. In the case of a patient twelve years old, after one dose of two grains of thallin, a single grain, given from twice to six times daily, was sufficient to keep the temperature at a moderate level.

CONDITIONS AFFECTING THE ACTION OF THE DRUGS.

It was observed that antipyrine and thallin acted most promptly, and with most permanent effect, when given at, or just before the end of the fastigium, thus giving rise to the suspicion that the improvement would have taken place had the medicine not been given. There is no doubt that this suspicion is just, so far as a permanent reaction is concerned. Inspection of the charts shows that, in general, antipyrine and thallin given during the fastigium reduced the temperature promptly, but only temporarily, except when they were given shortly before the lysis began (Susan Hamblet). In one case, however, that of a child three years old (J.

¹ Read before the Association of American Physicians, Washington, June 2, 1887.

H. Frizzell), the fastigium was unusually short, and the chart shows an immediate and permanent reduction after antipyrine had been given. There was no doubt of the diagnosis in this case. In other cases, it seems probable, from inspection of the chart, that the temperature was controlled, or prevented from rising higher, although no permanent depression was effected, though, of course, this could not be demonstrated. In general, however, it was found that the more severe the symptoms, including high fever, the more difficult it was to maintain a moderate temperature by means of antipyrine or thallin. So far as I could discover, there were no other conditions which interfered with their action.

EFFECTS UPON THE PATIENTS.

The general effect of antipyrine and thallin upon the patients was almost always favorable, and no case was observed in which the exhibition of either drug was followed by any worse results than sweating and occasional vomiting. It was noted, in a large number of cases, that the patients slept tranquilly after taking them. No special prostration or exhaustion was recorded. Generally, it is reported that no change took place in the character or rate of the pulse. In many cases, the patient, from being restless or delirious, became tranquil and rational. In almost all the cases, it is reported that the patients were more comfortable after taking the medicine. These effects were more marked and more lasting when the drug was given during the defervescence than during the fastigium, but still they were observed at all periods of the disease. The favorable effects were decidedly more noticeable in children than in adults, and the drugs were remarkably well borne by children.

ANTIPYRINE AND THALLIN IN FATAL CASES.

I examined with care the records of the six fatal cases, in order to ascertain whether the result could be attributed, in any of them, to the refrigerant medicine. The first case was that of Lizzie Prime, domestic, twenty-seven years old, who entered the hospital December 14, 1886, with typhoid symptoms, signs of bronchitic inflammation, a pre-systolic cardiac murmur, and weak pulse. Three days after entrance she had a dose of antipyrine, which was repeated on the two following days, when the temperature became normal, and the medicine was discontinued. During all this time, the weak and irregular condition of the pulse continued. On the eighth day after entrance, signs of œdema of the glottis appeared, and at eight o'clock in the evening the trachea was opened, but no relief was afforded to the dyspnoea, and the patient died soon afterwards. Although no unfavorable effects following the administration of the antipyrine were recorded, I cannot but think that the condition of the pulse was such that the case was an unfavorable one for the exhibition of the drug. As no autopsy could be obtained, the cause of death could not be certainly ascertained: since the trachea was opened before death, œdema of the glottis could not have been the only cause. Stimulants were freely given throughout the case.

The next fatal case was similar to the last in respect to the condition of the pulse. Joseph Farrell, twenty-six years old, waiter, entered the hospital October 1, 1886, and died October 11th. He had been in bed seven days before entrance. He took several doses of antipyrine, of five to ten grains each, daily for nine

days, after which the temperature gradually fell to 99° on the day of his death. Throughout the case, the action of the heart was very feeble, and the lungs were œdematous. The density of the urine was 1012; there was a trace of albumen, with numerous hyaline and granular casts. *Post-mortem*, the muscular substance of the heart was found to be pale and translucent; the kidneys, on section, were pale, the cortex thickened, glomeruli distinct, and surrounding substance gray; spleen about four times the natural size, soft, and easily torn; great increase of pulp. The intestines showed the usual lesions. Stimulants were freely given throughout the case. No unfavorable symptoms which could be attributed to antipyrine were recorded, but the case was evidently not likely to be benefited by it.

The third fatal case, that of Louisa Smith, twenty-six years old, was one of relapse. Her mother and sister had typhoid recently, each had a relapse, and each had internal hæmorrhage. Her husband, also, was convalescent from a "fever." The patient, who was much fatigued from nursing the others, and who also had a miscarriage at the fifth month, eight weeks previously, entered the hospital February 6, 1887, having been in bed two weeks with typhoid symptoms. The case was of moderate severity, and without special treatment the temperature gradually fell, and reached the normal standard on February 13th, the twenty-first day of the disease. February 17th, the temperature began to rise again, and after four days it reached 104°. On the sixth day of the relapse, one dose of thallin of four grains was given, which appeared to have a favorable effect, and was not repeated. February 28th, the eleventh day of the relapse, at 7 p. m., a sudden rigor occurred, with intense pain in the abdomen, vomiting, thready pulse, and all the symptoms of peritonitis from perforation, of which the patient died, March 3d, at 7 a. m. As only a single dose of thallin was given, which was followed by no unfavorable symptoms eight days before death from perforation, it is not probable that the drug had any influence in causing the fatal catastrophe.

Kate Murphy, twenty-one years old, entered hospital February 21st, and died, March 6, 1887. This was the fifth case of typhoid fever brought to this hospital from the same house, and the eighth person who had contracted the disease there, this season. Pale, chlorotic looking; in bed three days before entrance. Temperature at entrance, 103.4°. It rose to 105.7° on the evening of February 25th, (eleventh day), and began to fall on the morning of the 27th, (thirteenth day). The decline continued till the evening of March, (nineteenth day), when it was at 98.5°. During all this time the symptoms grew worse and she died early the next morning. The cause of the failure of this patient appeared to have been diarrhoea, which set in on the fifteenth day, and was followed by delirium and exhaustion. She took six doses of thallin of two grains each, the last one seven days before her death.

Margaret Coffin, aged 54, entered the hospital October 16, 1886, and died November 11th. For six weeks before entrance she had been occupied in nursing a daughter with typhoid, and another daughter entered along with the mother, sick with the same disease. The symptoms began two weeks before entrance, and were threatening from the first. The temperature was very irregular, and at times as low as

97° without obvious cause—there was no hemorrhage. Diarrhœa was persistent. Treatment was chiefly by free administration of stimulants. November 6th, two grains of thallin were given at 5 A. M., the temperature being at 103°: it began to fall at once, and 8 o'clock was at the normal point. In an hour it rose rapidly to 102.2° and the dose was repeated. The next day the same dose of thallin was given at 10 A. M., with a similar result. No more was given, although the patient seemed more comfortable after the medicine. She gradually failed, and died at 2 A. M., November 11th, at about the thirty-sixth day of the disease.

The sixth fatal case was that of William Millis, twenty-four years old, who entered the hospital November 17th, and died November 25, 1886. In bed five days before entrance. He steadily grew worse until his death. The symptoms were stupor, delirium, and prostration. There was no evidence of serious lung or heart complication; but the condition of the urine was suspicious of previous renal disease. Thallin and antipyrine were thoroughly tried throughout the course of the disease, the former in doses of four grains, which readily reduced the temperature several degrees, though only for a short time. Antipyrine was given several times in doses of fifteen and twenty grains, smaller doses failing to act. Thirty grains were also given by enema twice, but without any effect at all. On the whole, the general effect of the antipyretics was thought to be favorable, it being noted repeatedly that after a dose had been given the patient was less restless, and more comfortable, notwithstanding a chill often occurred.

CONTINUED USE OF ANTIPYRETICS.

A few cases of typhoid were treated by the continued administration of antipyretic remedies. Either a single dose was given daily, or, as in most cases oftener than once daily. As an example of this method may be cited the case of John Swift, twenty-nine years old, who entered the hospital December 14, 1885, complaining for two weeks of lassitude and loss of appetite, and for one week of diarrhœa. The chart shows that the fastigium was just beginning at the time of his entrance. The temperature was 103°, and later the same evening 103.4°. He was much prostrated, and stupid, had abundant rose spots, enlarged spleen, gurgling in the right iliac region, etc. The next day he was delirious, trying to get out of bed, and twenty grains of antipyrine were given, after which he perspired freely, and became much quieter. The temperature was reduced from nearly 105° to 101°. After that he got two doses daily, of the same amount, except on one day when none was given; and it is remarkable that on that day only did the temperature rise above 103°. During the rest of the fastigium it varied between 101° and 102.5°. At the end of eight days the defervescence began, the temperature falling gradually and spontaneously, during five days, when it became normal, on December 31st, at about the twenty-fifth day of the disease. It is reported that he never had nausea or vomiting; the pulse remained unchanged after antipyrine; restlessness and delirium were much diminished.

In one case in which the temperature rose during the fastigium to 106° small doses (one and two grains) of thallin and antipyrine, sometimes one and sometimes the other, were given in a series of thirty-four doses, at intervals of from one to eight hours, with a

single dose of thirty grains of antipyrine, without unfavorable effect, and the patient recovered.

COMPARATIVE EFFECTS OF ANTIPYRINE AND THALLIN.

The study of the reports of the cases and of the temperature charts reveals but little difference in the effects of the two drugs; but soon after the introduction of thallin it was almost always employed in preference to the other, and the general impression derived from my experience in the two is that prolonged chill, excessive sweating, and vomiting were more frequently observed after the employment of antipyrine than of thallin.

CONCLUSIONS.

So far as trustworthy conclusions can be obtained from the comparison of so small a number of observations they would seem to be as follows:

(1) Antipyrine and thallin given internally have a remarkable power of reducing by several degrees the bodily temperature in typhoid fever within a period of from one to three hours, after which in most cases the temperature rises again in about the same length of time, sometimes to the original degree, but often not quite so high.

(2) The use of the drugs did not appear to give rise to any unfavorable effects upon the course of the disease, even in fatal cases.

(3) In general, the condition of the patient was more comfortable after the effect of the refrigerant medicine was produced; he was more tranquil, often slept, and frequently expressed himself as relieved.

(4) The refrigerant medication by antipyrine and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. In some cases the general condition was apparently relieved or improved throughout the course, but in most cases these drugs can only be looked upon as palliatives, often contributing to the patient's comfort, and perhaps indirectly promoting his safety.

(5) The failure of such efficient antipyretics as antipyrine and thallin to avert the fatal issue in many grave cases of typhoid fever shows that the danger does not consist in high temperature alone, but that the latter is rather an index of the abnormal condition which we call fever, though probably adding somewhat to the danger.

(6) By the internal use of antipyrine and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the danger of exhaustion and shock consequent on the fatigue of removal from bed.

(7) These remedies may be given without danger to the youngest patient in suitable doses, and indeed their beneficial effects are more decided with them than with adults.

ADDENDUM.

Before concluding this paper, I wish to allude to the very favorable effect of refrigerant medicines in the treatment of the hectic of pulmonary consumption. Eight grains of antipyrine given daily at three or four o'clock in the afternoon has in my experience both in hospital and private practice been effectual in preventing the rise of temperature, the sweating and the flushing which are a source of so much discomfort to phthisical patients, especially during the period of soften-

ing, although the remedy appears to have no effect on the progress of the disease.

The chart which I will pass around, is that of F. W. Tolsom, eighteen years old, who entered the hospital January 23, 1886, with cough and muco-purulent expectoration, night sweats, loss of weight and strength, etc. The signs were dulness, broncho-vesicular respiratory murmur, bronchophony, moist crepitant râle, etc., in the right apex, extending in front to the third rib, and half way down the scapula behind. One dose of antipyrine was given the next day, but none on the two following days, during which the evening temperature ranged between 103° and 104°. Eight grains were then given daily at 4 P. M., for the remainder of his stay (13 days), during which time the temperature was greatly reduced and the hectic suppressed. The patient also gained two pounds in weight.

Clinical Memorandum.

ATTEMPTED SUICIDE FROM THE INGESTION OF FIFTY-ONE GRAINS OF MORPHINE, THE GREATER PART OF WHICH REMAINED IN THE STOMACH THIRTEEN HOURS: RECOVERY.

REPORTED BY GEORGE M. MORSE, M.D., OF CLINTON, MASS.

In the JOURNAL of May 12th is reported "A Case of Attempted Suicide by the Ingestion of Thirty-six Grains of Morphine, which remained in the stomach five hours." I have to report a still larger amount taken, and remaining a still longer time in the stomach.

May 25th, M. C., aged thirty-two years, was found by his boarding-mistress, at ten minutes past twelve, in his room, on the bed, unconscious. Dr. French was called, who sent for me, with the request that I would come immediately, and bring a stomach-pump. I arrived at the house at about 1 o'clock, P. M. We found the patient, a strong, well-built man, dressed with the utmost care and nicety, lying on the bed, which had not been slept in, unconscious, sweating profusely; pupils contracted to a pin's point; respiration very irregular, abdominal; lips purple, face cyanotic. On the table was found a bottle with Power's and Weightman's red label, containing, by weight, nine grains of morphine: in a goblet by side of bed, about two drachms of water, which tasted like a solution of morphine; also a sealed letter, directed to patient's wife, marked "deliver immediately—death." The bottle was apparently a new bottle, fresh from the apothecary; the tin-foil had not been entirely removed from the cork. In a vessel under the bed was found, as we judged, about two ounces of greenish fluid, containing food, the green color given, apparently, by garden-rhubarb. A lamp was burning in the room, indicating that the patient had been on the bed many hours. The lamp would ordinarily burn for twelve or fourteen hours; the oil was nearly exhausted.

The diagnosis was easily made out, namely, attempted suicide by the use of morphine, taken sometime during the previous night. Attempts, which were ineffectual, had been made by Dr. French to make him swallow coffee. He had also administered atropine hypodermically. While getting my stomach-pump ready, one-thirtieth-of-a-grain of atropine was injected. At 1.15 P. M., I removed ten ounces of

fluid, like, in appearance, the liquid found in the vessel, pumped back sixteen ounces of warm water, which I removed, and injected another pint of water, and removed that also. Having thoroughly rinsed out the stomach, I pumped in a pint of very strong black coffee. Flagellation of the face by a wet towel, and of the nates by a small cane, was kept up until a galvanic battery was obtained, one pole of which was applied to the epigastrium, and the other to the carotid triangle.

2.30 P. M. Pupils dilated a little; respiration improved; patient not so cyanotic. Flagellation caused corrugation of the superciliary and orbicularis muscles.

3.30 P. M. Patient very purple, entirely unconscious; pulse 140, respirations three per minute. We gave ten grains of caffeine. Galvanism was continued; the negative pole applied to lips and carotid triangle alternately. 5 P. M. Respiration improved; Cheyne-Stokes in character.

5.30 P. M. Caffeine, ten grains; galvanism continued.

6 P. M. Pulse 148, respirations twenty per minute.

9 P. M. Patient could be made to open eyes by shouting, shaking, and by applying the cane with considerable force to the nates. Caffeine every three hours; also galvanism intermittently.

2 A. M. Nurse said he waked up and became conscious. 9 A. M. Patient seemed quite conscious, but said his head felt light; vomited, and in the afternoon was quite delirious, saw snakes, etc.

He was well the next day, and gave this account of himself: At 11 P. M., May 25th, he retired to his room, took a bath, dressed himself in his best clothing—clean shirt, collar, white neck-tie, and white stockings—wrote the letter to his wife; put one-half the contents of an eighth-ounce bottle of morphine (which he had bought some days before) into a goblet of water, and drank it; filled the goblet with water and put more morphine in it, and drank of it occasionally until he became unconscious; the last drink he took made him sick, and he vomited once—what we found in the vessel.

There were nine grains found in the bottle, showing that he had taken fifty-one grains, and he said he wasted only what he vomited, and which we found in the vessel. According to his account, he drank about twelve ounces of water, in which were dissolved fifty-one grains of morphine. He vomited two ounces, so that there must have remained in his stomach for more than twelve hours more than forty grains of morphine. No estimate is here made of the contents of his stomach before taking morphine. There must have been considerable, as we found what appeared like garden-rhubarb in the matter pumped out.

It is to be regretted that no attempt was made to ascertain the amount of morphine pumped out, but, in the hurry and confusion, the whole was thrown away. The points of interest in this case are the large amount of morphine taken, the length of time, it remained in the stomach before any attempt was made to remove or antagonize its effects, and lastly, the success of the treatment, namely, the stomach-pump, atropine, caffeine, galvanism, and flagellation.

This case, together with the case reported from Denver by Dr. Fisk, shows that however desperate the case may seem to be, however large the amount taken, or the length of time before treatment is commenced, persistent endeavors to relieve the patient

should continue so long as respiration can be kept up by the use of galvanism and flagellation. In short, every effort should be made to keep the patient alive until the poison has spent its force, or has been antagonized by the atropine and caffeine.

Reports of Societies.

THE ONE HUNDRED AND SIXTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 7TH AND 8TH, 1887.¹

THE ANNUAL DINNER.

Soon after one o'clock the traditional procession took up its line of march down Boylston to Clarendon Street, to Winslow's rink, where Caterer Weber had arranged over a score of tables covered with inviting delicacies. The skating-floor was well filled up with them, while on a platform in the front of the rink were more tables for the invited guests and the officers of the society. In the side-gallery were twenty-five musicians from the Cadet Band, under the leadership of J. Thomas Baldwin. Upwards of nine hundred Fellows sat down to dinner. The assembly was called to order by the Anniversary Chairman, Dr. William L. Richardson, of Boston, and grace was said by the Rev. Brooke Herford, of Boston.

The platform was occupied by the following gentlemen of prominence, besides the officers of the Society and the delegates from other societies: Gov. Ames, U. S. Dist.-Atty. George M. Stearns, the Rev. Brooke Herford, Col. T. W. Higginson, Asst.-Atty. Gen. H. N. Shepard, Surg.-Gen. A. F. Holt, Mr. Roger Wolcott, Drs. B. E. Cotting, H. W. Williams, G. H. Lyman, H. I. Bowditch, Alfred Hosmer, William Cogswell, G. C. Shattuck, G. B. Shattuck, Francis Minot, H. P. Bowditch, C. B. Porter, J. C. Warren, H. P. Walcott, John Homans, G. H. M. Rowe, and others.

The caterer's wares having been disposed of, Dr. Richardson began the later exercises of the day. After acknowledging his indebtedness to the efficient committee of arrangements, he proceeded with the introduction of the various speakers, as follows:

We are favored by the presence of several distinguished gentlemen whom I shall call upon to address you. Much, doubtless, to your disappointment, but at their earnest request, I have consented to give up the custom, sometimes followed at these annual dinners, of having long speeches. These to which I invite your attention will be brief. The first to speak will be the gentleman who, as our President, represents the Society — Dr. Thomas H. Gage, of Worcester.

To which Dr. Gage responded as follows:

MR. CHAIRMAN, I thank you, in behalf of your associates of the Massachusetts Medical Society, for these graceful and complimentary words. And, in the same behalf, I thank you and the gentlemen who have been associated with you in the Committee of Arrangements, for your untiring and every way successful efforts to make this anniversary meeting one of more than usual pleasure and profit. You have afforded us an intellectual entertainment of a high order; you have given us, under the auspices of a generous hospitality, an hour of pleasant social intercourse; and

you have in reserve a "feast of wit and reason" to which the vast audience here assembled is looking forward with eager expectation. Distinguished guests honor us by their presence, and eloquent speakers await your pleasure to address us. Nothing but the purely conventional requirement that I should be first to receive your summons and respond for those I have the honor to represent, stands now between your audience and its anticipated enjoyments. And I will, of course, be brief.

The year that has passed, since we were last assembled here, has been within our organization, one of harmony and peace. The Massachusetts Medical Society has been disturbed by no unwelcome topics of discussion, and by no discordant counsels. There has been nothing to distract attention from the great pursuits for which it was established by the fathers, and for which it still affords the highest encouragements and the amplest opportunities. Everything has favored a season of normal and healthful activity, and such a season we have enjoyed. It has been a year of general prosperity, and, in my judgment, of substantial and commendable progress. We have not startled the scientific world, it is true, by great achievement or remarkable announcement; but we have contributed to make such results possible in the future. We have gathered knowledge and experience and made them available for reference, instruction, illustration, and mutual improvement. We have invited and encouraged independent and original experiment and research. And we have examined, from time to time, under the light of full and free discussion, the facts and the theories we have thus brought together.

All along the line from Berkshire to Barnstable, this scientific activity has been kept up throughout the year. Communications of high character, showing care in the preparation, close observation of the phenomena of disease, excellent knowledge of the principles of medicine, and studious application, both at the bedside and in the library, have been the rule in all the District Societies. And the general character of the discussions they have elicited has been equally high and instructive. Here and there, to be sure, the stream of intellectual thought and endeavor has encountered in its course the old mossgrown obstructions of apathy, indifference, and inharmonious relations, and for a little space flowed sluggishly; but nowhere has it ceased. The great and useful work of encouraging and promoting, by associated effort, a knowledge of medicine and surgery, and a love of science, has gone quietly and prosperously on. And, as it has fallen under my notice, it has been, in its general scope and character, exceedingly practical. To a very large extent it has consisted of the presentation and discussion of cases, including not only those of an unusual nature and exceptional interest, but those also of commoner form, illustrating disease, casualty, and emergency, as they pass under every busy physician's daily observation and care. And the result has been the contribution of not a few new and useful suggestions in both theory and practice. And so in a very practical way great principles have been the subject of communication and discussion, and especially those that underlie the sciences of public health and the prevention of disease. Nearly all the societies have had under consideration the practical application of these to the public and domestic wants of the people.

In speaking of this practical feature of the year,

¹ Concluded from page 579.

which has been so conspicuous everywhere, I am inclined to illustrate it by citing a prominent instance, and I trust an allusion to a particular Society by name will not be anywhere regarded as making an invidious distinction. Circumstances of an unusual and very extraordinary nature have given the Norfolk District a remarkable opportunity for the study of an important class of injuries, and I wish to allude to the excellent use made by that Society of the scientific material thus thrown in its way. I refer to the experience afforded its members by the Bussey Bridge disaster, and to the systematic effort made by them to utilize their observations for the advancement of science. Should the methods, thus far developed, be by them still further pursued, and the cases of the injured be kept under observation, and from time to time reported and published, a contribution of valuable nature upon the vexed medico-legal questions that grow out of railway injuries may be expected to result. This circle of events, namely, the opportunity, the use made of it already, and the further use of it that seems to be promised in the future, will have afforded, when it is complete, a typical illustration of the capabilities of our District Societies for the most profitable kind of practical work.

But the organic act under which the Massachusetts Medical Society exists, and which provides for district organizations, mentions particularly the communication of experiments, as well as of cases, as a means of encouraging and promoting the acquisition of medical knowledge. By which is meant, I suppose, the communication of such experiments and researches in the field of science, as are undertaken with the purpose of discovering new truth, or of verifying the alleged discoveries of such truth by others. Now in the nature of things such communications as these are much less common than those of an immediately practical character. Not many of those

"Whose modest want of everyday
The toil of everyday supplies,"

can afford the time or the means required for such exercises. And besides, few have the taste for such employments, and fewer still the knowledge of details, the special skill, and the mental discipline, necessary to make an attempt of this sort one of really scientific value. Yet even such communications as these, though far less abundantly than the others, the year has supplied. Contributions giving the results of independent and original research in the fields of bacteriology, histological pathology, and the specific poisons have been quite numerous, and exceedingly creditable, not only to the authors and observers, but to the societies they have represented.

Thus, Mr. Chairman and gentlemen, the year that has passed, since we were last assembled here, has been one of healthful activity, faithful endeavor, and useful results; and thus, substantially, it will pass into history, and become a companion of the many, all more or less illustrious, that have preceded it. Its opportunities are gone, and it is itself past recall. Let us waste upon it neither criticisms nor regrets. Another, equally inviting, and with the sublimest of possibilities, lies before us. Let us make the best of that.

DR. RICHARDSON then said:

The State of Massachusetts next claims our attention. We are honored on this occasion by the pres-

ence of the chief magistrate of the Commonwealth, a man of few words but who does not hesitate to act in accordance with what he thinks is right. I have the pleasure to introduce His Excellency, Governor Ames.

The GOVERNOR, who was enthusiastically received, spoke as follows:—

GENTLEMEN OF THE MASSACHUSETTS MEDICAL SOCIETY:—When I first became acquainted with the country doctor he combined in his person the professions of physician, dentist, and apothecary. In these later days, which are so distinguished by the division of labor, the doctor has become simply the physician, and he writes for you a prescription, and bids you go to the apothecary. Following the modern example, I have written my prescription for this occasion, which I will proceed to read to you:

Gentlemen of the Massachusetts Medical Society; It gives me great pleasure that in the rush of business in which I am now involved, I am able to come here, to express to you the kind feeling which the Commonwealth has for those who practice the healing art within her borders. It must be said, that as much as some of us, individually, dislike the doses which you prescribe, we cannot do without you. You are all-powerful with us when we are most in need of the sympathy of our fellow-men, and you use that power with such skill and discretion that the physician is often the best, as he is almost always the wisest, friend of the family. Time was, when the dominion of the sick-room was divided between the doctor, the clergyman, and the lawyer; but now no one disputes with you for preëminence in that place, unless it be the nurse, that modern adjunct to your profession, for which we cannot be too grateful to you. In whatever way one turns, one sees something which ought to evoke his gratitude to you. In public improvements, which tend to raise the standard of the general health, none are more active; in securing better lighting, improved ventilation, and thorough drainage for our homes and places of business, none take a greater interest. Indeed, you have become, and to our advantage, preventers of, rather than curers of, diseases and that life is lengthened, with all its opportunities and all its blessings, is largely due to your efforts. Again I greet you in the name of the Commonwealth, and repeat my assurance that in you she sees a body of men whom she delights to honor—for she has no more wise, useful, or patriotic citizens.

The chairman then resumed: Having thus recognized the State, we turn to pay our attention to the United States, and we are very fortunate in having with us to-day a gentleman who as the United States District-Attorney, fittingly represents the national government—the Hon. George M. Stearns.

MR. STEARNS spoke substantially as follows:

MR. PRESIDENT AND BROTHER DOCTORS: I don't think we take naturally to doctors. My first recollection of the doctor is of a large, imposing, solemn gentleman dressed in black, who drove a little black mare in a little black gig, and carried a pair of black saddlebags filled with medicaments of a dirty color, who smelt of camphor, and who, when he was called upon to administer to my ailments, when bribery and persuasion and threats had failed, seized me in his strong arms and held my nose while my mother turned his vile decoctions down my juvenile throat. But as we proceed in life I think the doctor keeps mounting higher and higher in our regard and esteem, for no

boy arrives at the age of ten years without resolving to be either a stage driver or a circus performer or a doctor. Not that they are kindred professions, but they are allied to the one object dearest above all others to the juvenile mind, and that is a horse. No other five letters convey to a boy so much attraction and pleasure as h-o-r-s-e.

But he still further rises in our esteem when upon other occasions we see him in the sick-room, when we see him with his fingers upon the wrists of our wives and our children; and as we watch him and a smile comes over his face he becomes a harbinger of hope and an angel of gladness. I know of no one who brings more sunshine into places of sorrow and disaster than the doctor, and he always will live in the kind recollections and memory and thought of all who have witnessed his patient, skilful, and faithful work. Nowhere have I seen doctors when I liked them so well as on the present occasion, when I see them laying aside their abstractions, their dogmas, their views, and joining like any common man in laying the foundations of dyspepsia and liver complaints.

The exaltation of the profession is sometimes unkindly exemplified in the old story of the young physician who lost mother and child, but succeeded in saving the old man. And we sometimes bring to mind the description of Voltaire, who depicts the physician as coming to the sick-room to enter into a contest with nature and disease. He lays blindly about him with a club. If he hits disease, the man lives; if he hits nature, the man dies.

But what I am expected to talk about is the government of the United States, and I wish to say that the government is "doing as well as could be expected." You doctors say that air and exercise are what we need. And so the United States of America, in its grand march towards its limitless destiny, draws into its continental lungs the winds from the ocean and the breezes from hill and forest; it exercises its sails on countless seas; it digs in the bowels of the earth; it chops down primeval trees; it scatters life and liberty over its boundless domain. Yet, like the doctors, the nation is always being ruined. Every decade I hear them say that the doctor is ruined, that his occupation is gone. What with pellets and hydropathy and clairvoyance he has always felt in danger, and now Christian Science threatens to wrap him in celestial oblivion. But the doctor still lives; and so the government of the United States, always being ruined by the party in power, still lives because of the indestructible character of its natural principle, just as patients are sometimes unkindly said to live on account of a firm constitution which defies the doctor.

One thing we laymen do that is worthy of imitation. When we find a good doctor we stick to him. There is a fresh example of it in the telegram from one of the justices of the Supreme Court of this State, which recently summoned his physician from Newton across the water to London. And so it behooves us to stick to good government. The day of party names has, thank God, gone by. What you and I and we all want, is good government, and when we have that the citizen's duty is the uppermost one in the thought of honest men, and to-day, responding for the government of the United States, I know you will not think I am offending your good sense or violating rules of propriety when I say that at no time has the nation been linked to integrity, to honesty, to rugged intelligence

and to a conscientious devotion to duty more than under the present President of the United States.

Mr. Stearns's speech was greeted with hearty applause, and upon its subsidence, Dr. Richardson introduced the next speaker as follows:

For many years it has been our custom to have with us at these anniversary dinners, representatives of the clerical and legal professions. As representative of the former we have with us to-day a gentleman who is somewhat hard to get on these occasions, but, going on the principle, "if at first you don't succeed, try, try again," we finally secured the Rev. Brooke Herford.

MR. HERFORD said that it gave him pleasure to come to greet a profession kindred with his own. They share the same fortune or misfortune in that the public likes to joke at both. The village doctor and clergyman are the butt of three-fourths of the fun unless the place is big enough to have a lawyer too. I will admit the wits may be a little more severe on the medical profession, like the unconscious irony of the Lancashire woman recounting the facts of her son's illness; he "had no doctor—he just deed himself." The worst that is said of the clergyman is that he sends people to sleep. I observe that this joke falls pointlessly on this assembly, perhaps because few of you ever subject (I mean are ever able to subject) yourselves to the soporific possibilities of Sunday morning in church. We are alike, therefore, in being the object of jokes, but we are allied also by nobler characteristics. No two professions do so much good, unremunerated work as the medical profession and the one I represent. Nobody but a clergyman knows how much good a doctor does and how little he is paid for it. When I was engaged in my work in a Yorkshire village, I learned to appreciate the noble charity and kindness of the medical profession, and when later my lot came to be cast in great cities I found that amongst the noblest workers for the public good were the members of the same calling. And then no other occupation than ours gives us so much of the love, respect, and honor of our fellow-men. I have always been touched by the tenderness of my own reception in my parish, and the same warmth of feeling awaits the doctor. I can remember the doctor from my earliest years, though I don't pretend to remember as much as my friend Mr. Stearns. I don't remember, like him, when I was born, and I will wager he doesn't remember when he was born again. There may not be quite the close attachment of physician that he remembered in his youth, in these days of many family physicians, when the man has one, the wife another, and the daughter fancies a third. But the physician has reason to rejoice in his calling, hard though it is. And such a gathering as this cheers one. One feels that he belongs to a bigger kind of thing when he is lifted up by the power of numbers.

The next speaker was introduced as follows: A tinge of sadness must of necessity be connected with all annual reunions, for, as the years go by, and we reassemble around the tables at these anniversaries, one and another familiar face is missed. I am not old enough to remember personally many of the veteran leaders whose names we speak of with pride—the Jacksons, Warrens, Ware, and a host of others, but one of the most pleasant remembrances of my student days were the weekly visits at the Massachusetts General Hospital, where I was house-physician, of Dr.

Edward Reynolds, whose genial, courtly, kindly manner to us house-students I can never forget. I take pleasure in introducing one possessing the same characteristics, Dr. John P. Reynolds.

DR. REYNOLDS, in reply, paid a high and deserved compliment to the president of the Society, Dr. Gage, and to the chairman of the occasion, Dr. Richardson; and in closing suggested the hope that the Massachusetts Medical Society might be like the type of one page of Wilberforce's book, growing bigger and bigger, but that the speeches might be like the type of the succeeding page, growing smaller and smaller.

DR. RICHARDSON called next upon Col. Higginson, as follows: For several years the meetings of the council and our annual meetings have been the scene of lively debate on the question of the admission of women to the Society. Both sides fought well, and (I take great pleasure, Your Excellency, in saying) neither side employed a lobby. The question was debated on its merits, and, after many defeats, the side claiming to represent woman's rights triumphed, and the doors of the Society were thrown open. From that moment those of us who were beaten fell gracefully into line, and every applicant for admission to the Society has received equal treatment. At our dinner all are equally welcome, and the cigars (which some of us were afraid of offering) are passed to male and female alike, without discrimination. We have with us to-day a gentleman always ready to fight for a good cause. For many years he has battled for so-called woman's rights, whenever he saw a chance, and always with the same fidelity and zeal with which he fought on the battle-fields of the late civil war at the head of his colored troops (the first colored troops, if I remember rightly, ever mustered into the United States service), Col. T. W. Higginson.

COL. HIGGINSON began by referring to the recent dinner of the Ancient and Honorable Artillery Company, where he was called upon to respond to a toast in the capacity of a judge. On his protesting that he was unfit to respond, not being a judge, he was told that if he was not a judge he ought to be. And I suppose you present me to-day, Mr. Chairman, he continued, on the ground that if I am not a woman I ought to be. In the name of our sex I thank you. I see there are six of us besides myself. In the lines of Wordsworth, "we are seven." I was afraid there would be no one but myself,—a constituent without a constituency. So I was glad to see a few cheering bonnets in the procession, though at the rear. Not that the women are reluctant to come, but there is an instinctive sense of propriety about it. Hygeia was a woman and was always young, and therefore the women march near the youngest men of the faculty, as they never grow old. It used to be said that every man of forty was a fool or a physician. The presence here of so many men of mature age accounts for the proverb, and also for the absence of fools. Women were left to be both at once, but, having once let us come in here, you may expect us every year. We will stand by you, we "will never desert Micawber." We will readily come to your assistance, and, when you are at your wit's end, we will endeavor to conceal that we know even less than you do. We have not sought admission to your ranks because we desire an unwarranted enlargement of duty, but that we might share with you in service to mankind. Hippocrates says that the second best remedy is better than the best if

the patient likes it best. So with the second best physician. Whether we turn out second best or not, we must leave to the future to show; and as for the liking of the patient, we are willing to take our chances. What our families are to do in our professional absence, this afternoon may suggest. We shall leave them as you have left your patients to-day, to the mercy of Providence or of some handy young man. Massachusetts has tried to get along all day with nine hundred of her best physicians eating dinner in a skating-rink. When you get home just note how well your patients have fared. But we are glad to accept your invitation to come in with you, which, in justice and comprehensiveness, rivals the notice of a political caucus, to which "all women, without distinction of sex, were welcomed."

The next speaker was presented in these words: As a representative of the legal profession, we turn to one with whose name you are familiar, the Assistant Attorney-General of the State, Col. Harvey N. Shepard.

COL. SHEPARD spoke in general terms commendatory of the law, and felt sure that in the vast majority of cases that came into our courts substantial justice was done. And here our two callings come close together. The courts need advice, expert advice, but there is certainly considerable occasion for reproach in the present aspect of expert testimony. There must, of course, be disagreement in matters of opinion, but there is no reason for such diametrically conflicting statements as those of experts on the witness stand. I do not know the remedy, whether it lies in the appointment of experts by the court or not, but I am sure that something could be done to give to profound learning and sincere conviction due weight.

The next speaker was Mr. Roger Wolcott, whom the chairman presented as follows: The Fellows of this Society have always been ready to help any efforts made to advance medical education or to relieve the sick and wounded. Nothing has done more to further these two objects in Massachusetts than the great hospitals and dispensaries of our large cities. We have with us to-day one of the trustees of the Massachusetts General Hospital, a gentleman who has also made himself well known to us by the admirable service which he has rendered the profession as well as the State as a legislator and member of the celebrated Tewksbury investigating committee, Roger Wolcott.

MR. WOLCOTT said that as a trustee of the Hospital, he experienced a satisfaction with its noble work, a sense of responsibility in the management of so large an institution, and a pleasing excitement in steering so intelligent and wise a staff. There had been an evident advance since two hundred and fifty years ago, when barbers were forbidden to do any surgery but pull teeth, and surgeons were forbidden to do shaving.

The demands of modern surgery are felt by every trustee of the Hospital, and a new ward is to be built for abdominal surgery. The student of these days has passed far beyond mere empirical knowledge. He must pursue scientific investigation, and to this end scholarships ought to be more plenty. There is in Harvard College an average of but one scholarship to one hundred students. In the Medical School there are two hundred and seventy-one students, and but six scholarships. What better could a man do than found more scholarships here? "And yet," as the minister prayed, "we would not dictate, but venture to advise, O Lord." It is not creditable that we have

so few scholarships in the Medical School. Times have changed, since, in 1836, Mason Warren wrote home from Paris of the enmities and jealousies among the professional men there. That is past, and the profession to-day is full of promise. Who shall doubt, that, as the camera traces the outlines and the constitutions of hitherto undiscovered stars, the trained and educated intellect may reveal facts and conjectures and truths that no eye can now discern? The Massachusetts General Hospital commands the services of the most eminent professors of your art, services, now as ever, not devoid of danger. One after another has given up his life in the service. What was said of one not long deceased,—“a noble life given to preserve an ignoble one,”—may be said of many another physician, all of whom willingly carry their lives in their hands for the sake of suffering humanity.

The Chairman then called upon the last speaker of the day in these words: If we are to credit one-half of the marvellous stories which the gypsies tell, and the ignorant and sceptical believe, it would seem as though the work of our profession were at an end. A new class of practitioners have arisen, and are rapidly permeating those who run after every absurd theory, such as that, there being no body, there can be no disease. We know what humbug all this so-called mind-cure is, but, as intelligent physicians, we recognize that the mind does influence the body, though we do not pretend as yet to absolutely define the relationship. It is with pleasure that I introduce to you a gentleman who has recently come from England to assume the secretaryship of the American Society for Psychical Research—a society which is doing good service in trying to study out this problem of the mind—Mr. Richard Hodgson.

MR. HODGSON, after a humorous reference to the possible uncertainty of knowing who is who, if the capacity of mental influence upon others were to become universal, said that he believed that the fact of the influence of mental states upon organic functions was daily becoming of more importance. To investigate such matters, the Society for Psychical Research had been started. Facts once scouted were now established and looked upon as ordinary phenomena. He cited a number of illustrative cases, which showed, he said, that hypnotism and kindred subjects deserved the study of trained medical men. For such study, America ought to be a fertile field—the scene of such fusion and confusion of ancestral races and habits.

With this closed the exercises of the annual meeting, which was voted by all present to have been of unusual interest and enjoyment.

AMERICAN CLIMATOLOGICAL ASSOCIATION.¹ FOURTH ANNUAL MEETING.

THE LOCAL TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS,

by DR. B. F. WESTBROOK, of Brooklyn.

The methods of treatment which had been employed were the direct introduction of coarse sprays, the use of the Evans inhaler, and the use of the pneumatic cabinet. In cases of chronic bronchitis, where the cough was severe, a spray of a solution of carbolic acid fluid extract of hyoseyamus or other sedative

remedies was employed. Where there is copious secretion, astringents are called for, and of these, tannic acid, iron, salts, and fluid extract of pinus canadensis had been employed. The pneumatic cabinet had been used with marked success in the treatment of chronic bronchitis. The patient is confined in the cabinet under a diminished pressure, the sitting lasting from ten to fifteen minutes. This may be combined with the inhalation of the spray. If there is much emphysema, the cabinet is not indicated. In using the cabinet in the treatment of chronic interstitial pneumonia and bronchiectasis, there is danger, if the pressure is great, of producing emphysema of those portions of the lung still accessible to the air. The pressure should not exceed one-half-an-inch of mercury.

In the treatment of phthisis, the best results are obtained in the early stages of the disease, or where the disease, although further advanced, is limited to a smaller portion of the lung. The use of sprays is beneficial in only so far as we desire to treat the co-existent bronchitis, or cavities connected with bronchi of the second or third order. In incipient phthisis, with very little bronchial catarrh, local treatment is probably of little service. These cases are best treated with compressed air. In a large proportion of the cases, we may hope to render the disease latent. The expansion of the lung favors the expectoration of the contents of the smaller tubes, and modifies the intrathoracic circulation. The sittings should be frequent—every day, or every second day. Ten minutes is usually sufficiently long for the patient to remain in the cabinet. The pressure should gradually be increased up to one-half to three-quarters of an inch. If used cautiously, this is the best method for the local treatment of incipient phthisis. With the Evans inhaler, his results had also been satisfactory.

In the treatment of advanced cases of phthisis, the first effort must be to cure or diminish the bronchitis. The pneumatic treatment then comes into play. This gives better expansion, improves the circulation, and alters the action of the trophic nerves. In all cases, internal medication has been combined with the local treatment. The more acute the disease, the higher the fever; and the more sudden the onset, the less can we expect to accomplish by treatment. In no case diagnosed as acute phthisis did treatment have the slightest effect.

THURSDAY.

The first paper of the morning session was entitled: OBSERVATIONS UPON THE SANITARY ADVANTAGES OF TIDE WATER, VA., INCLUDING VIRGINIA BEACH AS A WINTER HEALTH RESORT,

by DR. A. Y. P. GARNETT, of Washington, D. C.

While no official records of the causes of death in this locality have been kept, the traditions of the inhabitants during the past hundred years and the observation of intelligent practitioners practising in this region, go to show that consumption is very rare. In other respects this locality is remarkably healthy. The average number of deaths per thousand from all causes during the past six years has been 10.66. The average death-rate in other sections of the State is 12 per thousand. The author was disposed to attribute some of the benefits which this locality presents, to the proximity of the Great Dismal Swamp, which has an area of thirty by ten miles, covered with cypress and evergreen trees. At Virginia Beach the forest

¹ Concluded from page 581.

comes down close to the sea. The atmosphere is remarkably dry and salt, exposed during the day shows no tendency to absorb moisture. The average temperature during the winter months is considerably higher than at other places along the coast. As compared with Atlantic City, we have the following figures:

		Virginia Beach.	Atlantic City.
January	. . . . .	34.6°	30°
February	. . . . .	39°	29°
March	. . . . .	45°	38.2°

The average humidity is also much less than it is at Atlantic City.

DISCUSSION.

DR. WALTER PLATT, of Baltimore. With reference to the rate of mortality given in the paper, I would state that I think that very little reliance is to be put in the statistics of sparsely-settled districts. It is extremely difficult in these sections to get the citizens to make a proper report of the deaths to the authorities.

EVERGREEN FORESTS AS A THERAPEUTIC AGENT IN PULMONARY PHTHISIS,

by A. L. LOOMIS, M.D., of New York.

It has long been known that similar climates as determined by geographical and meteorological conditions have different therapeutic effects. That there is some relation between the development of organisms and atmospheric conditions is becoming more and more apparent. We know that cold and high altitudes render the air aseptic, but the degree of cold and the height required is so great that clinically it is not possible to derive much advantage from this fact. The effect of a purely aseptic air upon ulcerative processes is not so great as the effect of an atmosphere which is aseptic on account of the presence of antiseptic agents. The belief in the good effect of pine forests in cases of phthisis is quite unanimous, and the author thought that the clinical evidence in favor of their beneficial influence in these cases was unquestioned. The atmosphere in such regions is not only aseptic, but also antiseptic. Such an atmosphere contains considerable turpentine vapor, and we should therefore expect it to contain a certain amount of peroxide of hydrogen. It was the speaker's opinion that the majority of cases of phthisis die not directly from the lesions in the lung, but from the secondary septicæmia and pyæmia which is set up. It is impossible to apply to the ulcerations within the lung the antiseptic washing and dressing that is employed in external lesions, but if an antiseptic atmosphere can be obtained we may hope to counteract the secondary poisoning. Such an atmosphere will not destroy the bacilli, but it will accomplish much in the way of arresting the suppurative process. It was the opinion of the speaker that the atmosphere in the region of evergreen forests acts in a manner similar to the antiseptic agents which are successfully used to arrest suppurative processes in other portions of the body, and he thought that in all probability the active agent was the peroxide of hydrogen resulting from the oxidation of the turpentine vapor. While it is not possible for every one suffering with pulmonary phthisis to go to an antiseptic atmosphere, yet it is possible to render the air of any particular locality antiseptic. The evergreen forests should be preserved, and evergreen trees should be planted in the neighborhood of our homes.

DISCUSSION.

DR. S. S. COHEN, of Philadelphia. The paper tends to confirm certain impressions which I have formed from an experience with certain methods of making an artificial climate. I have had excellent results in the way of alleviation of symptoms in phthisis by the inhalation of terebinthinate substances, especially where this has been associated with the inhalation of peroxide of hydrogen or oxygen. Under these inhalations I have seen laryngeal ulcers cicatrice, especially if they have been previously washed with the solution of peroxide of hydrogen.

The paper was further discussed by DRs. BRUEN, WESTBROOK, GARNETT, and MUSSER.

THE CLIMATE OF THE SUB-PENINSULA PINELLAS, FLORIDA,

by DR. W. C. VAN BIBBER, of Baltimore.

ENVIRONMENT IN ITS RELATION TO THE PROGRESS OF BACTERIAL INVASION OF TUBERCULOSIS,

by DR. E. L. TRUDEAU, of Sarenac Lake.

Environment evidently has an important bearing in reference to bacterial invasion. The author proposed to himself the following questions: (1) What results ensue when bacillar invasion and unhygienic conditions are made to co-exist? (2) Are unhygienic surroundings sufficient to cause phthisis when precautions are taken to exclude the bacillus? (3) Is bacterial infection always productive of tuberculosis when the animal is placed under the most favorable hygienic conditions? In order to answer these questions the following experiments were performed: Fifteen healthy rabbits were taken and divided into three sets of five each. The first experiment consisted in taking five of the rabbits, inoculating each with a pure culture of the tubercle bacillus and subjecting them to overcrowding in a dark cellar, with poor and insufficient food and other unhygienic conditions. In the second experiment, five rabbits were placed in a box and lowered into a pit dug in the ground, the mouth of the pit covered with earth with the exception of a trap-door for the introduction of food, which consisted of one small potato for each animal per day. So damp was the air that the box in which the animals were confined was constantly wet. The third set of animals were inoculated with the tubercle bacillus and turned loose on a small island, where they had abundant sunlight, fresh air and exercise. They were daily supplied with wholesome food.

The results of these experiments were that four of the first five rabbits died in three months, and extensive tuberculosis found. The fifth animal was killed at the end of five months and the same condition found. The second set of five rabbits were all living at the end of four months. They seemed to be as active as at the time the experiment began. They were then killed and careful examination revealed nothing abnormal. One of the third series of rabbits died at the end of one month, and on examination there was enlargement of the cervical and bronchial glands and tubercles in the spleen. The remaining rabbits continued in apparently good health, and were killed at the end of four months. They were loaded with adipose tissue, the flesh was firm and red, all the organs were normal, and even the seat of the punctures could not be made out. These experiments confirm the

view that the production of tuberculosis is a most complex process. Although the environment may bear out the relation of a predisposing cause to the microbe invasion, it is nevertheless a most potent factor in determining the future and the final results of the disease, and while we may not underestimate the pathogenic properties of the bacillus, the effect of environment upon the vitality is a factor which must not be ignored.

AFTERNOON SESSION.

The first paper was read by DR. WALTER PLATT, of Baltimore, on the

CLIMATE OF ST. MORITZ, UPPER ENGADINE, SWITZERLAND.

DR. A. C. PEALE, of the United States Geological Survey, Washington, presented

A CLASSIFICATION OF AMERICAN MINERAL WATERS.

ST. AUGUSTINE AS A WINTER HEALTH RESORT,

was the title of a paper by DR. F. F. SMITH, of St. Augustine.

He described the geographical and climatic conditions existing in St. Augustine. An abundance of pure water is obtained from sixty artesian wells. This water is charged with sulphuretted hydrogen. Drinking-water is obtained by means of cisterns. A complete system of sewers is now being introduced. These will be flushed by the waste water from the artesian wells. The average temperature during the winter months of the past ten years has been as follows: November 63°, December 57°, January 55°, February 58°, March 61°, and April 67°. The average number of rainy days during the winter months for the past ten years has been 33, but on 19 of these occasions the rainfall was at night, so that there was really only 14 rainy days.

The following papers were read by title:

AN INVALID'S DAY IN COLORADO SPRINGS,

by DR. S. E. SOLLY, of Colorado Springs.

THE CLIMATE OF SOUTHERN CALIFORNIA,

by DR. H. S. ORMS, of Los Angeles, Cal.

PAS CHRISTIAN, MISSISSIPPI, AS A HEALTH RESORT,

by DR. CHARLES LE ROUX, of Pas Christian.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. A. L. Loomis, of New York (with Dr. F. Donaldson, Sr., of Baltimore as alternate), was appointed as the representative of the Association to the Committee on the Congress.

The following were elected to membership: Drs. A. L. Gihon, U. S. N.; W. D. McDougal, San José; A. C. Peale, U. S. Geological Survey; E. Wilos Linn, Los Angeles; F. F. Smith, St. Augustine; F. P. Henry, J. J. Yerrick, and Thos. J. Mays, Philadelphia; Thos. C. Leatmer, J. Carey Thomas, and Walter Platt, of Baltimore; S. E. Solly, Colorado; S. W. Langmaid, Boston; S. E. Morgan, Washington; S. H. Chapman, New Haven; and S. A. Fisk, Denver.

OFFICERS FOR THE ENSUING YEAR.

President, Dr. A. L. Loomis, New York. *Vice-President*, Dr. A. Y. P. Garnett, Washington, and James T. Whittaker, Cincinnati. *Secretary* and *Treas-*

urer, Dr. James B. Walker, Philadelphia. *Council*, Drs. E. T. Bruen, Philadelphia; J. H. Tyndale, New York; F. H. Bosworth, New York; F. C. Shattuck, Boston; and R. G. Curtin, Philadelphia.

The Association then adjourned.

ASSOCIATION OF AMERICAN PHYSICIANS.¹

SECOND ANNUAL MEETING.

CASES OF SEWER-GAS POISONING.

by DR. HENRY HUN, of Albany.

The author reported in detail the histories of twenty-nine cases coming under his observation, in which various diseases appeared to have been due to the inhalation of sewer-gas. He thought it probable that the following diseases may result from sewer-gas poisoning: vomiting and purging, separately or combined; general debility, fever, sore throat of a diphtheritic type, neuralgia, and perhaps, also, myelitis of the anterior horns. These conditions are frequently combined. Fever is frequently associated with the other symptoms. There is one group of symptoms which is almost always present; that is, loss of appetite, extreme prostration, and pain in the head. When this occurs as a chronic condition, we are justified in suspecting that the patient is suffering from sewer-gas poisoning.

DISCUSSION.

DR. A. W. JOHNSTON, of Washington. The theory of sewer-gas poisoning has gradually taken the place of malaria as the supposed cause of many obscure conditions, just as malaria superseded the liver origin of disease. The theory which attributes many of these conditions to the presence of sewer-gas has not been proven. In an examination of a number of men working in the sewers of this city, it was found that they were more healthy than those who worked above ground, and the same observation has been made in other places.

A CASE OF ANEURISM OF THE ABDOMINAL AORTA,²

by DR. ISRAEL T. DANA, of Portland, Me.

EVENING SESSION.

DISCUSSION. — HÆMORRHAGIC INFARCTION.

Opened by DR. W. W. WELCH, of Baltimore, referee.

The author first referred to the different theories which had been advanced to explain the occurrence of hæmorrhagic infarctions. These are: (1) Changes in the wall of the artery obstructed. (2) The increased pressure with which the blood is sent in from the collateral circulation. (3) A regurgitant flow of blood from the veins. Numerous experiments had been performed by the author, with the assistance of Dr. Mall, of Johns Hopkins University, to determine which of these theories was the correct one. Hæmorrhagic infarctions were produced in the intestines of dogs, and the method of experimentation was given in detail. He presented, as the result of his studies, the following conclusions:

(1) The blood which produces hæmorrhagic infarctions comes chiefly, if not exclusively, from the collateral vessels.

(2) Hæmorrhagic infarctions in the intestine can-

¹ Continued from page 586.

² See page 573, No. 24 of the Journal.

not take place merely from the reflux of blood from the veins.

(3) The blood-pressure is very low in the region where hæmorrhagic infarction occurs, in consequence of occlusion of the main artery.

(4) A certain degree of force of the collateral circulation is required to produce a hæmorrhagic infarction.

(5) No positive proof exists that a change in the vascular walls is essential to the production of a hæmorrhagic infarction.

(6) The hæmorrhage occurs by diapedesis.

(7) Where hæmorrhagic infarction has taken place, the large and small veins are widely dilated with blood, and the arteries contain a smaller quantity of blood than normal. There is stasis in many of the veins and capillaries.

DR. WILLIAM OSLER, of Philadelphia, the conferee, referred to the

CLINICAL ASPECTS OF THE SUBJECT.

Among other cases coming under his observation, he reported the following: J. M., aged twenty, admitted to the Philadelphia Hospital October 10, 1886. He had never had syphilis, and was a healthy-looking man. He presented a clear history of typhoid fever, with a sickness of six weeks, two years previously. His present illness began with diarrhœa, one week before admission. For two days he had attacks of bleeding at the nose. There was temperature of 102°, with pain in the abdomen. There was no cardiac murmur, and examination of the lungs gave negative results. The splenic dulness was increased. By October 15th the temperature had reached 103°. There was almost constant delirium. There was some diarrhœa. Coldness of the feet appeared, and continued to increase in degree, and extended up the leg. The legs became livid, and no pulsation could be detected in the femoral and popliteal vessels. The patient died on the 17th. It was supposed that there was thrombosis of the iliac veins, with gangrene of the legs, which is one of the rare sequences of typhoid fever. At the autopsy, it was found that the lower portion of the abdominal aorta, and also the two iliac arteries, were plugged with thrombi. There was general peritonitis. The right kidney presented a red-brown infarction. There were no ulcerations in the bowels; no endocarditis. The lungs were normal. There was an infarction in the spleen. During life the blood was examined for microbes, but none were found. After death, microbes were found in the spleen.

Hæmorrhagic infarction of the liver, under ordinary circumstances, is impossible. A. B., a hard drinker, was admitted to the hospital September 27th. His illness began, in the previous June, with vomiting and swelling of the abdomen. The dropsy steadily increased. He died two days after admission. At the autopsy, a large amount of fluid was found in the peritoneal cavity. There was nothing special found in the heart or lungs. The liver was remarkably cirrhotic. Through the right half of the right lobe, there were scattered numerous reddish-brown areas. The walls of the portal vein were thickened, and a large brown thrombus occupied the upper portion of its trunk. The branches passing to the right lobe were filled with clots. The hepatic artery and vein were normal. In this case, the hæmorrhagic infarctions were in all probability due to the cirrhosis of the liver, which had caused more or less obstruction of the

branches of the hepatic artery. The only other case of infarction of the liver which the speaker had been able to find, was one reported by Recklinghausen.

In the intestine, hæmorrhagic infarctions are met with in two forms: one involving the mucosa, the other affecting the entire gut. The former not infrequently ends in ulcerative necrosis. The latter form of hæmorrhagic infarction is not common in man. In the horse it is frequently seen, resulting from thrombi formed from verminous aneurisms of the mesenteric and its branches. This is a common cause of the severe and fatal colic so frequently seen in these animals. In conclusion, the speaker referred to the fact that, in the lung, it was not uncommon to have a vessel blocked without the production of an infarction. An occasional cause of thrombotic infarction is local disease of the pulmonary artery. It sometimes results from the endarteritis induced by beginning tubercular processes.

DISCUSSION.

DR. REGINALD H. FITZ, of Boston. I should like to report a case which, in my experience, is quite unique. It was that of an elderly man with globular thrombi in the left ventricle. Emboli were transferred to the splenic artery, but at first were not sufficient to completely occlude the artery. The spleen became enlarged and thrombi formed in the splenic veins and from this point the thrombus extended into the superior mesenteric vein. As a consequence, hæmorrhagic infarction occurred in the intestine.

FRIDAY.—SECOND DAY.—MORNING SESSION.

BERGEON'S METHOD OF TREATING PHTHISIS.

by DR. E. T. BRUEN, of Philadelphia.

With reference to the effect of the injections of sulphuretted hydrogen on the bacillus tuberculosis, Bergeon does not claim that their number has been reduced in any considerable proportion of cases. In the treatment of phthisis there are three main indications. The first is to secure some agent which will act upon the cause of the disease. Climate, diet, and hygiene serve to modify the predisposing causes, but if the bacillus be the real cause of the disease, we lack any agent which will destroy it. The second indication is to prevent the destruction of the tissues, for it is found that as the vitality is increased the number of organisms in the sputa is diminished. The third indication is to control special symptoms which present themselves. Since February last, I have employed Bergeon's method of treatment in sixty-one cases. Forty-four of these cases have been benefited, but of these only three appeared to regain full health. Two of these were cases of incipient phthisis with apparent consolidation of the apex of the right lung. In one of these cases the bacillus tuberculosis was not found, although five examinations were made. In the other case the bacillus was found. In these cases the apparent recovery has been associated with a decided increase in weight. I believe, however, that the disease is simply latent. The third case was one of broncho-pneumonia. In all the other cases the lesions were more or less advanced with the presence of cavities and profuse expectoration. In the fifteen cases in which a negative result was obtained, the treatment in some was followed by temporary benefit. The good results have consisted in lessening of the expectoration, diminution of the cough, lowering of the temper-

ature, and suspending of the night sweats. In most of the cases there was a diminution of from fifteen to twenty beats in the pulse, and a diminution of half a degree in the temperature, during the administration of the gas. Even in those cases which were benefited and in which the temperature had been brought to normal, there would be during the progress of the treatment, occasional outbreaks with a return of the fever and the other symptoms. These, however, disappeared under a continuance of the injections. In order to determine the effect of the treatment on the bacillus, Dr. E. O. Shakespeare made a number of examinations during the progress of the cases. There has been no diminution in the number of the bacilli. It was, however, thought that in those cases where the treatment had been continued for some time, the reaction of the bacilli to the staining fluid was less marked.

Two cases have died. In one of these an autopsy was made. This case had been under treatment for two months. The walls of the cavity were moderately smooth and firm, but there was no tendency to cicatrization. The results were of a decidedly negative character.

In most of the cases a solution made by the addition of five grains each of sodium sulphide and sodium chloride to a pint-and-a-half of water was the solution employed. In some cases the strength of the solution had been gradually increased, but where no benefit had been obtained from the weak solution, the stronger solution did not act with any better results. The quantity of gas employed at each injection has been about one gallon. If there is pain the strength of the solution may be decreased or a smaller quantity of the gas may be given. At least an hour should be consumed in each administration of the gas. The patient should rest quietly in bed an additional half hour until the gas has been absorbed. The admission of atmospheric air should be avoided.

In cases of diarrhœa his experience had been unfavorable except where the gas was given in very small quantities. Chronic peritonitis is a contra-indication to the use of this plan of treatment. In about one case in every ten, he had observed the reaction of sulphuretted hydrogen, when a paper treated with acetate of lead had been applied to the mouth. This would indicate that a very small amount of the gas reaches the lung, and that the efficiency of the treatment does not depend upon the use of a strong solution. In no case has any injurious results been seen. In some cases where strong solutions were employed, the appetite and strength seemed to be impaired.

Bergeon's method is chiefly valuable in those cases attended with bronchial catarrh. He had had very little good effect in those cases where there was thickening of the lung without much catarrh. The speaker feared that the trouble and detail necessary to the successful application of this method and the limitations of its power would cause it to be set aside for other therapeutic measures.

CLINICAL NOTES ON BERGEON'S METHOD OF TREATING PHTHISIS,

by F. C. SHATTUCK, M.D., of Boston.

The amount of gas contained in the water recommended by Bergeon is only three cubic centimeters, an extremely small quantity. It seemed to him almost impossible that such a small quantity of sulphuretted

hydrogen could have any appreciable effect. The solution which Dr. Bruen employed probably contained one hundred and fifty cubic centimetres of sulphuretted hydrogen. Bergeon attributes the good effects to the antiseptic influences of the gas on the suppurative processes. Dr. Trudeau has found that cultures of the bacteria of suppuration and of the bacillus of tuberculosis are unaffected by being kept in an atmosphere of sulphurous acid gas. The speaker had treated only seven cases by this method. They were in an advanced stage of the disease. He had seen such improvement follow careful dietetic and hygienic management, that he had not much confidence in the results claimed for special methods of treatment in these cases. Any new method of treatment will often have an apparently beneficial effect through its influence on the mind, even in those cases which are incurable. Six of the cases treated suffered with phthisis, and five were an advanced stage of the disease. One was a case of chronic bronchitis, with asthma and emphysema. Four of the patients suffered with more or less pronounced collapse from the use of the injections. Nausea, vomiting, and diarrhœa occurred in several cases. In one case, although the patient was weak, no local or general ill effect was observed. In another case, the treatment was continued four weeks with no ill effect. The only benefit obtained was a diminution of the expectoration. In the case of asthma and chronic bronchitis, thirty-four enemata were given. The improvement was no more rapid than on a previous occasion, when the patient had been treated in the same general way, with the exception of the gas. He presented the following conclusions:

(1) Toxic symptoms may follow the injection of sulphuretted hydrogen gas. These are nausea, vomiting, general depression, collapse, and perhaps headache.

(2) Strong artificial solutions of sulphuretted hydrogen gas, with carbonic acid gas, are apt to cause abdominal discomfort. The risk of this is diminished by heating the solution of the former gas.

(3) This is not by any means a specific. If useful at all, it is only as an auxiliary to the more usual methods of treatment.

(4) The only benefit which we have seen that could be fairly attributed to the enemata was a diminution in the amount of the expectoration.

In conclusion, the author stated that the impression which he had formed was that the good results which had unquestionably followed this method of treatment were attributable, in large part, to the stimulation induced by the employment of a novel method of treatment, which makes the patient feel that something is being done for him.

DISCUSSION.

DR. WILLIAM PEPPER, of Philadelphia. I have, with the assistance of Dr. J. Crozier Griffith, employed this method in a certain number of cases. The injections were given to thirty-four cases; but in ten of them, either on account of the pain induced, or for other reasons, the treatment was discontinued. In the remaining twenty-four cases, the treatment was continued, on an average, twenty-five days. Other treatment was frequently combined with the use of the injections. A daily temperature record was kept in sixteen cases. In four, there was more or less reduction. In eleven, there was no appreciable effect. In one temperature increased, but this was probably a

coincidence. In no case was the temperature brought from a febrile to a continuously normal condition. The fall was not more than is seen in similar cases under other methods of treatment.

In twenty cases in which the weight was recorded there was in eight more or less gain. Eight pounds in thirty-seven days, was the greatest gain. In six cases the weight remained stationary, and in six it was diminished.

The improvement in cough was not marked. The expectoration was somewhat diminished in four out of twenty-four cases. Search was made for the bacilli in thirty cases, and they were found in twenty-seven. In eleven cases the examination was repeated, and only in four was there any apparent decrease. Cases of night sweats were not numerous. In one they were checked and in seven improved. Physical examination showed no improvement in a single case. The enemata had a decided hypnotic influence in three cases. The only unpleasant symptom of any real moment was colic. This was complained of in eleven out of twenty-four cases. Three others suffered so much that the treatment could not be repeated. The colic was not often controlled by giving smaller quantities of the gas, nor did it seem to be influenced by the slowness of the injection. This method of treatment is seldom of real benefit, although it is occasionally of benefit by relieving certain symptoms.

DR. H. C. WOOD, of Philadelphia. After studying the cases treated by this method, I came to the conclusion that it was of a certain amount of benefit. I saw that the method of employing the gas presented many objections. The sulphuretted hydrogen should accomplish the same results when absorbed by the stomach as when taken up by the large intestine. I have therefore administered the sulphuretted hydrogen gas in carbonic acid water. Water at the ordinary temperature takes up two or three times its volume of sulphuretted hydrogen. I think that this is a distinct addition to pulmonary therapeutics. I have tried it in certain cases with benefit. I would call attention to the fact that this is not a new method. In connection with many of the sulphur springs of Europe, there are chambers fitted up where pulmonary catarrh can be treated by inhalation of the gas.

DR. BEVERLY ROBINSON, of New York. I have employed this method for the past two months, and my impression is that it is a valuable adjunct to our methods of treatment. The pain which is experienced in many cases may be due to the fact that there are ulcerations in the intestine. These may be present without the existence of diarrhœa. I have under treatment a case in which tubercular deposits in the lungs is associated with ulceration of the larynx. I thought that this would be a good case to observe the influence of the gas on the local condition. The man has received a daily injection for the past ten days. There has not been the slightest change in the appearance of the larynx.

DR. GEORGE L. PEABODY, of New York. I have followed all the details of this method of treatment as given by Bergeon and have used the water of Aubon which he recommends. My results have not been materially better than those of the gentlemen who have preceded me.

DR. F. FORSHEIMER, of Cincinnati. I have treated thirteen cases with this method. I have performed the following experiments. I have treated two or

three patients in the way recommended, for some time. Then I have substituted for the sulphur solution plain water, and continued the injections for a time. I have also given the carbonic acid gas by injection, and lastly, I have for two weeks treated these cases with the injection of air, using the Bergeon apparatus. The patients in these experiments of course did not know that any change had been made in the gas employed. As far as I have been able to judge, the patients treated with air did about as well as those treated with sulphuretted hydrogen. It is clear to me that the introduction of air is not the cause of the pain in the Bergeon method.

DR. JAMES T. WHITTAKER, of Cincinnati. I have used the sulphuretted hydrogen gas both by injection and also by inhalation. The effects under both methods of administration seem to be the same. It mitigates the cough, relieves the fever, and lessens the night sweats. It however is not a specific.

(To be continued.)

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.¹

NINTH ANNUAL CONGRESS.

DR. C. C. RICE, of New York, read a paper entitled GLANDULAR AND CONNECTIVE-TISSUE HYPERTROPHIES IN THE LATERAL WALLS OF THE PHARYNX,

The next paper was on

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS,

by DR. CHARLES H. KNIGHT, of New York.

The speaker first referred to the objections to the cutting operation. The principal of these is the danger of hæmorrhage. At times, the tonsil is so deeply situated that it is not possible to get the tonsilome over it. In other cases, the patients positively object to the cutting operation. There are two methods of using the galvano-cautery: one is by puncture, and the other by the snare. The former is much the slower. Not more than three punctures should be made at each sitting. The number of sittings required vary from five to ten. The latter method with the snare is much the quicker. The current should be used intermittingly, and contraction should only be made during the passage of the current. He did not recommend this as a universal operation. In the majority of cases, the cutting operation is easier and better. It should be used where there was danger of hæmorrhage, and he was almost disposed to say that the galvano-cautery should be used in all cases in adults.

DISCUSSION.

DR. C. E. SAJOUS, of Philadelphia. I have tried galvano-puncture, but it is quite tedious. I have modified the method by making a puncture, and then introducing chromic acid. I think that the use of the snare is an excellent method.

DR. A. W. MACCORY, of Philadelphia. In the treatment of these cases, I make a distinction in the methods employed. In the glandular enlargements I have used puncture, while in the interstitial hypertrophies I have not used it, for in these cases you are apt to get cicatrices, which give considerable trouble. I

¹ Continued from page 589.

am not satisfied that the puncture is any better than chromic acid fused on a probe and passed into a crypt.

DR. BEVERLY ROBINSON, of New York. I have long held that we know of no simple operation in surgery. There is nothing that is so unpleasant to me as to remove large tonsils from a small child. Although, as a rule, the hæmorrhage is readily controlled, yet I always undertake the operation with a good deal of reluctance. I am disposed to think that galvano-cautery is one of the best methods. We can thus remove many tonsils that give us a good deal of apprehension.

DR. C. C. RICE, of New York. Very little can be accomplished with the cautery in the large white hypertrophies in children. The cutting operation is what must be done in these cases. In adults, however, galvano-cautery is the most useful measure.

The President, DR. E. FLETCHER INGALLS, of Chicago. I have used the cautery, but a certain amount of soreness has always followed its use. In children, in order to avoid the pain and nervous shock attending the cutting operation, I am in the habit of etherizing the patient and removing the tonsil with the snare.

DR. HARRISON ALLEN, of Philadelphia. While it may be proper to do the cutting operation in certain cases of hypertrophied tonsils which have been selected with great care, I think that we err in making broad statements in regard to this operation. I believe that the number of cases in which serious hæmorrhage occurs is much larger than is supposed. All the disastrous cases are not reported. I am not willing to perform the operation until I have studied the case very carefully. Other measures should be first used, and the knife resorted to at the last.

DR. D. BRYSON DELAVAN, of New York. Where the operation of tonsilotomy is done with proper care and with proper styptics at hand, I think there is not much danger from hæmorrhage. At first there is a gush of blood, but in a few seconds this stops. I have found it very difficult to get authentic reports of cases in which serious hæmorrhage followed this operation.

DR. MORRIS J. ASCH, of New York. With reference to this question of hæmorrhage, I would state that some time ago one of my assistants removed a small section of the tonsil. The next day there was serious bleeding, and it was found necessary to keep up pressure on the tonsil for six hours before it was controlled. In another case that I know of, it was found necessary to tie the common carotid artery.

DR. J. SOLIS COHEN, of Philadelphia. I think that a great deal of the trouble in tonsilotomy is due to the adhesion of the anterior fold of the palate to the tonsil. It has been my custom to first free the tonsil from the palate. In many cases, the tonsil will then go down without any treatment whatever. I think that the hæmorrhage comes from the cutting of this fold, for, as the vessels run in a vertical direction, they are cut obliquely. I have never been able to use the cautery with the success of the reader of the paper. In my cases, it has required from twenty to fifty sittings. One plan that I have followed is, after having penetrated the tonsil transversely, to try to cut my way out, then to cut in the other way, and thus remove a portion of the tonsil. In this way, by making the application every day or every other day, the tonsil is removed in the course of a month or six weeks.

NOTE ON A FREQUENT CAUSE OF NASAL HÆMORRHAGE,

by DR. BEVERLY ROBINSON, of New York.

In the experience of the author, the ulcerations in atrophic rhinitis had been a most frequent cause of hæmorrhage. He had found himself unable to detach the crusts from these ulcerations, either by the use of douches or sprays, so well as by the employment of ointments. In the course of two or three days, the patient is able to blow out the crusts. He had found no ointment act so well in imbibing the crusts and producing changes in the ulcerations as the ammoniated mercury ointment of the Pharmacopœia, of one-half or full strength, made up with vaseline. In applying plugs in the case of hæmorrhage, he had found nothing so useful, especially in children, as Steele's flexible probe, recommended by Dr. J. Solis Cohen. He had found the so-called sheet-sponge very useful as a plug. This may be cut in long strips, and pushed through the nose until the bleeding is controlled.

SATURDAY, THIRD DAY. — MORNING SESSION.

CONSTITUTIONAL CAUSES OF THROAT AFFECTIONS,

by S. W. LANGMAID, M.D., of Boston.

He suggested that the most interesting lesson to be drawn from the observation of the lesions in throat trouble is that there is some underlying cause, which may be external or intrinsic. Our attention has been directed too much to the local condition and to atmospheric influences. Why atmospheric conditions are active at one time, and not at another, is a matter worthy of consideration. One of the most intractable diseases which we have to treat is chronic recurring coryza. Sometimes destruction of the mucous membrane of the nose is sufficient, but, as a rule, the treatment must take in all the circumstances of the life of the sufferer. A sense of a lump in the throat, so often complained of, is often an indication of an overloaded colon, and more good is done by a dose of castor oil than by local treatment. The so-called clergyman's sore throat, or follicular laryngitis, has its origin not in the necessary use of the throat, but the sedentary life, with errors in diet and other conditions, play an important part. Throat trouble is sometimes a rheumatic or gouty manifestation, and treatment has to be directed to this condition. Local treatment, in many throat troubles, is of the nature of repair; constitutional and hygienic treatment must be in the direction of a renewal of the normal processes. Swelling and congestion of the mucous membrane, hypertrophy of the tonsil, elongation of the uvula, etc., must be regarded as symptoms, and the symptoms will not be banished unless the underlying constitutional abnormality be removed.

DISCUSSION.

DR. W. C. GLASGOW, of St. Louis. I agree with the author that many of these local conditions are symptomatic. Many of them are due to some derangement of the digestive apparatus.

DR. J. SOLIS COHEN, of Philadelphia. This is an important paper. With reference to rheumatic sore throat, I have had doubts as to the correctness of this term. I have found symptoms closely like those of this affection follow the application of the galvano-cautery to the pharynx and tonsils. Patients often suffer pain in the trapezius muscle from an application of the cautery to the tonsil. I have found the use of

gnaia as serviceable here as where the trouble is due to exposure to cold. Whether this is nervous or not, I cannot say. I treat my patients constitutionally, using purgatives two or three times a week. There is one form of pharyngitis in adolescents which I have considered to be due to over-feeding.

DR. D. BRYSON DELAVAN, of New York. In this country, we pay too little attention to the hygienic surroundings which are employed at the various spas abroad. The method of treatment is very beneficial in cases of interference with the portal circulation, and in gouty diathesis. I have found the salicylates of great service in some of these cases of throat trouble. Habitual constipation usually accompanies chronic diseases of the pharynx. I have used, in these cases, the official pill of iron and aloes, directing that one be taken at night.

The following papers were read by title:

AFFECTIONS OF THE CRICO-ARYTENOID ARTICULATION,
by GEORGE W. MAJOR, M.D., of Montreal.

CANCER OF THE LARYNX,
by HOSMER A. JOHNSON, M.D., of Chicago.

A CASE OF RECURRING LARYNGITIS HÆMORRHAGICA,
by C. E. BEAN, M.D., of St. Paul.

(To be continued.)

AMERICAN MEDICAL ASSOCIATION.¹

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE
7TH, 8TH, 9TH AND 10TH, 1887.

At the Third Day's Session the committee on nominations, through its chairman, Dr. Brodie, of Detroit, submitted its report. There was some opposition to its adoption, but it was not strong enough to accomplish anything, and the report went through almost unanimously. It was as follows:

President, A. V. P. Garnett, Washington; vice-presidents, Duncan Eve, Nashville, Tenn., Darwin Colvill, New York, Charles J. O'Hagan, North Carolina, A. Stedman, Col.; secretary, W. B. Atkinson, Philadelphia; assistant secretary, J. S. Ransohoff, Philadelphia; treasurer, R. J. Dunlison, Philadelphia; trustees, L. Connor, Mich., E. O. Shakespeare, Pennsylvania, W. T. Briggs, Tenn.; judicial council, J. H. Murphy, Minn., J. M. Toner, Washington, J. R. Bartlett, Wis., A. B. Sloane, Kansas, X. C. Scott, Ohio, A. W. McClure, Iowa, J. W. Stormant, Kansas, J. F. Hubbard, Ind.

Cincinnati was recommended as the place of the next meeting, and the second Tuesday in May, 1888, as the time; and committees were also reported with the following gentlemen as chairmen: Necrology, J. M. Toner, Washington; State Medicine, J. C. Montgomery, Alabama.

RUSH MONUMENT.

The Committee on the Rush Monument reported that it was eminently appropriate to place a monument of Dr. Rush at Washington, and that the total subscriptions amounted to \$389. The report was adopted.

CREMATION.

The Committee on Cremation presented a report stating that it is only in cases of epidemics that the

value of cremation was really manifest, and as long as such things do not occur, no particular attention is paid to it. They, therefore, recommended that inasmuch as the present form of cremation does not meet with the approbation of the people, a just form of cremation should be adopted, by caustic lime or chloride of zinc being used to destroy the body speedily, and that people dying of zymotic diseases should be buried by the authorities. The report was referred to the section of State Medicine.

DR. F. M. JOHNSON, chairman of the Section on Obstetrics and Diseases of Women, read a paper in which antiseptic treatment is favored in obstetrical treatment.

DR. GEORGE H. ROHÉ, of Baltimore, Professor of Hygiene in the College of Physicians and Surgeons, read a paper on

RECENT ADVANCES IN PREVENTIVE MEDICINE,

of which the following is an abstract:

In the field of epidemiology and endemology, the progressive extension of the fifth great pandemic of cholera first claims attention. Extinguished in the portous of Italy, France and Spain ravaged in 1885 and 1886, it has slowly invaded southeastern Italy, Hungary, and other Austrian possessions, and has been imported into South America, whence it threatens the United States by several routes. The danger of invasion of this country is at present greater than at any time within the past three years.

Yellow fever inoculation, as practised by Freire in Brazil, and Carmona in Mexico, has claimed a large share of the attention of sanitarians within the year. The claims made in favor of this method of preventing the scourge are now being subjected to an official investigation authorized by the United States government.

Diligent search has been made for the specific organism supposed to be the effective agent in vaccine virus, but without definite success. The results obtained are not entirely negative, however, and one may cherish the hope that a solution of this problem will soon be reached.

The relation of a peculiar disease of cows to scarlet fever, and the discovery of a specific microbe in the blood in the latter disease have attracted much attention. The restriction of scarlet fever will doubtless be more thoroughly effected as soon as physicians are convinced of its bacterial nature, and clearly comprehend its mode of transmission. Statistics were given showing what has already been accomplished in this field.

Sternberg, Fränkel and Weichselbaum have studied the specific microbe of croupous pneumonia, which the former regards as identical with his micrococcus Pasteuri; in which opinion both the other authors mentioned coincide. Dr. Baker, of Michigan, has also shown that croupous pneumonia seems to be dependent upon a cold dry atmosphere.

Measures for the restriction of pulmonary tuberculosis were adverted to. Tuberculous patients should not be treated in the same hospital wards with non-tuberculous individuals, and prompt disinfection of the sputa and other discharges should be practised, in order to diminish opportunities for infection. General sanitary measures should, however, not be neglected in the warfare upon the bacillus. There is danger that a too exclusive attention to the microbial factors

¹ Continued from page 591.

of disease will narrow our views of epidemiology, and preventive medicine.

It seems to be established that the microörganism discovered in the intestinal lesions and discharges in typhoid fever is the cause of this disease. The fact that this microbe may preserve its vitality for a considerable time in water and ice, has been shown by Bolton, Wolff, Hugel, Prudden and others. This, together with the well-known history of outbreaks of this disease, undoubtedly depending upon pollution of drinking-water, should make prompt measures of disinfection imperative in every case. The physician fails in his duty who neglects measures for the thorough destruction of the typhoid infection existing in the intestinal discharges.

The importance of disinfection of bedding, clothing, and other personal and household articles in contagious diseases demands that health authorities should have under their control establishments for disinfection, which can be carried out on a large scale and at public expense. Such institutions are now in use in Berlin, Düsseldorf, Göttingen, Strasburg, Breslau, Leipsic, Danzig and other cities in Europe. The results are pronounced to be exceedingly beneficial. Steam under pressure is regarded as the best disinfecting agent.

Quarantine, a word which for more than five centuries has been synonymous with barbarism, is becoming under modern methods a safeguard to the public against infection and an advantage instead of obstruction to commerce. The results achieved at the model quarantine station at New Orleans, encourage the hope and almost warrant the prediction that the days of the quarantines of detention, whether by sea or land, are past, and that quarantine in future will mean simply thorough disinfection of fomites, and of course, effective isolation of persons already infected.

Cremation of garbage seems to be the best method yet devised for the inoffensive destruction or final disposal of solid city wastes.

The irrigation system of sewage disposal has steadily won favor. In Berlin, Breslau and Danzig, in Germany; Birmingham in England, and Pullman and other places in this country, it has been in successful operation. Chemical precipitation and purification of sewage has also been adopted with satisfactory results in various German cities. A board of distinguished engineers recently recommended the same system for the city of Providence, R. I.

Professor Vaughan's discovery of a very poisonous ptomaine in cheese, ice cream and milk undergoing certain chemical changes has been confirmed by a number of investigators in various parts of the country. Vaughan's suggestion that tyrotoxin may be found to be the poison that causes cholera infantum, opens up a new field of investigation in which every physician must of necessity be interested.

Analysis of food and drugs made during the year in Massachusetts and New York, show the wide extent to which adulteration is practised, and how the people are defrauded. Among the most startling instances are olive oil, of which 68 samples out of 91 were spurious. Vinegar was adulterated in 79 samples out of 116; mustard, 124 times in 211; white pepper, 63 times in 128; black pepper, 41 times in 71; mace, 29 times in 45. Of nine samples of horseradish examined, only one was found genuine. A precipitate of uncrystallizable sugar and coloring matter and chlo-

ride of tin (poisonous) is sold to candy-makers for making confectionery. Citrate of iron from respectable manufacturers contained three and one-half per cent. of quinine instead of twelve per cent. demanded by the pharmacopœia. Authority and means should be given to the health authorities to protect the public from these frauds, many of which are a source of danger to life and health.

Statistics collected by the speaker show that five-sixths of the inhabitants of cities in this country have no facilities for bathing except such as are afforded by a pail and sponge, or an easily accessible river, lake, or other body of water. The establishment of public baths is urgently recommended, both as a sanitary as well as a moral measure. Tub or pool baths are objectionable both on account of expense and lack of privacy in the matter. The spray baths in use in the German and French army barracks are recommended. These are not expensive, either in first cost or administration, and allow each bather absolute privacy and the opportunity for a thorough cleansing in clean water. Public baths should be open the year round, and not only during the summer.

A number of instances are grouped together showing how the enforcement of appropriate sanitary measures has saved life. In Michigan, the saving of life from one disease (scarlet fever) has amounted during the past eleven years to 3,718, or 338 per year. In 1886 appropriate sanitary measures saved the lives of 298 persons who would have died of diphtheria if such measures had not been enforced. In England and Wales the average annual saving of life due to sanitary measures has amounted in the five years ending 1885, to 62,000. In Baltimore, a marked reduction of deaths from infectious diseases has followed the enforcement of certain sanitary precautions. In Memphis the death-rate has been reduced in six years from 35 per thousand to 23.80 per thousand. In Chicago the reduction in mortality in the last five years has been from 25.69 per thousand to 19.46 per thousand, a net saving of 17,214 lives in that city during that period.

While all advances in sanitary administration have doubtless contributed to produce these good results, the main influence is to be attributed to three factors. These are compulsory notification of infectious diseases, prompt and effective isolation of the sick and infected, and thorough disinfection of all infected articles and sources of infection. These must be the watchwords of the practical sanitarian of the future.

The report was sent to the committee on publication.

The Treasurer reported that the receipts of the Association during the year were \$21,723.32; disbursements, \$20,319.45; leaving a balance of \$1,403.77. The report was ordered filed.

The librarian reported that 158 titled works had been added to the library during the year, and that the library now contained 2,650 titled works, representing 7,500 volumes. There are 600 unbound volumes. He asked an appropriation of ten dollars for indexing. The report was ordered placed on file, and the ten dollars granted.

Dr. GASTON moved that three members of the Association be appointed to act with the commission appointed by the President to investigate the Carmona system of inoculation for yellow fever. Adopted.

The Treasurer asked an appropriation from the

funds of the Association toward the expenses of the International Medical Congress.

DR. DAVIS moved that \$500 be appropriated, but a delegate moved to amend by making it \$1,000, as the Illinois society had voted \$750. After some conversation, in which it was suggested that a subscription be taken up as well, so as to make the congress a financial success, the amendment was adopted and \$1,000 granted.

DR. NATHAN S. DAVIS then submitted a resolution which he said he would call up for action at the session this morning. It was to the effect that the regular graduates of such dental and oral schools and colleges as required of their students a standard of preliminary or general education and a term of professional study equal to the best class of the medical colleges of this country be recognized as members of the regular profession of medicine, and eligible to membership in the association. He also submitted a resolution in reference to the annual banquets of the association, which, if adopted, will relieve the non-wine-drinking members from helping to pay the wine bills of the others.

(To be continued.)

RHODE ISLAND MEDICAL SOCIETY.

THE seventy-sixth annual meeting was held in Providence, June 9, 1887, the President, DR. HORACE G. MILLER, in the chair.

The annual report of the Secretary showed the present active membership to be 199.

DR. CHARLES H. LEONARD, Treasurer, read his annual statement. Income for the year, \$1,166.81; outgo, \$1,144.94. The printing fund has amounted to \$2,069.72. The building fund was increased to \$1,326.32.

DR. J. W. MITCHELL reported verbally for the Building Committee, and the Society authorized the committee to examine suitably located buildings or sites with view to lease or purchase.

From the annual report of the Committee on the Library it appears that 1,014 volumes were added during the year. The Society's collection now includes 6,644 volumes and 3,000 pamphlets.

DR. GEORGE L. COLLINS, on behalf of the Trustees of the Fiske Fund, announced that a prize of two hundred dollars had been awarded to Dr. James B. Field, of Lowell, Mass., for the best essay on Membranous Enteritis. The Trustees propose the following subjects for next year: I. "What changes has the acceptance of the germ theory made in measures for the prevention and treatment of consumption?" II. "Antisepsis in medicine and surgery; with original observations and experiments."

For the best essay worthy of a premium, on either subject, the Trustees offer a prize of two hundred dollars. Competing essays must be sent before May 1, 1888, to Dr. George L. Collins, Secretary of the Trustees of the Fiske Fund, Providence, R. I.

The following officers were elected for 1887-8: Horace G. Miller, President; Albert Potter, First Vice-President; John W. Mitchell, Second Vice-President; William R. White, Recording Secretary; George D. Hersey, Corresponding Secretary; Charles H. Leonard, Treasurer. Board of Censors: Ariel Ballou, James H. Eldredge, J. W. C. Ely, George P.

Baker, Benjamin Greene, Eugene Kingman, Job Kenyon, J. Howard Morgan.

Standing Committees were chosen as follows:

On Necrology, C. W. Parsons, Albert Potter, Eugene Kingman. On Publications, G. W. Porter, R. F. Noyes, C. M. Godding. On the Library, T. Newell, H. G. Miller, G. D. Hersey, G. W. Porter, G. L. Collins. On the Museum, W. J. McCaw, G. T. Swarts, F. B. Fuller, C. M. Godding, S. A. Welch.

The President announced the re-appointment of Dr. Frank B. Fuller on the Examining Board for a term of five years.

As recommended by the Censors, Drs. Irving S. Cook, James W. Craig, Franklin M. Eaton, Everett Flood, Elmer E. Moore, and John W. Keefe were admitted to Fellowship.

DR. J. H. ELDRIDGE called attention to a case of criminal abortion which resulted fatally a few months ago, and concerning which the government has taken no action, though it is one of the few cases in which the facts are clearly established. As the present stringent law against abortion was secured through the efforts of this Society, Dr. Eldredge suggested the propriety of taking some action looking to its enforcement. On motion, the chair appointed a Committee of three, Drs. C. H. Fisher, G. W. Jenckes, and D. O. King, to press the prosecution of this and similar cases of malpractice.

The annual address was given by the President, Dr. Horace G. Miller, his subject being, "The Bacteriology of the Eye."

The annual dinner was served in Blackstone Hall, Dr. Charles H. Leonard presiding as Anniversary Chairman. After-dinner speeches were made by his Excellency Governor Davis, Rev. J. Hall McIlvaine, Drs. Henry W. Williams, of Boston, Benjamin E. Cotting, of Roxbury, A. H. Johnson, of Salem, Mass., P. Cassidy, of Norwich, Conn., E. Kingman, J. W. Mitchell, W. H. Palmer, T. Newell, H. G. Miller, O. C. Wiggin, and F. G. Eddy.

Recent Literature.

Anatomy, Descriptive and Topographical, in 625 Illustrations. By CARL HEITZMANN, M.D. English Edition. By LOUIS HEITZMANN, M.D. New York, J. H. Vail & Co. Vienna: W. Braumüller. London: Dulau & Co. 1887.

The success of Heitzmann's atlas, for it is an atlas to all intents and purposes, has been undeniable. It is not free from faults, but the clearness and beauty of the plates and the comprehensiveness of the plan have atoned for them. The work before us is a new edition intended for the English and American market. German words have been expunged from the plates and the text has been translated into English. We are told in the preface that it moreover has been often materially altered to bring it more in unison with English works.

This naturally suggests the question, what is the use of a text at all in a work of this kind? The names of the important parts appear on the plates, and the text is utterly insufficient as a description. The attempt to reproduce it in English has by no means improved it. Take as an example the account of the carpal bones. "Each bone presents six surfaces: a superior,

an inferior, a posterior or dorsal, an anterior or palmer, an internal or ulnar, and an external or radial surface. The dorsal surface of all the bones is convex, the palmer surface concave. The concavity of the palmer surface of the carpus is bounded by four prominences " . . . which are described very briefly. Now as Heitzmann includes the pisiform in the carpus, the statement that each bone has six sides is quite inadmissible, and even if it were true, who shall say that such a statement is worth the making? By referring to the German of the first edition we see that in the second sentence the attributes of concavity and convexity are applied to the carpus as a whole, which one ignorant of the fact, would, we think, hardly suspect from the English. A worse mistake occurs in the account of the orbit. We could hardly believe our eyes when we read, "behind the circumference, superior — and externally lies the lachrymal groove," till the concluding words "*Fossa glandulæ lacrymalis*," explained that it was a mistake of translation and not of anatomy. Still it is inexcusable to translate "*fossa*" by "groove," especially as there is a lachrymal groove in another part of the orbit. On making further comparisons we met unexpected inaccuracies in the old edition which reappear in the new.

For instance, the shape of the patellar surface on the front of the femur is incorrect. The spiral twist of the œsophagus round the aorta is greatly exaggerated. The view of the *zona orbicularis* at the back of the hip-joint is absurd. The author follows Weber in having a part of the ilio-femoral ligament make a loop under the neck of the femur with the above name. Even if some fibres take this course, which we do not believe, we know that they do not in the least resemble the strong band that is figured here. And after thus describing the ilio-femoral ligaments, the author or translator should have abstained from adding that "this is frequently designated the Y-ligament of Bigelow."

We find in both editions, the liver as flat as a pancake with a sharp edge in front and a thick one behind. If the author was not familiar with His's work, he might at least have copied from Quain. The folds of the peritoneum in the great omentum and meso-colon have given rise to much discussion, and we do not think that all the details are as yet surely settled. The first edition gave the old-fashioned diagram which, though incorrect, for the fœtus, may, we think represent the condition of the parts in the adult, but the figure in the new edition is the only one we know of which it can be said with absolute certainty that it is wrong at any stage and according to any theory. The plates of the brain are good, on the whole, but there certainly should be a horizontal one showing the lenticular nucleus and the knee of the internal capsule. A good addition is that of two plates showing injections of the sheaths of the tendons of the hand and wrist.

The plates are, for the most part handsome, but some seem to us decidedly inferior to the rest. If we have been severe in our criticisms it is because the success of the work has brought it into prominence and we feel that before bringing out a new edition especially designated for new fields, the author should have corrected old errors and have brought the work fully up to the times. If this is to be considered as the artistic work of an amateur in anatomy, it deserves high praise, which must be withheld if the author enters the anatomical ring as a "professional." T. D.

THE BOSTON Medical and Surgical Journal.

THURSDAY, JUNE 23, 1887.

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THE CROWN PRINCE OF GERMANY.

RECENT numbers of the foreign medical journals furnish us with accounts of the illness of the Crown Prince, from which we gather the following details. It appears that His Imperial Highness's voice has been somewhat altered in quality since his trip to Italy last autumn, but, according to the *Lancet*, it was not until January that he "began to suffer from slight hoarseness, and early in March, Professor Gerhardt discovered a warty growth attached to the left vocal cord, which he treated by touching with the electro-cautery. Its size having been reduced by this means, the Prince was advised to go to Ems, where he remained about six weeks. On his return he was found to be no better as regards his hoarseness, and the growth had somewhat increased in size. Professor Tobold was then called in, and after a consultation with the Emperor's and Crown Prince's physicians, Von Lauer and Wegner, it was thought that the growth was of a malignant nature, and at their request Dr. Bergmann's opinion was sought. He was inclined to confirm the diagnosis. It was decided that an external operation was necessary, but whether it was to be excision of the larynx or thyrotomy was not settled definitely. In consequence of the strong feeling at Court that this operation ought not to be done unless absolutely unavoidable, on account of its attendant danger to life and great impairment of voice, even if successful, Dr. Bergmann declined to take the responsibility as the operator, unless the impossibility of the removal of the growth by intra-laryngeal methods was confirmed by Dr. Morell Mackenzie. Immediately on arriving in Berlin, on Friday, May 20th, a consultation was held, at which Dr. Mackenzie met all the medical men above mentioned. On making a laryngoscopic examination, Dr. Mackenzie found a sessile growth about the size of a large split pea, but in shape more elongated, attached to the posterior portion of the left vocal cord on its inner and upper surfaces. He urged that the more serious operation should not be performed before a portion of the growth had been re-

moved for microscopic examination. This had not been done because it was considered impossible, owing to its small size and sessile character. The following morning another consultation was held, at which Dr. Mackenzie succeeded in removing with forceps a small piece of the growth. Professor Virchow, having examined microscopically the portion taken away, pronounced it to be a benign growth. He said that the epithelial cells were increased in size and number. He further stated that, as the portion removed included a complete section of the growth and the surface of the vocal cord beneath, as clearly demonstrated by the presence of some of the longitudinal elastic fibres of the latter structure, he considered that there was no reason to suppose that any remaining portion of the growth was of a cancerous nature."

Dr. Mackenzie, as we are informed by cablegrams in the daily papers, has made a second visit to Berlin, and again succeeded in removing a portion of the growth. He is reported as adhering to the opinion that the growth is of a benign, warty character, while the German physicians seem to be inclined to regard it as cancerous. The diagnosis of these cases often presents the greatest difficulty, yet it is just in such instances that it is of the highest importance, as the proper treatment depends upon the nature of the neoplasm. If it be a simple papilloma, it can be readily and successfully attacked by intra-laryngeal methods. If it be of a malignant nature, it becomes a question of partial excision of the larynx. By recognizing intra-laryngeal malignant disease in its earliest stage, when but a small area of one portion of the organ is involved, and unaccompanied by swollen glands or much inflammatory disturbance, good results may be expected by removing the diseased tissue. When, however, the disease has progressed so as to involve both sides of the larynx, total extirpation of the organ can hardly be considered a justifiable procedure. We trust that Dr. Mackenzie's diagnosis will prove to be correct in the case of the Crown Prince. He is supported in his opinion by the high authority of Prof. Virchow who, from his microscopic examination of the second portion of the growth removed, pronounced it a pachydermia verrucosa; there were enlarged papillae and epithelial cells, but no morbid products in the submucous tissues. Whatever the result of this difficult case may be, Dr. Mackenzie's wise and timely counsel at least postponed a serious operation, and it is not likely that this able laryngologist will allow the moment to pass when partial excision of the larynx would be too late. If he has prevented a removal of the larynx, and effects an ultimate cure, it will be a triumph for laryngeal surgery and diagnosis impossible to exaggerate, and of which not only laryngologists, but the profession in general, will be proud.

—Ten per cent. of the students in the University of Zurich are women. 29 of them are studying medicine, 14 philosophy, and 2 political economy. There are now 48 female students of medicine in London, and in Paris 103.

THE REGULATION OF MEDICAL PRACTICE IN MAINE.

THE readers of the JOURNAL will probably recall the "Druidic University" of Maine and the remarkable story of the reporter who procured a degree from that institution during the past winter. The exposure of the institution was followed by the introduction in the legislature of a bill for the registration and licensing of physicians. The bill was passed and signed by the governor. Subsequently, however, the governor recalled the bill, erased his signature and sent a veto message to the legislature. This somewhat singular conduct called forth a series of resolutions from the Maine Medical Association, which deal very plainly with the subject. The resolutions, which were unanimously adopted rehearsed the circumstances of the case, and proceeded as follows:

Resolved, That as this association possesses fuller knowledge of the circumstances of the case than any other body of citizens, it is peculiarly its duty to inform the people of the State of the outrage which has been perpetrated upon them and acquaint them with the conduct of the men whom they have honored with some of the most exalted offices in their gifts.

Resolved, That in the opinion of this association, the governor, by abstracting the registration act from the statutes of the State, has violated his oath of office which requires him to uphold and execute, rather than to overturn and destroy, the laws.

Resolved, That his refusal to submit the question of legality of his performance to the Supreme Court, knowing that no other man could obtain its opinion on the matter during the present administration, is an admission of the indefensibility of his attitude, and displays either the disposition of a despot or servility of a pusillanimous agent of unscrupulous political masters.

Resolved, That as a body of citizens who believe that the safety of our constitutional liberty depends upon the support and faithful execution of all laws which are legally made, and who are unwilling to submit without protest to atrocious imposition, this association looks with great alarm upon the effort of our chief magistrate to defeat the will of the people by attempting to overthrow the statute, whatever opinion of its merits were entertained by him or his advisers.

Resolved, That this association will use all honorable means in its power to procure restoration of the registration law to its just place among other statutes of the Commonwealth, and calls upon every citizen who values his rights to assist in this patriotic work with his voice, and if necessary his vote.

The exposure and subsequent legislation gain added interest to the people of Massachusetts from the fact that the former director of the Druidic University has already settled in Boston and offers his services to any who may desire them through the medium of the Boston press.

MEDICAL NOTES.

—Our readers will observe that in this and the two preceding numbers of the JOURNAL we have introduced supplementary pages, to make room for our full reports of the various State and National medical societies that have held their sessions recently.

—The President of the Board of Health at Key West reports twenty-six cases of yellow fever, and nine deaths up to June 14th. Subsistence supplies and medicines are being furnished the yellow-fever hospital from the Marine Hospital stores at Key West.

— The late Paul Bert once, *experimenti gratiâ*, had himself vaccinated and then inoculated with virus from a man dying with small-pox. He did not take the disease.

— The Paris correspondent of the *Therapeutic Gazette* relates the particulars of a suit, interesting from the point of view of life insurance. It is well known that the French law makes it a penalty for a physician, surgeon, pharmacist, or midwife to divulge secrets which he has learned in a professional capacity. That this law is not a dead letter was shown by the fact of the conviction some two years ago, of Dr. Watelet, who to vindicate himself from a published criticism as to his treatment of a certain case, wrote to a daily paper an account of the symptoms, for which he was promptly prosecuted by the District Attorney without the intervention of the family supposed to be aggrieved, and condemned to pay a fine. The publisher of the article was also fined, and on appeal, both sentences were confirmed. Now a French physician of Besançon was called upon after the death of a patient of his, to furnish the life insurance company with a certificate of the cause of death. This, remembering the law and the fate of Dr. Watelet, he refused to do. Thereupon, the heirs began a civil action against him and the insurance company, including both as co-defendants, so as to obtain the money either with or without the certificate. Before the court the doctor's plea was the penal statute enjoining professional secrecy; that of the company, the policy clause providing for the production of a death certificate. The court accepted the doctor's defence, exonerating him, free of all costs, and ordered the company to pay the full amount demanded, together with all the expenses and costs of the lawsuit.

— The reading and recitation term of the Long Island College Hospital, which began in March, closed early in June. During the three months' session, the students have had the advantages of the new maternity wards of the Hospital, and have attended two abortions and seventeen confinements. In attendance upon these cases, they witnessed the following complications and operations: Complete inversion of uterus and its reduction, one; placenta prævia, two; transverse presentations, three; twins, one; hydrorrhœa (post-partum), one; forceps deliveries, two; breech, two; version, external, two; version, internal, one; restoration of perineum, three; curetting after abortion, two.

BOSTON AND NEW ENGLAND.

— The tenth annual report of the managers of the Adams Nervine Asylum has reached us, covering the year ending April 30, 1887. The report of the resident physician, Dr. S. G. Webber, shows 108 cases treated during the year, the admissions having been 80. Against this latter number, we find 296 applications for admission. Of these, 111 were rejected for various reasons, leaving 185 who were more or less suitable for treatment. As will be seen, less than one-

half of these women could be received. The average stay of all the patients was 4.27 months; of those who recovered, 4.47 months; of those who were relieved, 5.07; and of those not relieved, 1.63 months. The greatest number of the patients admitted were from twenty-five to thirty years of age, and nearly three-fourths of all were unmarried. The expenses of the year were about \$35,000, of which \$8,565 was collected from patients, leaving over \$26,600 to be paid from the funds of the Asylum.

NEW YORK.

— At the last meeting of the Academy of Medicine the present season, held June 16th, reports from the various sections were read, and Dr. Laurence Johnson read a memorial of the late Dr. E. Darwin Hudson. Later in the evening, the President, Dr. A. Jacobi, entertained the Fellows of the Academy and their friends at a reception at his house, and the members of the Orthopædic Association went there in a body from their dinner at the St. Nicholas Club.

— An inmate of the city insane asylum on Ward's Island, having died under somewhat suspicious circumstances, an investigation of the case has been made by a coroner's jury, which rendered a verdict to the effect that the immediate cause of the man's death was violence used by two of the attendants. They also censure the examining physicians for not giving a more correct account of the cause of death. The two attendants referred to have been committed to the Tombs to await the action of the Grand Jury.

— The American Orthopædic Association was successfully inaugurated on the 15th. The organization committee consisted of Drs. Gibney, Shaffer, and L. H. Sayre, and their arrangements for the meeting, which occupied two days, were most satisfactory in every way. The scientific proceedings were of a somewhat impromptu character, no formal programme having been made out, but were full of interest and value. From a social point of view, the gathering was a delightful one, and all honor for their generous hospitality is due the organization committee, who, on the evening of the 16th, secured for the Association and a few guests three boxes at the Casino, where the comic opera of "Erminie" is running, and on the following evening gave a most elaborate and enjoyable dinner at the St. Nicholas Club. At the latter, informal speeches were made by Drs. Lewis H. Sayre, W. T. Bull, Gibney, Shaffer, Bradford, of Boston, and A. S. Roberts, of Philadelphia. At the meeting, the following officers were elected: President, Dr. Shaffer, of New York; Vice-Presidents, Drs. Bradford, of Boston, and A. S. Roberts, of Philadelphia; Secretary and Treasurer, Dr. L. H. Sayre, of New York. Among those present, were Drs. Morton and A. S. Roberts, of Philadelphia; Bradford, of Boston; Packard, of Hartford; Hodgson, of St. Louis; and L. H. Sayre, Shaffer, Gibney, Stillman, Judson, Ketch, Ridlon, Berg, Dillon Brown, Knickerbocker, H. L. Taylor, Develin, and C. W. Stimson, of New York.

— Dr. John Q. Bird, for three years President of the Board of Police of Jersey City, and recently appointed one of the visiting-staff of the Jersey City Hospital, died of septicæmia on the 17th of June. The first patient whom he attended at the hospital was an Italian who had both his legs broken in a railway accident, and the case terminated fatally. In making the autopsy he received a slight cut on one of his fingers, which was promptly treated with carbolic acid. Violent inflammation set in, however, and in spite of the most active exertions of Dr. T. R. Varick, the surgeon in attendance, fatal blood-poisoning resulted. Dr. Bird was about forty years of age, and for the past seventeen years had been connected with the Jersey City Police Department, either as police surgeon or as a member of the governing board. He leaves a widow and four children.

— The Board of Aldermen having recently adopted some resolutions in regard to food adulterations, Mayor Hewitt has sent to that body a report from the Board of Health on this subject, in which it is stated that the experience of the department has been that cases of hurtful adulteration of food and liquor are comparatively rare. The adulterations usually encountered are made in the interest of bulk and cheapness, and the materials used for this purpose are seldom in any other respect hurtful, than that they are likely to be indigestible. In the case of liquors, even of imitation wines, into which no grape-juice enters, it has been found that, if the alcohol is eliminated, only the fruit-syrups of the soda fountain remain. It is difficult, if not impossible, to find on sale in New York a sample of confectionery with poisonous coloring or flavoring. There has also been a marked improvement in the character of the milk and meat supply of the city, and such adulterations as are known to exist are simply frauds on the purchaser, which, as frauds, do not come under the notice of the Board. "The dangers with which our sense of duty prompt us to cope with most vigorously," the report goes on to say, "are those arising from the sale of contaminated food. This we are doing as well as we are able, considering the insufficient means at our command. . . . I am of the opinion that the statements published by the authority of the American Society for the Prevention of the Adulteration of Food, quoted in the resolutions of the Common Council, greatly exaggerate the facts — not as to the prevalence of adulteration, but as to the effect upon the public health of the kinds of frauds perpetrated."

— Notwithstanding the boasted efficiency of the hospital ambulance service in New York, there seem, at times, to be defects in its working, and a very serious case of apparent negligence has just been reported to the Commissioners of Charities and Correction by Mayor Hewitt, from facts coming within his immediate knowledge. In a letter to the Commissioners, he states that about ten o'clock on the morning of June 8th, a painter who was working on a house across the street from his own residence fell, and was

crushed to a shapeless mass, although life was not extinct. The accident was witnessed by his (Mayor Hewitt's) family, and a gentleman who was present immediately sought the police to give a call for an ambulance. No ambulance, however, arrived, and at length Mr. Hewitt sent specially to Bellevue Hospital for the purpose of procuring one. He was informed that there was no ambulance available. In the meantime, a call had been made upon the New York Hospital, and the answer came back that they declined to send an ambulance. At length, after three-quarters of an hour, during which the man lay in a dying condition upon the sidewalk, Mr. Hewitt availed himself of the offer of a friendly driver of a spring wagon, and the man was conveyed to the hospital. "I cannot imagine," concludes Mr. Hewitt, "that he will recover from the serious injuries that he received, but certainly no one who witnessed the scene will ever forget the impression of inhumanity which must have been made upon him as he realized that the public arrangements at Bellevue and the New York Hospital were entirely unavailable for a poor, suffering creature. I can understand that the call upon the ambulance at Bellevue Hospital may have exhausted the supply, and that occasionally it will happen that delay of this sort will occur; but I particularly call your attention to this case in order that, if there be any lack of proper provision of ambulance service at the hospital, it may be supplied at once."

Miscellany.

ABSTRACT OF ADDRESS DELIVERED BY M. CHARCOT AT THE FUNERAL OF M. VULPIAN.¹

I HAVE accepted the painful duty of expressing, in the name of the Section of Medicine and Surgery, the sorrow felt in the Academy of Sciences at the unexpected loss of one of its members who has most honored and best served it. But I fear the duty is very difficult to perform.

I met Vulpian first thirty-seven years ago at the hospital of la Pitié, which we had both entered as internes. We were both Parisians, in our twenty-fifth year. A perfect fellowship of sentiments, of ideas, of tendencies, even of difficulty in self-support, quickly united us; it was for life.

My new colleague was even then attached to the Museum of Natural History. From the beginning of his career Vulpian divided his activity between the laboratory and the wards of the hospital. He was early led to understand that without the assistance of experimentation, simple observation is often lacking in power; while, on the contrary, experimental data, at least so far as concerns human pathology remains almost always without legitimate application when it is not constantly submitted to clinical control. The great characteristic of Vulpian's scientific life is this, that intimate union of the physician and the experimenter.

Nominated physician to the hospital in 1857, *agrégé*

¹ Archives de Physiologie, March, 1887.

of the Faculty of Medicine in 1860. Vulpian was called in 1864 to succeed Flourens at the Museum of Natural History in the chair of comparative physiology, which he occupied until 1866. The success of the young professor was brilliant. At each step he gave proof of a maturity of mind and an elevation of thought whose precocity is not less admirable than their greatness.

In 1866 he published "*Leçons sur la Physiologie générale et comparée du Système Nerveux*." At the death of Jean Cruveilhier the chair of pathological anatomy became vacant in the Faculty of Medicine of Paris. Vulpian was nominated. His election met the most active resistance on the side of the irreconcilable partisans of the ancient methods. Microscopic pathological anatomy, purely descriptive, had had its time. The microscope was now needed to penetrate the interior of the organ, to study the lesions of the anatomical elements. Vulpian, alone, among the *agrégés* at that time, was sufficiently prepared by his earlier studies to accept the responsibility of such a weighty task.

In 1872, he occupied the chair of experimental and comparative pathology left vacant by the retirement of our eminent confrère, Brown-Séquard. This was for Vulpian a return to the studies of his choice. During this period, terminated by his death, he published some of his most important works; in 1875 "*Leçons sur l'appareil vasomoteur*." In this he demonstrates the dilating action of the chorda tympani on the vessels of the tongue. "*Leçons sur l'action Physiologique des Substances Toxiques et Médicamenteuses*" (1881) contain remarkable studies in regard to jaborandi, curare, strychnia. Finally in "*Traité des Maladies du Système Nerveux*" are found the innumerable observations and discoveries made by Vulpian in the domains of nervous pathology.

His works on physiology are found in memoirs and publications and reports of various societies. That which characterizes Vulpian as a physiologist is the absolute exactitude, the methodical arrangement and the extreme moderation in his conclusions.

May 22, 1876, Vulpian attained the object towards which he had directed all his efforts, he was received into the Institute, succeeding Andral.

Vulpian can be characterized by one word; he was the man of duty. Never was he seen to hesitate before a task which he had undertaken to perform. When he felt himself becoming feeble he resigned as physician to the Hotel-Dieu, and gave up his private practice.

Vulpian was a great and good heart, a family man, ready to sacrifice all for his own, a master adored by his pupils, a firm and devoted friend. He has had few enemies; in his rivalries he showed loyal, generous, chivalric emulation.

Correspondence.

POISONING BY IVY.

[As the season for ivy-poisoning is developing, the following graphic account of his own case by a sufferer, may not be without interest to the profession, though coming from a layman.]

MR. EDITOR,—Early in September I cut with a scythe

some "poison-ivy," so called (botanical name "*Rhus toxicodendron*,") growing along a fence around the garden of the house I then lived in at Natick, Mass. It had previously blossomed, and the fruit was then formed. I touched it with my hands, I suppose, five or six times during the half hour I was cutting it down. The next day I noticed during the morning a slight tingling sensation in the eyes.

The seat of the pain seemed to be on the inner side of the lids and not in the eye itself. I supposed it to be due to excessive use of my eyes, or to reading or writing on the cars, which I frequently did for half an hour morning and evening. The pain soon developed into *itching*, which continued with increasing severity for two or three days. Towards evening my face also began to itch and was slightly swollen. Up to this time no eruption was noticed, but no very careful examination was made. During the night the swelling increased a little but the itching was intense and unremitting, especially near the eyes.

The next morning small pimples or vesicles were visible beneath the skin over the whole surface of the forehead, about the eyes and face, being most prominent where the itching had first begun, but visible everywhere, in some places very near together. This was accompanied by so much swelling of the face that it was with great difficulty I could see at all. Twenty-four hours later the pimples had become plainly visible where they could previously be distinguished only with great difficulty. They gradually assumed the appearance of small blisters, filled with a fluid resembling water, which could be easily broken by squeezing, or when smartly rubbed. With the formation of the vesicles, the itching began to subside, but returned at intervals for three or four days, while the skin gradually healed, the old cuticle peeling off as the new one was formed. From the forehead and eyes the eruption had gradually extended over the portions of the face not covered by the hair and whiskers, as far as the ears, where it remained longer than almost anywhere else. It began to appear on my hands about three days after beginning on my face, when it followed substantially the same course, but lasting perhaps two or three days longer. In a week after being attacked my hands were at the worst stage.

The disease next proceeded to my feet and ankles and a narrow area on the inside of each thigh about 20 or 25 centimetres long, by 4 or 5 centimetres wide (except in one small place where it was perhaps 8 centimetres wide). On the feet it was confined for a few days to the outside and inside of the rear part of the ankle. From thence it gradually extended over the whole surface of the foot, subsiding after about a week, except at the places where it had first appeared, from which I could not dislodge it for a week or ten days longer. The feet were not as painful during the day as the hands and face had been, but at night the difference was far more than made up by the most horrible itching I have ever experienced, which continued with short intervals of comparative comfort during the whole night. No pain I ever had was anything like so intolerable.

The general progress of the disease everywhere was as I have indicated it on the face, namely, first the tingling and itching, then the appearance of pimples, gradually changing to blisters and as gradually subsiding in a few days. In three or four weeks after the first attack the disease had almost disappeared. During its last stages there appeared on my body, particularly on my back, red blotches or pimples of quite large size which were somewhat painful for two or three days, but which then grew smaller and disappeared without discharging anything. I do not know whether or not they had any connection with the ivy-poisoning.

I began trying so-called "remedies" as soon as I became aware what the trouble was. Nearly every person I met knew of and recommended to me a remedy certain to cure the disease in a day or two, but of all I tried none seemed to check in any degree its progress. It seemed to run its regular course everywhere, in spite of anything I could do. I began bathing the parts affected with dilute bay rum; then I used Pond's extract of Hammamelis, and afterwards

what I supposed might be a stronger extract, put up by an apothecary in Boston. This was applied externally several times a day, and taken internally two or three times daily, in doses of about one-fourth teaspoonful. •

It appeared to have no permanent effect, but rendered the itching somewhat more tolerable as long as the surface was wet. After this I tried a solution of bicarbonate of soda, and receiving no benefit, I next used a solution of acetate of lead with no perceptible effect. Then I tried tincture of lobelia, as procured from the druggist, diluted with ten times its bulk of water. This did relieve the itching to some extent, but to nothing like the degree I was led to expect from the accounts I heard of its use by other people. My physician at last recommended to me a solution of one part of bichloride of mercury diluted with one thousand parts of water. This, when applied often, relieved the itching to a great extent (but not entirely), and the disease then became much more easily endurable. I obtained the greatest relief by bathing the parts affected

alternately with the mercurial solution and a very weak gruel, made from indian meal and hot water, and allowed to get cold before using. Had I used these remedies when the disease first made its appearance, I think I should have suffered comparatively little discomfort. I also tried later the fluid extract of *Grindelia robusta*, diluted with alcohol so as to feel only a little sticky when applied to the skin. This, applied often, considerably allayed the itching, but not to the same degree as the mercurial solution.

Nothing, however, seemed able to check or much retard the process of the disease: when it appeared in a part it ran its course in from about four to seven days, and then gradually subsided. The wrists and ankles had slight eruptions and periods of itching for a few days at a time at intervals for several months afterwards, especially in warm weather, but these symptoms gradually disappeared, and entire relief from the attacks was at length obtained.

Very truly yours,

GEO. W. BLODGETT, *Civil Engineer.*

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 11, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York	1,481,920	609	212	19.52	14.24	4.44	9.12	.96
Philadelphia	993,801	389	168	13.52	11.16	2.56	3.90	2.86
Brooklyn	745,108	253	95	15.60	15.04	3.12	7.80	.78
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	133	59	20.72	13.32	4.44	6.66	2.22
Boston	400,000	175	46	12.11	19.38	1.14	3.42	3.42
New Orleans	242,750	125	59	32.00	12.00	27.20	.80	.80
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	86	34	15.00	16.24	6.96	1.16	—
Pittsburgh	210,000	27	40	74.00	25.90	29.60	13.50	7.40
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	35	15	17.16	15.44	14.30	—	—
Charleston	60,145	51	27	21.56	9.80	15.64	—	—
Portland	40,000	45	26	28.86	13.33	—	—	5.88
Worcester	68,383	14	2	7.14	1.14	—	7.14	8.88
Lowell	64,051	31	11	32.25	9.69	3.23	16.15	—
Cambridge	59,660	16	5	12.50	21.25	6.25	—	9.69
Fall River	56,863	19	8	10.52	15.78	—	5.26	6.25
Lynn	45,861	13	4	7.69	30.76	—	—	—
Lawrence	38,825	14	6	7.14	21.42	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	9	2	—	44.44	—	—	—
Somerville	29,992	13	5	—	23.07	—	—	—
Salem	28,084	11	3	—	18.18	—	—	—
Holyoke	27,894	6	3	—	33.33	—	—	—
Chelsea	25,709	7	3	—	33.33	—	—	—
Taunton	23,674	8	0	37.50	12.50	12.50	—	—
Haverhill	21,795	10	0	20.00	30.00	—	—	—
Gloucester	21,713	4	1	—	25.00	—	—	—
Brockton	20,783	8	2	—	25.00	—	—	—
Newton	19,759	7	2	—	14.28	—	—	—
Malden	16,407	8	3	25.00	12.50	—	12.50	—
Fitchburg	15,375	4	0	—	25.00	—	—	—
Waltham	14,609	6	0	15.66	33.33	—	—	—
Newburyport	13,716	4	1	—	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,061: under five years of age 866; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 466, consumption 327, lung diseases 195, diarrhoeal diseases 127, diphtheria and croup 123, measles 43, typhoid fever 35, scarlet fever 18, whooping-cough 17, malarial fever 14, cerebro-spinal meningitis 13, erysipelas seven, puerperal fever seven, small-pox (New York) two. From typhoid fever, Philadelphia 13, Boston five, Baltimore four, New York and Pittsburgh three each, New Orleans two, District of Columbia, Lawrence, Haverhill, Malden and Waltham one each. From scarlet fever, New York seven, Philadelphia four, Brooklyn three, Boston, Baltimore and District of Columbia one each. From whooping-cough, Philadelphia six, Baltimore three, New York, Brooklyn, Boston, New Orleans, District of Columbia, Pittsburgh, Nashville, and Fall River one each. From malarial fever, New York seven, Brooklyn four, District of Columbia two, Balti-

more one. From cerebro-spinal meningitis, New York nine, Baltimore, New Orleans, District of Columbia and Haverhill, one each. From erysipelas, Philadelphia three, New York, Brooklyn and Boston, one each. From puerperal fever, New York, Philadelphia, Brooklyn, Boston, Portland and Lowell, one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending May 28th, the death-rate was 20.4. Deaths reported 3,621: infants under one year of age 810; acute diseases of the respiratory organs (London), 333, measles 251, whooping-cough 143, scarlet fever 52, diarrhoeal diseases 31, diphtheria and croup 23, fever 22.

The death-rates ranged from 15.7 in Sunderland to 32.3 in Manchester; Birmingham 17.2; Blackburn 20.1; Hull 23.9; Leeds 17.7; Leicester 17.1; Liverpool 25.3; London 19.0; Newcastle-on-Tyne 23.9; Nottingham 19.3; Sheffield 20.1.

In Edinburgh 20.2; Glasgow 23.1; Dublin 24.1.

The meteorological record for the week ending June 11, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 11, 1887.																			
Sunday, ... 5	30.27	55.0	57.0	50.0	65.0	72.0	75.0	71.0	N.E.	E.	S.	4	10	9	C.	O.	O.		
Monday, ... 6	30.18	65.0	76.0	52.0	58.0	52.0	82.0	64.0	S.W.	W.	S.W.	12	14	14	O.	F.	O.		
Tuesday, ... 7	30.02	68.0	79.0	58.0	79.0	63.0	86.0	76.0	W.	S.	S.E.	14	10	1	F.	F.	C.		
Wednesday, ... 8	29.87	66.0	74.0	57.0	91.0	78.0	96.0	88.0	S.E.	S.W.	S.W.	4	10	10	C.	O.	F.		
Thursday, ... 9	29.75	61.0	81.0	55.0	84.0	86.0	83.0	84.0	W.	N.E.	N.E.	12	21	9	F.	O.	O.		
Friday, ... 10	30.13	55.0	62.0	53.0	83.0	72.0	69.0	75.0	N.E.	E.	E.	9	14	10	F.	C.	O.		
Saturday, ... 11	30.31	60.0	68.0	48.0	64.0	41.0	53.0	49.0	N.	S.E.	S.	8	7	8	C.	C.	C.		
Mean, the Week.	30.076	61.4						72.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 11, 1887, TO JUNE 17, 1887.

BAXTER, J. H., colonel and chief medical purveyor. To proceed to New York City for the purpose of inspecting the medical purveying depot at that place. S. O. 133, A. G. O., June 10, 1887.

Par. 15 S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10, 1887, as to direct that Major Chas. H. Alden, Surgeon, be relieved from duty in Department of Dakota, about June 20, 1887, and he is granted leave of absence from the date when so relieved to include August 27, 1887.

FRYER, B. E., major and surgeon. Found incapacitated for active service by an Army Retiring Board and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

HALL, JNO. D., captain and assistant surgeon. Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 18, 1887.

WALTON, THOMAS C., surgeon. Ordered June 15, for examination preliminary to promotion as medical inspector.

PRICE, A. F., surgeon. Detached from special duty, Annapolis, Md., proceed home and wait orders.

FLINT, JAMES M., surgeon. Detached from the "Albatross" and ordered to the Smithsonian Institution.

WILLSON, W. G. G., passed assistant surgeon. Ordered to the Receiving Ship "Independence," Mare Island, Cal.

SOCIETY NOTICE.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Thirty-sixth Meeting of the Association will be held in the buildings of Columbia College, at New York, from Wednesday morning, August 10, until Tuesday evening, August 16, 1887. For all matters pertaining to membership, papers and business of the Association, address the Permanent Secretary, Mr. F. W. Putnam, at Salem, Mass., up to August 6th. From August 6th until August 17th, his address will be Columbia College, New York, N. Y.

ERRATUM.

In the account of operations at the City Hospital before the Massachusetts Medical Society, June 7th, three cases of cataract are mentioned as operated on by Dr. Williams, according to von Graefe's method; whereas the mode employed was, extraction through a corneal flap of medium size, as recommended by Lebrun, Liebreich, von Wecker, and others.

BOOKS AND PAMPHLETS RECEIVED.

Report of the Commissioner of Education for the Year 1884-85. Washington: Government Printing Office. 1886.

Wiener Klinik. Vorträge aus der Gesamten Praktischen Heilkunde ridigirt von Dr. Anton Bum. Die Mechanische Behandlung der Lumbago. Von Dr. J. Schreiber. Wien, 1887.

Granular Conjunctivitis with and without Pannus. By W. Cheatham, M.D. (Reprint.)

Twenty-Ninth Annual Report of the Washingtonian Home, 41 Waltham Street, Boston. 1887.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M.D. 1887. (Reprint.)

A Contribution to the Pathology of the Cerebellum. By E. C. Seguin, M.D. New York: J. H. Vail & Co. 1887. (Reprint.)

Infants, their Chronological Progress. By Prof. Stanford E. Chailé, M.D., Tulane University of Louisiana. 1887. (Reprint.)

Mental Epilepsy. By L. W. Baker, M.D., Superintendent Hospital Cottages for Children, Baldwinville, Mass. 1886. (Reprint.)

A Case of Internal Hydrocephalus, due to Disease (Thrombotic) in the Wall of the Straight Sinus. By Wm. Browning, M.D., of Brooklyn. 1887. (Reprint.)

Stricture of the Urethra: its Diagnosis and Treatment facilitated by the Use of Simple Instruments. With Original Wood Engravings. By E. Distin-Maddick, F.R.C.S., Edinburgh, Late Surgeon Royal Navy. London: Baillière, Tindall & Cox. 1887.

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-Legal and Economic Standpoint. By Hugo Erichsen, M.D., with an Introductory Note. By Sir T. Spencer Wells, Bart., F.R.S. Illustrated. Detroit: D. O. Haynes & Co. 1887.

The Physicians' Dose and Symptom Book, containing the Doses and Uses of all the Principal Articles of the Materia Medica and Official Preparations. Arranged in Alphabetical Order, etc. By Joseph H. Wythe, M.D. Sixth Edition. Completely rewritten and enlarged. Philadelphia: P. Blakiston, Son & Co. 1887.

Die Allgemeine Pathologie oder Die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse von Prof. Dr. Edwin Klebs. Erster Theil. Die Krankheits-Ursachen. Allgemeine Pathologische Ätiologie. Mit 66 Theilweise Farbigen Abbildungen im Text und 8 Farbentafeln. Jena: Verlag von Gustav Fischer. 1887.

The Vest-Pocket Anatomist (founded upon Gray). By C. Henri Leonard, A.M., M.D., Professor of the Medical and Surgical Diseases of Women in the Detroit College of Medicine. Thirteenth Revised Edition, Enlarged by Sections on Anatomical Triangles and Spaces, Hernie, Gynecological Anatomy and Dissection Hints. Detroit: The Illustrated Medical Journal Co. 1887.

A Treatise on Diphtheria, Historically and Practically Considered, including Croup, Tracheotomy, and Intubation. By A. Sanné, Docteur en Médecine. Ancien des Hôpitaux de Paris, etc. Translated, Annotated and the Surgical Anatomy added. Illustrated with a full-page colored lithograph and many wood engravings. By Henry Z. Gill, A.M., M.D., LL.D. St. Louis, Mo.: J. H. Chambers & Co. 1887.

A Practical Treatise on Diseases of the Eye. By Dr. Edouard Meyer, Prof. à L'Ecole Pratique de la Faculté de Médecine de Paris: Chevalier of the Legion of Honor, etc. Authorized Translation by Freeland Fergus, M.B., Assistant Surgeon, Glasgow Eye Infirmary. Colored Plates printed under the Direction of Dr. Richard Liebreich, M.R.C.S., Author of the Atlas of Ophthalmoscopy. With Colored Plates and 267 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

DIRECT FUNCTIONAL MURMURS, AND OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART.

BY JOHN GUTTERAS, M.D.,
*Passed Assistant Surgeon, United States Marine Hospital Service,
 Charleston, S.C.*

In a report of several cases of malignant endocarditis published in the *Medical News* of November 14, 1885, I dwelt upon the significance of a mitral, direct (præsystolic) murmur, which was proved by the autopsy, to have been unconnected with any lesion of the mitral orifice. The lesions found were those of an intense aortic regurgitation, and I concluded that the mitral direct murmur was due to the fact that, in default of the semi-lunar valves, the recoil of blood fell, during the diastole, upon the mitral valve, holding its leaflets tense and raised against the stream of blood coming from the auricle. The conditions were, therefore, recognized to be the same with those first described by Flint.¹ As far as I know, this is the first case recorded in support of the views held by Professor Flint. I regret deeply that we cannot have today the aid of his opinion to decide whether I am right or not in giving these views a much wider field of application. In the opinion of Professor Flint the existence of this direct functional mitral murmur was limited to a very small number of cases of aortic regurgitation; and indeed this limitation was held up as an argument against his views by Dr. Balfour, of Edinburgh.* This observer claimed that Flint's murmur ought to be heard in all cases of aortic regurgitation, and that even in health the mitral cusps are floated up towards the auricle by the blood filling the ventricle in the normal process. He forgets, it seems to me, that in aortic regurgitation the leaflets are not floated upwards, but are actively driven against the auricular blood by the force of the general arterial tension. Now, it is one of the objects of this paper to show that the functional mitral murmur is by no means as rare as Dr. Flint believed it to be.

The diastolic murmur heard at the apex in aortic insufficiency is generally supposed to be a transmitted aortic murmur. Dr. Balthazar Foster claimed that this propagation is of diagnostic value as indicating a lesion of the posterior (mitral) aortic leaflet, because in such cases the regurgitant current trends towards the apex. I maintain that these propagated murmurs are in fact mitral obstructive murmurs, and that they are more apt to develop when the posterior aortic segment is affected, because in such cases the recurrent stream is brought to bear directly against the anterior leaflet of the mitral valve.

However this may be, the fact remains, I believe, that obstructive functional mitral murmurs are of frequent occurrence in aortic regurgitation. In three cases of this lesion that I have studied since the publication of my paper, the mitral murmur was readily detected. It is not difficult to separate the two murmurs. The diastolic fades perceptibly towards the end of the diastole, whilst, at the apex, a very distinct præsystolic accentuation precedes the imperfectly developed first sound. This feebleness of the first sound is also a result of the præsystolic tension of the mitral valves.

The following is an abstract from my notes of these cases:

CASE I. A. G., aged thirty-seven, colored. Physical signs: The superficial veins are prominent. The arterial pulsation is marked at the neck and the extremities. The apex beat is four-and-three-quarters inch below, and two to the left of the nipple. Palpation shows it to be a sustained impulse. During its slow collapse there is a smaller secondary impulse which corresponds with the recoil from a slight *visible* retraction which occurs at the moment of the systole.

Percussion denotes the existence of hypertrophy with dilatation. Auscultation. There is a loud double murmur heard at the second right interspace. The diastolic murmur which is louder and longer than the systolic, grows fainter towards the end of the diastole, so that there is a short silence between the ending of this murmur and the beginning of the systole. There is no aortic second sound. The murmur is loudly transmitted down the sternum, and can also be followed around the chest to the right axilla. At the second left interspace there is a distinct second sound. At the third left space near the sternum, the systolic murmur is lost, and a feeble first sound makes its appearance. At the third and fourth spaces, towards the apex, the feeble first sound disappears and a faint systolic murmur makes its appearance. The systolic and the diastolic murmurs can be followed around to the left anterior axillary line. At the apex the diastolic murmur is still the louder of the two, and is characterized by a lower pitch and a præsystolic accentuation. The latter feature is recognizable as far as the left anterior axillary line. The diastolic and præsystolic murmurs are intensified by exertion, whilst the first sound grows fainter and the mitral systolic murmur disappears. The effects of exertion, and the secondary apex beat should be noted as confirmatory of the views here maintained.

CASE II. D. S., aged thirty-three. Presents himself for treatment for acute dyspepsia. He is free from all symptoms of cardiac distress. Inspection shows well-marked cervical and infra-clavicular pulsation. There is no distinct apex beat, but a slight systolic tremor about the nipple. The apex beat is found by palpation to be indistinct, and situated behind the sixth rib in the line of the nipple. Percussion proves the existence of hypertrophy and dilatation of the heart. Auscultation. Diastolic murmur at the aortic cartilage and over the sternum, down to the xiphoid cartilage. The murmur commences with a booming second sound which is equally distinct at the pulmonary and aortic regions. The first sound is very weak and is accompanied at the base, with a short pulmonary artery murmur. Over the body of the heart, and as far as a point two inches beyond the apex, the diastolic murmur becomes higher pitched and presents a distinct præsystolic accentuation.

CASE III. H. A., aged fifty-eight. The physical signs in this case pointed to an enormous hypertrophy and dilatation of the heart, with dilatation of the arch, and obstructive and regurgitant lesion of the aortic valves. The double aortic murmur was sawing in quality, and could be heard all over the sternum. At the fourth, fifth, and sixth interspaces along the left border of the heart, there was a low-pitched, rumbling murmur, which was recognized by all those who examined the case as distinctly præsystolic in time.

Post-mortem. The heart weighed twenty-one and one-half ounces. The aorta was dilated. The aortic valves were short and thickened, especially about the

¹ Treatise on Diseases of the Heart, second edition, p. 207.

edges. The intercoronary segment presented a button-hole slit, with thick, hard edges, the result of sclerotic changes around a congenital fenestration. The mitral leaflets were opaque, large, and slightly thickened, but evidently competent, non-adherent, and smooth. The mitral orifice admitted the introduction of three fingers. The right heart was much smaller than the left, and its valves were healthy.

There was, in the same ward of the City Hospital, an Italian, thirty-nine years old, with a loud, aortic, regurgitant murmur. Marked cyanosis and intense dyspnoea were prominent features of this case. The heart was moderately enlarged. The pulse was small and irregular. There was a loud, præstolic, churning murmur, circumscribed to the region of the apex. These features were contrasted with the somewhat diffuse character of the murmur heard in the previous case, and a diagnosis of organic mitral stenosis was made. Both the mitral and the aortic lesions were found at the autopsy.

It will be readily admitted that a mitral stenosis, whether organic or dynamic, may increase the obstacles to the circulation. But this must not be considered as invariably deleterious. The safety of an over-distended ventricle must occasionally depend upon this check to the inflow of blood from the auricle. I have observed elsewhere that it may be said of this safety-valve action, as of many other compensatory modifications of the heart's action, "that there is no step tending to cardiac impotency which may not be, at some time, or within certain limits, compensatory and salutary."

But the existence of an obstructive safety-valve action in the heart will be more readily admitted in connection with the pulmonary artery. It is not, however, my intention to dwell much upon this problem, which must be of very difficult solution. I shall pass on to the consideration of some murmurs heard in the pulmonary region, principally with the object of calling attention to their great frequency, and of presenting for discussion the subject of their causation.

Pulmonary systolic murmurs are far more frequent than all other cardiac murmurs put together. I have noted the presence or absence of this murmur in one hundred consecutive individuals. This group consisted of all the patients in my wards at the Charleston City Hospital and in the United States Marine Hospital, together with the applicants to the out-patient department of the Marine Hospital Service. Among the last, besides the ordinary dispensary cases, were included a number of healthy individuals, who applied for a certificate of fitness for sea-duty. Now, I found that sixty-two out of the hundred individuals presented a systolic, pulmonary artery murmur proper, either during tranquil respiration, or during respiratory movements especially designed to produce changes of the blood-pressure in the pulmonary arteries. If account is taken, not only of the pulmonary artery murmurs proper, but also of all the peculiar bruits of cardio-pulmonary rhythm heard about this region, the proportion becomes still greater.

The region of the pulmonary artery has been called the region of romance, says Balfour, "because of the various interpretations which have been given to the murmurs having their position of greatest intensity in that situation." These various interpretations, however, are necessary to account for the variety of murmurs heard in this locality. The anatomical reasons

for the frequency of murmurs in this region are: the proximity of the pulmonary artery to the surface; the thinness of the walls of the bloodvessel; the nature of its surroundings; and finally, and most important of all, the proximity of the main trunk to the capillary distribution. It is particularly this last factor that I propose to discuss, and I shall consider it first in the healthy subject.

I have found that a systolic pulmonary murmur can be developed in the majority of healthy individuals, provided we exclude those who possess very thick chest-walls, and those who are not intelligent enough to modify their manner of breathing, according to directions, during the examination; and I further hold that the said murmur is generally a dynamic, obstructive, valvular murmur. It is produced by the action of changes of blood-pressure in the artery upon the play of the semilunar valves. After reaching a certain degree of pressure, the blood in the pulmonary artery evidently must commence to impede the opening of the semilunar valves. The resultant of the two forces, one propelling and the other impeding the onward flow, must be a slanting position of the valves, and, consequently, a narrowing of the orifice, and the production of a sonorous vein or whirl.

The fact that these obstructive dynamic murmurs are much less frequently developed at the aortic orifice, I consider as confirmatory evidence of the views just expressed. If we take into account the greater power of the left, as compared with the right ventricle, and the wide distribution of the systemic circulation, it will be apparent that the aortic semilunar valves cannot be influenced by changes, of systemic arterial tension with the same facility as the pulmonary valves are influenced by changes in the pulmonic circulation. There are, however, cases in which an increase of the general arterial tension is expressed, not alone by the accentuation of the second aortic sound, but also by an aortic systolic murmur. I have heard such a murmur in incipient atheroma and Bright's disease, where there was no marked anæmia; and probably all of us have seen cases in which a post-mortem examination failed to confirm the diagnosis of aortic obstruction made during life.

Returning now to the pulmonary artery murmur, as it is heard during ordinary breathing in the healthy subject, I have to say that it is almost exclusively circumscribed to the expiratory act. I hear at once the objection that it is simply a pressure-murmur resulting from the uncovering of the anterior surface of the heart by the receding lung; but this argument can be easily disposed of, for the murmur is loudest, not at the end, but at the beginning of expiration. It is loudest at the moment in which the change from expansion to contraction of the chest sends a wave of arterial pulmonary pressure back against the valves of the pulmonary artery: in fact, in many cases, the murmur is heard only at this moment; namely, with the first beat that occurs during the expiration. It is at this moment (when the blood is retarded in the right heart and in the large veins, just after the beginning of expiration) that the fall of the respiratory curve of the systemic arterial tension commences.

In order further to develop this murmur, and to show the influence upon it of disturbances of the pulmonary circulation, it is only necessary to arrest the respiration. By so doing, the murmur is often developed when it cannot be found during tranquil breath-

ing. It is better to stop breathing during expiration, and especially at the end of normal expiration. A full expiration makes the murmur louder still, but then it sometimes becomes higher pitched and harsher, suggesting the possibility of pressure upon the artery by the stethoscope, or by the heart itself (Quincke's murmur). At the end of inspiration, it is much more difficult to develop the murmur, for several reasons: First, because it requires a longer arrest of the respiration at this stage to produce engorgement of the main trunk, the capillaries being then in a state of dilatation; second, because a prolonged inspiratory effort is soon accompanied by a noisy hum of the intercostal muscles, which very much obscures all other sounds; and finally, because the interposition of the anterior border of the lung interferes with the transmission of any murmur that may be present. Even against these odds, the murmur is frequently heard in inspiration, if the arrest of breathing is pushed long enough.

The most frequent form of this murmur, as heard in ordinary breathing, consists of a soft, short, systolic bruit, of medium pitch, heard with one or two beats during the expiration. It is often detected only during some excitement of the circulation, as at the beginning of an examination, or when the patient stands.

It is very interesting to watch the changes that may be wrought upon the pulmonary second sound by a prolonged arrest of respiration: first, there will be an accentuation of the sound, then a reduplication, then a murmur, and finally both the murmur and sound will become indistinct. Thus indicating the several stages of intensity of the pulmonary obstruction.

Now, in pathological conditions these different changes may be found as evidences of the pathological alterations, for instance, in mitral and aortic lesions, tuberculosis of the lung, fibroid phthisis, emphysema, asthma, pleurisy, pneumonia, embolism; in all of which conditions the valvular murmur is frequently encountered as a manifestation of the obstruction in the pulmonary circulation. A very significant example is found in a reported case of pulmonary embolism, in which the sudden closing of one of the large pulmonary branches was immediately followed by the development of a systolic murmur in the main trunk.

It is not rare, however, to meet in some of these lung lesions with other species of murmurs. One of these, first described by Quincke, is produced by a retraction of the lung, which causes the pulmonary artery to be pressed by the heart against the sternum during the systole. I have occasionally heard this murmur in cases of tubercular infiltration and adhesions of the left upper lobe; but it must be admitted that the evidences of retraction of the lung are very slight in some of the autopsies of cases published in support of this view. When cases of pregnancy and of pneumonia, are made to do service for this theory, under the supposition that the imperfect pulmonary expansion present in such conditions, must cause an uncovering of the pulmonary artery, I am so far from being convinced that I hold to exactly the opposite opinion, and it is this: That in many cases of collapse or disuse of some portions of the lung, such as we find in pleuritic adhesions, extensive bronchitis, and, above all, in phthisis, there is a compensatory activity of other portions of the lung which may include those that lie near the left border of the heart. As we speak of superior costal and of diaphragmatic

breathing, we may speak, in the present case, of mediastinal breathing. The puerile respiration which is produced in these portions of the lung is interrupted by the cardiac movement simulating thereby a pulmonary artery murmur. It is heard generally with the inspiration, disappears with the arrest of breathing, and covers a broader area than the murmurs of the pulmonary artery proper. It is further a very short, high-pitched sound, which appears to originate very close to the ear, and is frequently mistaken with exopercardial friction sounds. A murmur of the same nature is quite common in children and in persons with narrow chests.

Some murmurs heard in the pulmonary region have been supposed by Naunyn and others, to be mitral regurgitant murmurs propagated to the surface by the appendage of the dilated left auricle. I believe that the arguments advanced by Flint² against a general acceptance of these views are incontestable. The murmur heard over the pulmonary artery in mitral insufficiency is, as I have endeavored to demonstrate, an obstructive valvular murmur, and it belongs with the accentuated second sound and other evidences of obstruction of the pulmonic circulation. The auricular murmur of Naunyn is, in my experience, exceptional. I have recognized it when the following signs were present: auricular dilatation, a mitral regurgitant apex murmur, and a long systolic murmur of low pitch, having its point of greatest intensity to the left of the pulmonary artery. If influenced by respiration at all, I found the murmur to be louder during inspiration.

It will be readily seen that in all these conditions there is more or less obstruction to the pulmonic circulation, and the presence or absence of the pulmonary valve murmur will depend solely upon the different degrees of power of the right ventricle to overcome the obstruction.

Now, are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valves? A safety-valve action, which, together with the leakage in the dilated tricuspid orifice would tend to prevent engorgement of the lung by retarding the blood in the systemic veins where, for a time at least, it is less likely to do harm? This is certainly a difficult problem in mechanics; but I am inclined to think that the form of the valvular sinuses must give the artery, under conditions of pressure, a relative advantage in resisting the propelling force of the right ventricle.

There is still another murmur-like sound mentioned by Gerhardt, that may be heard in this most interesting region. It is commonly met with in excited conditions of the circulation, and is produced as follows: The thud of the cardiac systole is often of the same tone or consonant with the respiratory murmur, the latter thereby receiving a rhythmical intensification from the former, and giving rise to a sound which simulates very closely the murmurs of the artery proper. These murmurs by consonance are generally heard during inspiration, and they, of course, cease with the arrest of respiration. They can also be made to disappear by modifying the tone of the respiratory murmur, which can be done by inducing changes in the laryngeal element of that murmur.

Whatever tendency an anemic state of the blood may have to further the production of sonorous veins,

² American Journal of the Medical Sciences, January, 1886.

it must be considered operative also, in the conditions that I have attempted to describe in this paper. But aside from the fact that the influence of the changes of the blood is questionable. I think that there is evidence enough to show that the murmurs of anæmia find a sufficient explanation in disturbances of the valvular apparatus.

The fact that some of the cases included in my series of pulmonary obstructive murmur were cases of anæmia, does not invalidate the interpretation I have given of them. A considerable proportion of the anæmic subjects who present a pulmonary artery murmur will be found to have also a mitral regurgitant murmur. The fact that an obstructive pulmonary murmur, or an accentuated pulmonary second sound is found in such cases is evidence enough to show that the mitral systolic murmur is not simply a ventricular murmur or a modification of the first sound, but is a manifestation of actual bicuspid insufficiency. Functional, mitral and tricuspid insufficiencies are as a matter of fact quite common in anæmia, being simply the result of ventricular contraction with a diminished volume of blood. The pulmonary murmur accompanying this insufficiency must be valvular obstructive. The views of Naunyn, already discussed in this paper, in connection with organic mitral murmurs, will be found even less applicable in anæmia. For if the transmitted murmur is often absent when we have distinct evidences of auricular dilatation, why should it be present at all when, as in anæmia, there is no evidence whatever of such a dilatation?

There is another mechanism by which murmurs are produced, in anæmia, throughout the vascular system. We have in anæmia a reduction of the volume of blood. The diminished calibre of the circulatory channels without lessening of the stream velocity gives rise to the formation of sonorous whirls, because the valves require a certain amount of expansion of the vessels in order to apply themselves smoothly to their walls, without giving rise to some obstruction. The normal rhythm of these murmurs shows that they are intensified during the partial collapse of the jugulars; and I have noted in two cases the complete disappearance of the cervical hum, in anæmic females, during the general vascular engorgement that is noticeable sometimes before menstruation.

I hold therefore with Duchek that venous hums, and basic murmurs also, are of valvular origin, not as he believed, that the valves themselves are the starting point of sonorous vibrations, but that they act as obstacles to the circulation, and producers of sonorous whirls.

The valvular theory of venous hums received a decided check in the fact that the murmur was found in cases where the jugular veins proved to be valve-less. But I have no doubt that in such cases the murmur is due to regurgitation into the jugulars. I occasionally see a young sailor who has but slight anæmia and who presents on the right side the loudest jugular hum that I have ever heard. It differs from the ordinary anæmic murmur in the fact that it grows feebler and may even disappear during inspiration. It is further distinguishable as a murmur, not of diastolic but of præ-systolic intensification (cardiac time). It is loudest, therefore, at the moment of the auricular systole, corresponding with the negative pulse of the veins. I have concluded that there must be in this case some defect of the jugular valves.

THE TREATMENT OF PHTHISIS BY INHALATION OF ANTISEPTICS THROUGH COMPRESSED AIR-VAPOR. REPORT OF EIGHT CASES.

BY EDWARD O. OTIS, M.D.

At the present time, something more is being attempted in the treatment of phthisis—I do not include climatic treatment—than the old-time opium, cod-liver oil, and lies, accompanied, on the part of the physician, with skepticism and consequent lack of interest, and on the part of the patient, with hopelessness or self-deception as to the final result.

The new methods, first of all, have given the physician a deeper interest, or *some* interest, in his consumptive cases, and more eagerness and hope in their management. Without some ray of hope in the prognosis, the doctor is of little good to his patient, and the visits of a cheery friend will probably produce better results, or, at least, are more to be desired.

The new methods are those of pneumatic differentiation with the cabinet; compressed air-vapor, with antiseptics; gaseous enemata; direct injections of antiseptics into lung cavities, as practised by Dr. White, of New York; and, in some few cases, incision into a lung-abscess and drainage.

During the winter, I have treated eight cases of phthisis with compressed air-vapor and antiseptics at the out-patient department of the Carney Hospital, and although so few to report, still they may afford some reflection as to this method of treatment. The instrument used was one manufactured by Messrs. Codman and Shurtleff, and kindly presented to the hospital.

The inhalations were given every day, or as often as the patients would come, and for about ten minutes at a time. The patients were under treatment from a few weeks to two or three months. Only two formulae were used, those first suggested, I think, by Dr. Evans. They are as follows:

No. 1.	R	Carbolic Acid	3 iss-3 iii.
		Borax	3 ii.
		Glycerine	3 ss.
		Aque distill. ad	3 iv.
	M.	Filter.	
No. 2.	R	Co. Tinct. Iodine	m 7.
		Tinct. Conium	m 15.
		Glycerine	3 iv.
		Aque ad.	3 iv.
	M.		

The patients were taught to take full, deep inspirations, and told to practice this at home and in fresh air. General hygienic rules of living were given, and in nearly all cases, the compound syrup of the hypophites was administered.

CASE I. L. M., thirty-five years, widow. Husband died of phthisis; no family history of tubercular trouble. Has had cough in the morning, only, for four years. Muco-purulent expectoration; loss of strength; shortness of breath.

Physical examination: Dulness of the summit of the chest on the left side, with subcrepitant râles. Tubular respiration in a circumscribed spot at about the third rib. Roughened respiration, with subcrepitant râles at the summit of the right side. A few moist râles at the left base. Weight, 99 pounds.

She was under treatment between two and three months, but not every day. Her weight increased to 101 pounds, and she said she felt stronger and could breathe better. The physical examination, however, indicated no change.

CASE II. J. H., thirty-six years, teamster. Family history not known. Symptoms of pulmonary trouble developed after exposure. Hæmoptysis once. Mucopurulent expectoration; dyspnœa; loss of strength, flesh, and appetite. Night-sweats at times. Bacilli found in sputa.

Physical examination: Dulness, bronchophony, and moist râles at the summit of the chest, on the right side. Moist râles over the left chest, with dulness. Coarse, dry râles over left front. Weight, 130 pounds.

He was only under treatment about a month, and at the end of that time had gained eight pounds. His appetite had improved, and cough was better. The physical examination was the same as at the beginning.

CASE III. K. C., domestic, about twenty-two years. Family history good. Has not been well for two or three years. Cough for a few weeks only. Hæmoptysis; night-sweats; loss of strength and appetite. Mucous expectoration; scanty menstruation.

Physical examination: On the right front, above the level of the third rib, a few fine, moist râles and some squeaks. Examination otherwise negative. Weight, 125 pounds. This patient was very faithful in her attendance, and at the end of about two months the râles had disappeared, and no signs of trouble anywhere were discovered. Her appetite had improved, and she had gained two-and-a-half pounds. There was still, however, a little cough.

CASE IV. J. G., a young man of twenty years. No family history of tubercular trouble. Well, up to a year ago. Hæmoptysis; night-sweats; dyspnœa; loss of appetite and cough.

Physical examination: Dulness, tubular breathing, bronchophony, and moist râles at the summit of the chest, on the right side. Moist râles and harsh respiration over the left front. He had constant hæmoptysis, rapidly failed, and died in nineteen days after he first came to the hospital.

CASE V. N. H., a frail, delicate child of eleven years. Phthisical family history. Hæmoptysis; night-sweats; loss of appetite.

Physical examination: Dulness; tubular breathing; moist and dry râles at the upper part of the chest, on the left side. Harsh respiration and a few dry râles on the right side. Weight, $47\frac{1}{2}$ pounds. She was under treatment about a month, and gained a pound-and-a-half. She was then sent to the Children's Hospital, where she could have better care than it was possible for her to have at home; and besides, the risk was great in coming to the hospital during the inclement winter weather.

CASE VI. A. M., a young woman of twenty years, of good family antecedents. The trouble is of about a year's standing. Cough; purulent expectoration; chills; occasional night-sweats; dyspnœa.

Physical examination: Dulness over the front of the chest, most marked on the left. Dry râles on the left front: rough respiration on the upper right front, and a few moist râles over the corresponding portion of the back. Weight, 119 pounds.

After about a month's treatment, there seemed to be some slight improvement. No chills or night-sweats.

CASE VII. C. L., a young woman of eighteen years. Mother died of phthisis. Her trouble began about two years ago. Hæmoptysis; night-sweats; temperature 101.5° , pulse 116.

Physical examination: At the summit of the chest, on the left side, dulness and abundant moist râles.

Weight, 120 pounds. No improvement followed the use of the inhalations. The acute symptoms persisted, and at the last report her weight had fallen to 115 pounds. Antipyrine was given for the fever.

CASE VIII. E. W., a man of fifty-two years, with a good family history. His present trouble began about six months ago, when he began to lose flesh and strength. Now has cough, mucopurulent expectoration, occasional night-sweats.

Physical examination: Lack of resonance at the left apex, with abundant moist râles. Weight, 130 pounds.

About a month later, his weight had increased to $137\frac{1}{2}$ pounds, and there were but a few moist râles at the left apex. His appearance was much improved.

Several other patients began with the treatment, but did not follow it up long enough to make it worth while to report them.

So far as one can draw any conclusions from these few cases, they would be these: in advanced cases of phthisis there was no essential improvement, but sometimes an amelioration of some of the symptoms; in beginning cases, there seemed to be some real improvement.

From the necessities of out-patient practice, the inhalations could be given but once a day, and then for too short a time. I am of the opinion that in order to obtain the best results from this method of treatment, the inhalations should be given two or three times a day, and from fifteen to twenty minutes at a time.

Certain it is that the patient learns to breathe more properly, and to take deeper and fuller inspirations, which, in itself is of no small importance. Indeed, I think much pains should be taken in teaching the consumptive how to expand his lungs fully—that which many well people do not understand. Light, free, hand-gymnastics, such as is taught in the gymnasiums now, are calculated to expand the chest, seem to me to be an important auxiliary to other treatment. It is a good thing to place the patient against the wall, straighten up the shoulders, and to teach them to keep them thrown back in walking, which enables them to take fuller and deeper inspirations. Walking with the palms of the hands turned out, as one sees the cadets do at West Point, is also a capital device for keeping the shoulders back.

If this form of treatment is likely to be used in any case for a long time, as it should be if any pronounced results are to be obtained, it would be better to have a large reservoir for the compressed air; the constant pumping is tiresome and annoying.

As to the antiseptics used, I suspect that it does not make so much difference what they are. Of the two used in these cases, I could not see much difference in the results; the carbolic acid one seemed to be more irritating than the iodine. This method would seem to offer enough to warrant further trial.

—The recent serious and nearly fatal illness of Prof. Billroth, from which he is now, however, happily convalescent, consisted at first in a sharp attack of bronchitis which confined him to his bed. Then acute pneumonia supervened. These conditions, combined with fatty degeneration of the heart, brought about a state of alarming prostration. He appears to have derived most benefit from inhalations of pure oxygen, which were prepared for him every day.

Clinical Memorandum.

A CASE OF BERI-BERI.

BY H. J. POMROY, M.D., OF BROOKLYN, N. Y.

As the attention of the readers of the JOURNAL has been called to cases of beri-beri quite frequently of late, perhaps the following history of a case might prove of interest:

D. K. P., an American, fifty-three years of age, has followed the sea since boyhood. While in command of a barque, he visited many foreign ports, and, consequently, many different climates. During the last few years he has resided, and has been engaged in mercantile pursuits, in the city of Para, Brazil. He had always enjoyed good health until a few months before his departure from Para, in the spring of 1885. His present illness began with swelling of the feet, gradually extending upwards to the thigh, scrotum, and abdomen. As the swelling increased, his appetite and strength diminished. He had no pain. Slight numbness in the lower extremities, especially below the knees. Finally, dyspnoea, slight cough, with scanty expectoration. No dimness of vision or nausea. Bowels constipated. From the first, the patient recognized the disease as beri-beri. Having seen and heard of persons similarly affected, and being aware of the fatality of the cases which had reached the stage of effusion into the thoracic and abdominal cavities, he decided to take the only known measure of relief, namely, change of climate. When only a few days out from Para, bound to New York, he experienced great relief from dyspnoea, and with an increase in the daily amount of urine, his œdema subsided. I did not see him until two weeks after his arrival in New York. There was no apparent anaemia. He was, on the contrary, decidedly plethoric. There was no ascites at this time. The heart, lungs, and liver were normal. The specific gravity of urine was 1015. The amount in twenty-four hours, 1800 cc. Normal color and reaction; no albumen. Microscopical examination revealed nothing abnormal. There was œdema of the legs below the knees, the skin pitting on pressure. The patella reflexes were much diminished. No tenderness anywhere. Muscles, to the touch, appeared normal, and their electrical reaction was normal.

The patient sailed for Liverpool six weeks after his arrival in New York, to all appearances well. He had no medicinal treatment after leaving Para. Subsequently, on returning to Para, three months later, his friends expressed great surprise on seeing him alive and well. The patient says that in all probability, following the usual course in cases of beri-beri, he will have a return of the disease, and will be obliged to leave the country permanently. In his last letter, received some two months since, he stated that he was still in good health.

— According to the *British Medical Journal*, on June 9th, Mr. Victor Horsley removed a tumor in the dorsal region of the spinal cord from a patient under the care of Dr. Percy Kidd. The patient had been seen by Dr. Gowers, who diagnosed a localised neoplasm, and suggested operative interference. The tumor measured about one inch and a quarter by half an inch. The wound is now practically healed.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING.

THE annual meeting of the Council was held at the Medical Library, Boston, on the evening of Tuesday, June 7, 1887. One hundred and thirteen Councillors were present. The meeting was called to order by PRESIDENT GAGE, at seven o'clock.

The Secretary announced the names of ninety-seven Fellows who had been admitted during the year, and of twenty-seven who had died.

FINANCES.

The Treasurer's report showed the year's receipts—including a balance of \$1,767.37 from the previous year's accounts—to be \$10,516.21. The disbursements amounted to \$8,201.00, leaving a balance of \$2,315.21. The invested funds of the Society amount, as in the previous year, to \$32,420.17. The Society now bears upon its catalogue the names of 1,651 members.

The report further stated that assessment dues to the amount of \$55.00 have been remitted by vote of the Councillors, upon the recommendation of the Committee on Membership and Finances. Twelve members of the Society have lost their membership by removal from the State, and neglect of their assessment obligations. Since the last annual meeting the names of four Fellows have been dropped from the roll, with the approval of the Council, in accordance with the By-Laws, for five years' delinquency in assessments.

In accordance with the recommendation of the same Committee on Membership and Finances, reporting through Dr. Minot, it was voted that \$1,000.00 of the balance remaining in the treasury be distributed among the District Societies.

On recommendation of the Committee, dues were remitted to several Fellows, others were dropped from the roll for non-payment of dues, others were allowed to resign, and still others were permitted to become retired members.

DR. SHATTUCK reported for the Committee on Publications, and reminded the Councillors that at the Annual Meeting of the Society in 1888, the name of the successful candidate for the Shattuck prize of \$1,000.00, if such there be, would be announced.

DR. WHITE read the report of the Committee on the By-Laws of the District Societies, and the Librarian, Dr. Brigham, presented his annual report.

ELECTION OF OFFICERS.

The Committee on Nominations reported the following list of candidates for the offices of the Society for the ensuing year, and the same were elected by ballot: Dr. Thomas H. Gage, of Worcester, President; Dr. William G. Breck, of Springfield, Vice-President; Dr. Frank W. Draper, of Boston, Treasurer; Dr. Charles W. Swan, of Boston, Corresponding Secretary; Dr. Francis W. Goss, of Roxbury, Recording Secretary; Dr. Edwin H. Brigham, of Boston, Librarian.

On the announcement of the result of the ballot, the President thanked the Councillors for the renewed expression of their confidence and esteem.

THE NEXT MEETING.

It was voted that the next annual meeting of the Society be held in Boston, on the second Wednesday of June, 1888.

Dr. B. Joy Jeffries, of Boston was chosen Orator and Dr. Charles B. Porter, of Boston, Anniversary Chairman for that meeting.

APPOINTMENT OF COMMITTEES.

The President nominated, and the following were appointed to constitute the standing committee:

Of Arrangements.—J. B. Swift, H. C. Ernst, W. W. Gannett, O. K. Newell, V. Y. Bowditch, F. B. Harrington.

On Publications.—G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Finances.—F. Minot, B. S. Shaw, D. W. Cheever, J. Stedman, E. G. Cutler.

To Procure Scientific Papers.—C. W. Swan, G. S. Stebbins, J. R. Chadwick, R. H. Fitz, H. P. Walcott.

On Ethics and Discipline.—G. J. Townsend, G. E. Francis, A. H. Johnson, C. Howe, F. C. Shattuck.

On Medical Diplomas.—W. L. Richardson, A. H. Cowdrey, E. J. Forster.

CONNECTICUT STATE MEDICAL SOCIETY.

THE ninety-sixth annual convention of the Connecticut Medical Society was held May 25th and 26th, at Hartford, in the County Court House. This place of assembling (Superior Court Room) was the same as that of two years ago, when it gave universal satisfaction by reason of its airiness and lightness, and freedom from disturbing noises.

The first gathering, at 3 P. M., was the meeting of the Fellows, or Executive Council of the Society, and at least forty out of the full number of fifty-three were present. The exercises opened with the President's address to the Fellows, by Dr. T. M. Hills, of Willimantic, which was very brief. The principal recommendation was that the discussion of the "Proposed New Charter Question" should be considered closed, having already occupied the greater part of the time of one special and two regular meetings, and having been voted down at the last annual meeting by the decisive vote of 25 to 8. He noted the similarity between the organizations of the Connecticut and the Massachusetts Medical Societies, and thought the success of the Massachusetts Society showed that the organization was not at fault for any lack of interest. He also advised that a standing committee be appointed to watch the legislative enactments that, from time to time, might be brought before the State Legislature, which had a bearing on the practice of medicine, or upon the interests of the medical profession, and report to the Society such proposed enactments, with suggestions for action on the part of the Society.

A committee of three was appointed to consider the suggestions of the President in his address, and report to the next convention.

Several resolutions were then read by the Secretary, which had been received from various county societies. Three counties desired that the subject of any change at all might be dropped, and time allowed for other matters. One desired some change, but did not express any preference, except to say that it would be desirable to conform as nearly as might be to the

form of the Massachusetts Medical Society. One wished an increased representation in the body of Fellows; namely, five for the first twenty-five members in the county society, and one for each additional twenty-five members, making more nearly a *pro rata* representation, such as exists in Massachusetts, and thus being in effect nearly what the preceding society asked for. One society wished a revision of the Charter, essentially as called for by the proposed new charter, which was voted down last year.

These resolutions were referred to the Committee on County resolves.

A committee appointed last year to confer with committees from the homœopathic and eclectic societies, in reference to some practical action looking to the adoption of some such Act as that proposed by the American Medical Association to insure proper qualification among those practising medicine, then made a report that they had held conferences with committees from the other societies, and had drafted an Act, which was presented to the Legislature, but at so late a day in the session, that it was found impracticable to carry it through to final action, and it was laid over to the next session.

The Secretary laid before the meeting the circular of Dr. Dunglison, of the International Medical Congress Financial Committee, calling for pecuniary aid from the State medical societies. Subsequently, the Treasurer's report having shown that there was barely sufficient money in the treasury to pay the current expenses of the Society for the ensuing year, a committee was appointed, of one from each county, to solicit subscriptions in aid of the Congress.

The Committee on Honorary Members and Degrees recommended that Prof. J. C. Dalton be made an Honorary Member. Under the rule, this recommendation lays over, to be acted upon next year.

The Nominating Committee reported the following list of officers, who were all elected: President, Dr. Francis Bacon, New Haven; Vice-President, Dr. George L. Porter, Bridgeport; Treasurer, Dr. E. P. Swasey, New Britain; Secretary, Dr. S. B. St. John, Hartford.

The Committee on County Resolves reported, favoring no action in the matter of amending the Charter. The report was not accepted, and after considerable discussion, in which the question of increased representation was considered, it was voted to appoint a committee of two from each county to consider the question of amending the Charter, and report at the next convention, with the draft of an Act, if thought best to make any change. Thus the question which has kept the executive meetings in a ferment for three years is to be upon the carpet for another year, at least.

The Society adjourned, to meet in special session at 7.30 P. M., to listen to a paper on

ULCERATION OF THE OS UTERI,

by Dr. E. W. CUSHING, of Boston, who had been specially invited by the Society to address the convention. The paper was a very interesting one, and was listened to with marked attention. While free from any attempt to display great erudition, it was full of suggestions that the author was thoroughly at home in the literature of the subject, and the illustrations, many of which were microphotographs, made by Dr. Cushing and Dr. Parker, of Lowell, who was present, and kindly assisted in

showing them by means of a stereopticon, showed that the recent theories regarding the part taken by the glands of the cervix in these so-called ulcerative processes have a substantial basis of fact. The microphotographs showed that, in many cases where there seemed to be great loss of substance, the layer of cylindrical epithelium was still intact, and so long as this was the case, it was held that true ulceration had not taken place. In other instances this line of cylindrical epithelium was absent, as in the case of carcinomatous and tuberculous ulceration. The condition known as erosion is rather an active formation of glandular tissue.

In the discussion which followed, Dr. CARMALT said he considered Dr. Cushing's microphotographs clearly demonstrated the transition of adenoma into carcinoma, and thereby confirmed the views he had held and taught for many years. It also demonstrated the correctness of the Thiersch and Waldeyer theory of the epithelial origin of carcinoma—a theory which is constantly receiving confirmation by investigations in various fields of surgery and pathology. It follows from this paper that, in operating, the incisions must be made deep enough to remove all the glandular new growth. The paper was further discussed by Drs. Storrs, Avery, and Ingalls.

The annual convention of the full Society assembled at 9.45. The Secretary's report showed eight deaths during the year, among them one of the ex-Presidents, Dr. Carleton, of Norwich, a Harvard graduate. Seven removals and eight resignations or expulsions were offset by new members, to the number of twenty-eight, leaving a net gain of five members, and a total membership of five hundred and five. The new members are in about equal proportions from Yale Medical School, University of New York, and College of Physicians and Surgeons of New York, Harvard sending only one.

Only one delegate reported from sister societies, Dr. TAYLOR, from New Jersey.

Dr. A. E. ABRAMS, of Collinsville, read a dissertation upon

THE TREATMENT OF DISEASES OF THE EAR BY THE GENERAL PRACTITIONER.

He dwelt at length upon the harm done in considering an earache or an otorrhœa as of secondary importance, or as something for which very little could or need be done, and found, in the prevalence of this opinion, the reason for the existence of so much chronic ear disease as we are constantly meeting with. He urged the seriousness of even the simpler forms of children's ear troubles, and held that they should always be given close attention, while in those accompanying the exanthemata, the treatment should be even more carefully insisted upon. The use of leeches, hot water, and careful cleansing of the ear when discharge was present, was dwelt upon. The reader espoused the dry treatment method so far as applications go, though he advocated using the syringe for cleansing purposes. He found that his suppurative ear cases did better under the use of boracic acid than almost anything else.

Dr. CARMALT emphasized Dr. Abrams' remarks as to the importance of early attention, saying that physicians too often agreed with the parents that it was not necessary to pay much attention to a running ear.

Dr. ST. JOHN noted that a persistently running ear was not regarded without suspicion by the Life Insur-

ance Companies who viewed this matter from a business standpoint, and whose opinions were based on statistics from a large number of cases. They had discovered that a certain percentage upon their death-lists showed upon examining the detailed record that there was a history of persistent otorrhœa, and the death was ascribed to meningitis, abscess of brain, or other head affection which might reasonably be joined to the ear trouble in the relation of cause and effect. He also, in speaking of the treatment, said that he could not get uniform success by using boracic acid or any other powder, and while he used boracic acid a great deal and regarded it as almost invaluable, yet he believed it applicable only to those cases in which a large opening existed in the membrana tympani through which the powder could easily make its way into the tympanic cavity. In a large class of cases in which the perforation was small, he had been much disappointed in its use, and notably in those obstinate cases in which the opening is in Schrapnell's membrane. In these cases he still relied on the use of thorough cleansing by the syringe, especially by the "middle ear syringe" and the use of astringent remedies.

The Committee on Matters of Professional Interests reported that they had sent a circular letter to many members, asking answers to various questions. The circular asked "the usual fees and mileage for medical attendance," "the fees for obstetrical cases, complicated and uncomplicated," and "proportion attended by unqualified midwives;" also the "proportion of death certificates returned by persons not graduates from recognized medical schools (regular homœopathic and eclectic)"; medico-legal cases were also asked for. The questions in the circular were prompted by the introduction into the Legislature of the bill before referred to. The Report of the Committee says: The answers show

First, that visits throughout the State are 75 cents to \$3.00, mileage 25 cents to \$1.00. Office fee 50 cents to \$2.00. Obstetrical fee \$5.00 to \$25.00 for ordinary cases. In county towns with low fees, nearly all obstetric cases are attended by regular physicians. In cities with large fees unqualified midwives thrive and grow fat. In the cities they attend about one-third of the births. The committee suggested lowering the fee in cities so as to drive out the ignorant midwives. If this were not done, we should advocate schools for the better training of midwives.

The Report was accompanied by an account of three cases in which the ignorance of the midwife was undoubtedly the cause of the woman's death.

Dr. G. R. SHEPHERD, of Hartford, read a paper on

CLIMACTERIC GLYCOSURIA,

giving the histories of four cases he had noted, and adding an exhaustive review of the literature of the subject. He found these cases are not like ordinary glycosuria, in that there is not any marked thirst or emaciation. One case showed obstinate pruritus vulvar as the prominent symptom, which disappeared spontaneously, as did also the sugar in the urine three years later. The second and third cases were almost counterparts of this, and in all, the establishment of diabetic regimen had little or no effect upon the amount of sugar in the urine.

The fourth case complained chiefly of pruritus vulvar, and examination showed between the swollen labia a considerable deposit of whitish material, which the

microscope proved to be identical with sugar fungus, and a large amount of sugar was found in the urine. The special features in these cases were noted, as glycosuria appearing in women at or near the climacteric period, accompanied by but one symptom calculated to attract attention, namely, pruritus vulvar of chronic and obstinate form, the disease continuing several years without detriment to the general health, and subsiding spontaneously, apparently uninfluenced by treatment.

A paper on the

RELATIONS BETWEEN SCROFULA AND TUBERCULOSIS, by DR. KENT, of Putnam, was an earnest attempt to establish some order in what is apt to be regarded as a chaotic subject, and though laying no claim to originality, it showed extensive and intelligent reading. His conclusions were (1) that manifestations of scrofula are commonly associated with tubercle, either fully formed or embryonic; (2) the form of tubercle met with in so-called scrofulous diseases is usually of elementary character; (3) scrofula, therefore, indicates a milder form or stage of tuberculosis, and the two processes are separated simply by degree.

In a paper on

NEW REMEDIES.

DR. RUSSELL dwelt upon antipyrine, thallin, kairin, antifebrin, paraldehyde, and cocaine. Antipyrine was specially recommended in typhoid fever, pneumonia, and tuberculosis. He thought it a "prompt, reliable and powerful antipyretic." Thallin is less known, and perhaps not so effective. Kairin is more likely to cause collapse. Antifebrin is four times as powerful as antipyrine, and deserves further trial. Paraldehyde produces in fifty m. doses quiet dreamless sleep, possibly preceded by a stage of excitement: it appears to be superior to chloral in nervous insomnia, especially in that from over-use of alcohol. It may be well given as enema with yolk of egg and infusion of marshmallow, and should not be used hypodermically. In the discussion a case was given in which the insomnia resulting from withdrawal of morphine in an opium-eater, was overcome at once by paraldehyde.

The Society then adjourned to the annual dinner.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting May 5, 1887.

DR. N. M. SHAFFER read a paper, prepared by himself and DR. R. W. LOVETT, of Boston, on

THE ULTIMATE RESULTS OF THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE; AN ANALYSIS OF FIFTY-ONE CASES OCCURRING IN THE SERVICE OF THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

All the cases were in dispensary patients, and all cases of excision were excluded. The difficulties met with in successfully carrying out a course of treatment among this class of patients in any chronic trouble, he said, were especially marked in the case of such affections as hip-joint disease, where the treatment was a matter of years, and also involved the use of mechanical apparatus. In order that satisfactory results could be obtained in such cases it was requisite that the dispensary should be fully equipped with suitable appli-

ances, and that the attending surgeons should have the co-operation of a competent and energetic out-door surgeon. The home-treatment entered largely into the result, and in a certain proportion of the cases, owing to the peculiar circumstances of the patient, hospital treatment would be necessary.

The results given in the paper were recorded by Dr. Lovett, and the following were among the points fixed upon as the bases of the investigation:

No case was considered which had not been treated exclusively in the service of the Orthopædic Dispensary.

No case was considered which had not been discharged cured.

No case was considered which had not been cured for at least four years.

No case was considered which had not been under treatment for at least two years.

All the cases which came under these exclusive conditions were included in the report. The period considered was the five years from 1877 to 1882, and during this period there were treated altogether 778 cases of hip-joint disease at the institution. Of these, 168 cases, or over 21 per cent. were discharged cured, 261 discharged relieved, 49 discharged for neglect of orders, and 6 discharged as incurable; while 64, or between 6 and 7 per cent. died. Of the deaths, 20 were due to tubercular meningitis, 5 to amyloid degeneration of the kidneys or other organs, and 3 to phthisis. It was the practice to discharge patients *experimentally* cured; watching the effect of leaving off the apparatus for a time. In some of these it was necessary to resume the mechanical treatment for a longer or shorter period before they could be discharged permanently cured.

The plan of treatment adopted in all cases was to apply the long Taylor splint, and instruct the parents or friends in its use. Unless the recumbent posture were required by the special circumstances of the case, the patient was allowed almost unlimited exercise in the open air, and once a week it was expected that the child should be brought to the dispensary for examination. The aims of the treatment were: (1) To overcome by mechanical means any existing deformity. (2) To protect the affected parts from traumatism. (3) To secure free out-door exercise. (4) To maintain that position of the limb in which, in case ankylosis should result, there might be the least amount of deformity.

No operations were performed, with the exception of occasionally evacuating an abscess, and little medication was resorted to. Much credit, Dr. Shaffer thought, was due to the efficient assistant surgeons of the institution for their faithful devotion to the cases. The long splint used was made without any joint at the knee. He thought the results would probably have been even better than they were if an intermediate apparatus had been employed, as was usually done in private cases; but on account of the additional expense involved, the institution was unable to provide this.

Of the fifty-one cases on which the paper was based, four were ascertained to have died. Two of the deaths were due to tubercular meningitis, and the other two to acute pneumonia; the latter patients having been in good health up to the time of the attack which carried them off. Of the remaining forty-seven, six had relapses. One of these patients remained well two

years, two, three years, two, four years, and one five years; and in one of these cases the relapse was due to a fall from a cart. In one of the cases excision of the hip had been performed, and the patient, at the end of a year, was still in bed. In the other five the treatment by traction had been resumed, and of those, two were cured a second time, two were now nearly well, and one was slowly improving.

Passing on to speak of the difference in the length of the two lower extremities. Dr. Shaffer said that the amount of shortening did not seem to depend on the presence or absence of abscesses; although there was a larger proportion of cases of shortening with abscess than of those without. The influence of age on the amount of shortening was quite marked; the greatest amount of shortening occurring in late cases, that is, when the patients were over ten years old when the trouble commenced. It was a fact worthy of note that the difference in the length of the limbs almost always increased slightly after the case had been discharged cured. As to the difference in the circumference of the two thighs, in the majority of instances it was between one and two inches; and when the result was most perfect this was never less than one inch. No relation was observed between the amount of shortening and that of atrophy. The atrophy of the calf was more marked than that of the thigh in after years. A study of these cases seemed to show beyond a doubt that the muscular growth of the limb received a shock from the occurrence of hip-joint disease from which it never afterwards fully recovered. The atrophy might doubtless have been diminished by massage and other appropriate treatment; but in dispensary practice it was not practicable to carry such a course of treatment out.

In nineteen of the cases recovery took place with ankylosis. Three of the patients had perfectly free motion in every direction. The presence or absence of abscess seemed to have little influence on motion. An investigation of these cases showed that the amount of motion, as a rule, grows less, instead of greater, as time goes on; and in no case did the motion increase after the discharge of the patient. A careful examination was made in regard to the presence of lateral curvature of the spine, and it was found that in only one out of forty cases was there anything at all approaching true rotary lateral curvature. In this case, however, the latter condition was not really present. It was found that after cure the limb on the diseased side does not grow as rapidly as the unaffected one, and Dr. Shaffer thought this was no doubt the reason why the difference between the length of the two limbs so often became greater as time went on. In case of ankylosis, adduction, rather than flexion, was the thing to be most avoided.

In conclusion, he stated that these cases showed that conservative methods of treatment gave better results than ex-section. Excluding the four cases which died and the six which relapsed, there was not a single individual among the patients who were incapacitated for pursuing a useful avocation.

Dr. Lovett stated that as a part of the work included in the present investigation, he had visited and examined three patients at their homes, and he had found that, taken altogether, they were an exceptionally healthy set of people. There were only four who were not in robust health. One of these was a boy, who was the only one of the number who used a

crutch or cane; and the other three were young women who, while anæmic and inclined to be delicate, presented no signs of tuberculosis. There were very few who wore high soles on the affected side; although quite a number had tried this for a time, but found that they could get along better without this device. As had been remarked, adduction was the unfortunate deformity resulting from hip-joint disease. It made the gait ungainly, gave rise to pain in the back, and rendered the practical shortening of the limb a good deal in excess of the actual bone shortening. Nearly half of all the cases complained of more or less pain in the affected limb during damp weather; but in not a single instance was there the slightest reason to suspect any return of the disease.

DR. J. F. RIDLON said that by this paper the claim was substantiated that hip-joint cases could be successfully treated in dispensary practice. Having been for six years connected with the Orthopædic Dispensary, three of which were spent in the out-door department, he was very familiar with such cases as those described. It seemed to be assumed by Dr. Shaffer that all the cases were of tuberculous nature; but personally he believed that many cases which were supposed to be of strumous origin were in reality due to traumatism. He also thought that a considerable proportion were due to inherited syphilis. It therefore seemed reasonable that the causation of the trouble should modify the treatment adopted, to a considerable extent. In traumatic cases, where there was more or less dead bone present, he thought it was good surgery to cut down and remove it. If such cases were allowed to go on without operation, they were very apt to end fatally; while in instances of this kind where even a very large fragment of dead bone was removed, he had seen the patients make a perfect recovery. If a diagnosis of inherited syphilis were made, antisyphilitic treatment should be employed, in addition to the usual splint. He had, indeed, seen one or two syphilitic cases get well under antisyphilitic treatment, without the use of mechanical means at all. He was convinced that many cases which were supposed by orthopædic surgeons to be of tuberculous character were in reality syphilitic, and he knew of one case of this kind which was treated with simply a hip-splint for two years, when a syphilitic eruption appeared. As to whether there was any way of deciding whether a case was tubercular or syphilitic, he thought, was a matter worthy of investigation; and it seemed to him that it was advisable to try the effect of internal remedies in addition to mechanical treatment.

DR. S. KERCH said that he thought Dr. Ridlon was mistaken in the statement that it was assumed at the Orthopædic Dispensary that all cases, without exception, were of tubercular origin. It was also a fact that quite a number of cases, in addition to mechanical appliances, were treated with such remedies as iron, cod-liver oil and the hypophosphites. His personal experience with the mechanical apparatus employed led him to consider that with it we had a most satisfactory method of treating hip-joint disease. Not only were good limbs secured, but also relief from suffering; and many of the cases were saved from the knife.

DR. LEWIS A. SAYRE said that the conclusions of Dr. Shaffer corresponded to a great extent with the views which he had been teaching for the last thirty years. If proper mechanical treatment was carried out, the patient usually recovered. Whether there

was a predisposition to tuberculosis, syphilis or other dyscrasia or not, he had observed that in almost all cases an exciting cause, however trifling, had been required to develop the trouble in the hip-joint, this traumatic influence serving to fix the pathological process at this particular point. If any hereditary taint were present, of course a very slight injury was required for the development of the disease. With appropriate mechanical treatment and the use, in suitable cases, of such measures as blisters, leeches and the hot iron, a fair result could usually be obtained; and there were scores of his patients in this city and elsewhere who now had perfect motion in the limb. Many of these he had seen in consultation with such surgeons as Mott, Willard Parker, Van Buren and Hamilton; and the results were so successful that it would never be suspected that they had ever had hip-joint disease at all.

If we could succeed in arresting the disease, Dr. Sayre went on to say, mechanical treatment was all that was required. But in spite of suitable mechanical means and the internal use of cod-liver oil, bi-chloride of mercury, or other remedies that seemed to be indicated, there were a certain number of cases which, instead of improving as time went on, only kept growing worse. If, therefore, caries went on increasing, with long continued suppuration, which was liable to result in amyloid degeneration, then the knife was the proper thing to resort to. Instead of letting a case go on for eight years, as had been done in some of those reported in the paper, with the health becoming all the time more and more impaired, he thought exsection was infinitely preferable. So far as results were concerned, these would be incomparably better than in serious cases of this kind in which it was not resorted to. In this connection he referred to two patients in whom he had performed exsection, one of whom afterwards became a champion foot-ball player and college athlete, while the other had earned a pair of silver skates for his agility on the ice. Yet these are cases in which he believed death would have resulted if he had not performed the operation.

For a number of years Dr. Sayre said he had only been allowed to do exsections in those who were already condemned to die, so strong was professional opinion against the procedure; and, consequently, his statistics were not as favorable as they would have been if he could have selected his cases. A certain number of cases had been referred to this evening as incurable; but he thought it was a great mistake not to give them the chance which exsection afforded. Of the seventy cases in which he had performed the operation, many were of this apparently hopeless character. As regards the condition of the spine in the subjects of hip-joint disease, while there might not be present true rotary lateral curvature, it was undoubtedly true that there was more or less lateral distortion in many of the cases.

Dr. V. P. GIBNEY considered the statistics presented in the paper a valuable addition to surgical literature, and particularly as regards the questions of ultimate motion and ultimate atrophy. It would seem from them that the common impression that motion increases, and atrophy diminishes as time goes on was an erroneous one. These were very important points, and they would serve to help us in our prognosis. Personally he had gained increasing confidence in the value of mechanical treatment. With it there were

no exacerbations, there was immunity from suffering, and the children grew hearty and robust.

Dr. A. B. JUDSON said that the limb would take the position that was most convenient to the patient. Adduction was particularly undesirable, and he thought that patients should be drilled so as to spend as much time as possible with their weight on the affected limb.

Dr. L. H. SAYRE said that as long as the patient showed improvement, however slow, mechanical treatment should be persevered in; but when, instead of improving, he steadily lost ground, he believed it was the best plan to remove the dead bone at once. He did not believe, however, in early exsections, and did not think the results thus obtained would at all compare with those of mechanical treatment.

Dr. SHAFFER, in closing the discussion, stated that he did not wish to be at all dogmatic in his views in regard to tuberculosis and syphilis. The only way that he could distinguish between the two was by the test of treatment, some cases getting well under anti-syphilitic remedies, and some not. In the early stages, he did not think we could make the distinction. It was important to remember that the paper was devoted exclusively to the results of mechanical treatment among dispensary patients, and he thought that these had unquestionably demonstrated the fact that one adequately equipped dispensary could do the work of three or four hospitals among this class of patients, and at a far less expense. In regard to medicines, the Orthopaedic Dispensary, on account of the large expenditures which it had to make for mechanical appliances, was not able to furnish these. In private practice, however, he was in the habit of using internal remedies whenever they seemed to be indicated.

He did not wish to bring up the question of mechanical treatment *versus* excision. The cases which were spoken of as incurable were those which were incurable as regards deformity, and not the disease itself. Patients with chronic suppuration and sinuses were not given up at all, but followed up until they died; and, in private practice, some of his best results had been in cases of this kind. If he could have the entire control of the child, the parents could be induced to give it the benefit of fresh country air and other needed hygienic conditions, a good result could almost invariably be obtained, provided amyloid degeneration did not occur. In his experience, there were fewer deaths and better general results from mechanical treatment, with this special oversight on the part of the surgeon, than from excision. In the patients which had been referred to in the paper as being eight years under treatment, the eight years were spent, not in combating sinuses, but in getting the best ultimate position and most serviceable limb. These were mostly cases of dry caries. He was not opposed to excision, but he believed that it should be resorted to but rarely. In cases of which he had the entire control, it was seldom or never necessary.

—The Health Committee in the canton of Vaud, Switzerland, has prohibited any public performances of hypnotism, magnetism, or somnambulism. Even medical and scientific men must obtain permission before being allowed to make scientific experiments on those subjects. The reports of recent experiments made in France, would seem to show that such restrictions were not uncalled for.

ASSOCIATION OF AMERICAN PHYSICIANS.¹

SECOND ANNUAL MEETING.

ATROPHY OF THE GASTRIC TUBULES: ITS RELATION TO PERNICIOUS ANÆMIA.

by DR. F. P. KINNICUTT, of New York.

The speaker gave the histories of two cases, in which the typical symptoms of pernicious anæmia were well marked. At the autopsy in each of these cases, nothing special was found in any organ but the stomach. The inner surface of the organ was smooth. Microscopical examination was made of numerous sections removed from different parts of the stomach. Throughout a large extent, no trace of gastric tubules was found. In some parts, the more superficial portions of the tubules could be found, but the deeper portions could nowhere be made out. There was also seen a peculiar hyaline substance, in the shape of tubes and of drops. Numerous irregular cells were seen near the surface of the mucosa. The author thought that, in this lesion of the stomach, was to be found the explanation of a certain number of cases of pernicious anæmia.

AFTERNOON SESSION.

DISCUSSION OF DR. KINNICUTT'S PAPER.

DR. FRANCIS DELAFIELD, of New York. In these cases of pernicious anæmia, it is natural to look for some influences which would affect the general nutrition. In a number of cases, marked changes in the mucous membrane of the stomach have been found. The main question is, whether the lesion of the stomach is to be looked upon as a cause or as the result of the pernicious anæmia. For myself, I look upon the lesion of the stomach as secondary, and not primary. If we attribute the anæmic condition to the lesion of the stomach, the condition must be due to a form of starvation. In many other diseases leading to starvation, we do not find the symptoms of pernicious anæmia developed.

DR. F. P. HENRY, of Philadelphia. The cases reported by the author, taken in connection with other cases which have been recorded, demonstrate that there is a form of anæmia associated with, and, I think, dependent upon, atrophy of the gastric tubules. That this condition is primary, and not secondary, is, I think, sufficiently attested by the fact that it is not found in any other condition. Such an extreme degree of atrophy has not been found in any other condition with which I am acquainted. In the case reported by Dr. Osler and myself, there was complete absence of the peptic glands. It was impossible that any form of gastric digestion could be accomplished. In cases of starvation there is a capacity for digesting food, and in these cases, I think that the condition of the blood which we consider pathognomonic of pernicious anæmia does not exist.

DR. WILLIAM OSLER, of Philadelphia. There is unquestionably a group of cases of pernicious anæmia in which there are serious lesions of the gastric mucous membrane, although these lesions are not always the same. I think that it is quite impossible to distinguish clinically the cases with gastric atrophy from the cases without these lesions. In a case of two years' standing, although the symptoms were marked, the autopsy revealed no serious lesion of the stomach.

DR. F. P. KINNICUTT, of New York. In my paper, I distinctly stated that this lesion was found only in a certain number of these cases.

A THIRD CONTRIBUTION TO THE STUDY OF LOCALIZED CEREBRAL LESIONS.

by DR. E. C. SEGUIN, of New York.

The first case reported related to the location of the facial centre. The patient, a boy of seven years, was first seen in January, 1885. He had been complaining of numbness in the right hand. The right leg and arm were slightly paretic. There was no headache and no aphasia. Shortly after, this clonic convulsive movement occurred in the right cheek, and both eyeballs were turned to the right. This lasted for over two hours. At times the speech was thick. There was no history of serious injury, and there was no evidence of pulmonary, renal, or arterial disease. There was no cranial tenderness on pressure. The tongue, when protruded, deviated to the right. The diagnosis was meningeal adhesion over the precentral region. Iodide of potassium was given in gradually-increasing doses, until from sixty to seventy-five grains were taken. Early in April of the following year, symptoms of tubercular meningitis developed, and the child died after an illness of three weeks. At the autopsy, the ordinary lesions of tubercular meningitis were found. In addition, there was a patch of adhesion situated over the left precentral gyrus and the caudal part of the second frontal gyrus. This was one inch in diameter. This would indicate that, in the human brain, the facial centre is in the caudal end of the second frontal convolution.

The second case related to the situation of the leg centre. A patient, aged forty-nine years, suffered with paresis of the right leg, and clonic spasm of the right abdominal muscles. There were right hemi-epileptic attacks, the spasm beginning in the abdominal muscles, and extending to the arm and leg. These attacks were repeated without loss of consciousness. Paralysis of the right leg, and paresis of the right arm developed. There was no aphasia, and no choked disc. Attacks of a syncopal character occurred, in one of which the patient died. At the autopsy, a large sarcomatous tumor was found, involving the cortex of the paracentral region gyrus. Two small nodules were found in the white substance below the principal tumor. This would indicate that the nerve-centre for the leg was in the paracentral lobule.

DISCUSSION.

DR. JAMES J. PUTNAM, of Boston. With reference to the leg centre, I would report a case recently under my care: A man of forty-five, suffering with locomotor ataxia, probably of syphilitic origin, suddenly developed convulsions of the right arm and leg, without loss of consciousness, and without change in the voice. The symptoms relating to the arm entirely passed away, but the leg never recovered its normal condition. The patient died some time later, and, at the autopsy, a small hæmorrhage was found at the lower edge of the paracentral lobule.

DR. F. T. MILES, of Baltimore. A patient of mine suffering with Bright's disease suddenly became hemiplegic, without the voice being affected. The arm and leg were affected. He rapidly improved, but the leg remained weak. He complained a great deal of a dragging in the shoulder. At the autopsy, the only

¹ Concluded from page 613.

lesion that could be found was a hæmorrhage of the size of a bean in the paracentral lobule.

DR. H. M. LYMAN, of Chicago. Some months ago, I saw a case in which there was a sudden convulsion without loss of consciousness, the left arm being principally affected. These convulsions were repeated. There was a paretic condition of the left arm, which, in a few days, extended so as to involve the corresponding leg. The convulsive movements of the upper extremity continued to recur. They did not involve the face. The patient died, and a sarcoma was found on the right side, occupying the position of the centres for the arm and leg.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON THE SYMPTOMATOLOGY OF CHRONIC LEAD-POISONING,²

by DR. JAMES J. PUTNAM, of Boston.

The following conclusions were presented :

(1) It is probable that lead may cause neurasthenic symptoms, which may exist for a long time without other signs of poisoning.

(2) The same is true of fine muscular tumor, especially if associated with debility.

(3) The most important conclusion is, that lead seems to cause, occasionally, a greater or less degree of the symptoms classed as spastic paraplegia, instead of the usual type of paralysis, with atrophy and loss of the deep reflexes.

(4) Additional evidence is furnished of the importance of suspecting lead as a cause of vague cerebral symptoms, such as are often due to syphilis.

(5) In one case of epilepsy in a person not predisposed, and where the probable first attack occurred at the age of twenty-five, besides the discovery of lead in the urine, there was a slight weakness and impairment of electrical reaction of the long extensors of the fingers.

Two cases of ataxia, with extensive muscular atrophy and other signs of peripheral neuritis, were reported, probably due to lead.

FORMS OF TYPHOID FEVER SIMULATING REMITTENT MALARIAL FEVER.

by I. E. ATKINSON, M.D., of Baltimore.

Continued fever simulating remittent fever is often observed in malarial localities especially, and is often regarded as such or as typho-malarial fever. While it is now generally recognized that the latter title does not designate a specific integral disease, every one admits the frequent concurrence of the two principles. The term is unfortunate, as misleading and encouraging lax habits of observation and treatment. The tendency to attribute the later evolution of frank typhoid symptoms from what at first appeared to be a malarial fever, to a transmutation of the latter disease to the former is of course unjustifiable. The theory that typho-malarial fever or continued malarial fever, is a combination of a septic and malarial poison as defended by Loomis and others, is rejected, for the reason that the term sepsis is used too indefinitely, and cannot explain facts in the course, history and pathology of the affection, which, however, may be perfectly reconciled with a typhoid origin. It is apparent that the term typho-malarial is made to include many groups of atypical cases. The object of the present paper is to describe forms of typhoid fever, in

which all the usually characteristic symptoms are absent, except mild fever. The cases commonly occur during the late summer and early autumn. They begin with a chill or insidiously, and assume a course of a mild remittent type, never passing into a typhoid condition, never developing the characteristic symptoms of typhoid, yet absolutely uninfluenced by anti-periodic treatment. They last three, four or even five weeks, and almost always end in slow lysis and recovery. They resemble malarial conditions, except in the persistence of fever, under strongly anti-malarial treatment, and in the occasional concurrence of circumstances pointing to a typhoid origin. There is no hebetude, the patient sleeps well, the tongue is slightly coated, there is almost never epistaxis; constipation is commonly observed, there are no bloody stools, no tympanites, no iliac tenderness, nor gurgling, and rose spots are usually absent. The patient is bright and cheerful. The more severe cases after beginning as remittents, may gradually evolve typhoid symptoms. Three cases were reported showing the type of fever described, occurring under conditions indicating their typhoid origin. While typhoid fever is one of the most characteristic of diseases, its special symptoms are very inconstant. There is not a sufficient realization of the mildness with which it often runs its course. Walking typhoid, although usually considered rare, is in reality frequent. Cases in which sudden accidents reveal their true nature, are probably but a small portion of the whole number. Our views of typhoid fever have been largely modified. Low ranges of temperature are now often encountered. Straube and Fraentzel and others, have reported severe forms of the disease with high mortality, although the temperature did not attain 102.2°. Normal and even sub-normal temperatures are sometimes maintained throughout the attack. In some cases a slight degree of fever heat is not at all uncommon. Liebermeister and others reports such cases. Loomis treats "mild typhoid" with walking cases, and states that the eruption appears early and is scanty and brief, and that diarrhoea is present in most cases. This is true of many cases, but there is a large class in which constipation is the rule and rose spots the exception; much larger than is generally admitted. Liebermeister and others described interesting examples. Dr. W. W. Johnson has most accurately described similar cases occurring in Washington. Malaria often complicates typhoid fever, but it oftener happens that its presence is assumed unjustifiably. A mental bias in favor of malaria is often strongly pronounced in the face of the strongest contrary evidence. The diagnosis of these cases from remittent malarial fever, often rests upon the crucial test of treatment. It is admitted that occasionally antiperiodic remedies fail to control the malarial paroxysm, especially in pernicious and adynamic forms. In milder forms the behavior under quinine, practically solves the difficulty. Where the full administration of the anti-periodic remedy, for a number of days, fails to terminate the attack, the diagnosis of typhoid fever becomes justifiable, and the prognosis can be made with a high degree of confidence. Not often earlier than the second, or later than the fourth week, the fever will terminate almost constantly by lysis, rarely by crisis. There are, however, exceptions, as shown by the occasional occurrence of death in walking typhoid and in other milder cases. Unquestionably, however, many cases of walk-

² To be published in full in a future number of the Journal.

ing typhoid are never detected. They may often, if examined, exhibit characteristic symptoms, diarrhoea, rose spots, splenic enlargement, etc., but in not a small number, these signs are not discovered. The true nature of many of these milder cases is never recognized, and the pathological responsibility is thrown upon febricula, simple continued fever, gastric fever, bilious remittent fever, remittent malarial fever, etc. In the future, a solution of the difficulty will be obtained through the knowledge derived from bacteriological research and culture observations.

DISCUSSION.

DR. WILLIAM H. DRAPER, of New York. I see many cases in New York which have been diagnosed as typho-malarial fever which I consider to be cases of typhoid fever. I think that the diagnosis of typhoid fever can be usually made in the course of the first week of the disease, by attention to the characteristic course of the fever. The nervous symptoms of typhoid fever are of great importance in the diagnosis. In considering a disease like this, we should study it in its totality, and not in its elementary parts.

Dr. Atkinson has spoken of the aid given by quinine in the diagnosis. My own experience confirms that of others, with reference to the use of quinine as an antipyretic in typhoid fever. Unless used in such doses as to produce a certain degree of collapse, it is useless. I believe that it does nothing more than to increase the discomfort of the patient. If in five or six days the use of quinine does not succeed in checking the fever, we may conclude that we are dealing with a continued fever of the nature of typhoid.

DR. JOHN GUITERAS, of Charleston. I have had an opportunity of studying these cases, both in the North and in the South, and I have come to a conclusion different from that expressed by the author. These cases present no symptom of typhoid fever with the exception of the continued fever, and this is a strong argument against their being typhoid. These cases are so numerous as we go farther South, that I would class them as a separate disease. I have examined some of these cases of prolonged continued fever of Southern countries, post-mortem, and have failed to find the lesions of typhoid fever. In the South we have these three diseases, malarial remittent fever at one end, typhoid fever at the other, and between these we have cases of the kind described by Dr. Atkinson. My view of this fever is, that it belongs to the class of functional fevers. A simple continued fever may be set up by an excessive demand made upon any of the important functions of the body. I have thought that in warm climates where constant exertion was required on the part of the heat centres to keep within limits the production of heat, a paralytic condition of these centres might be induced, especially towards the close of a long and hot summer. This fever presents none of the symptoms of a malarial affection, and is quite common in sections where malaria is unknown.

DR. A. JACOB, of New York. I think it a mistake to say that those cases in which the fever cannot be broken in five or six days by quinine are not malarial. There are cases of remittent fever that will not be broken by quinine. There is one assistance in diagnosis which I have not heard alluded to, and that is the urine-test. This has frequently been of much service to me. It is prepared as follows :

Solution No. 1 : Sodium nitrite, one part ; water, two hundred parts.

Solution No. 2 : Sulfanilin acid, five parts ; concentrated muriatic acid, five parts ; water, one hundred parts.

Add one-and-one-fifth parts of the first solution to fifty parts of the second.

Equal parts of this mixture and the urine are to be mixed. Then add about sixty or seventy per cent. of aqua ammonia. In normal urine there will only be a slight discoloration, while in urine from typhoid fever there will be a deep purple discoloration. This test is rarely applicable during the first two or three days. It generally can be applied up to the fifteenth or eighteenth day. It should also be stated that, in cases of acute miliary tuberculosis, the same reaction is obtained.

DR. W. W. JOHNSTON, of Washington. It is well known that in places where malaria has largely prevailed, as cities have grown and drainage improved, malarial affections have diminished, and typhoid fever has increased. This has been the case in Washington. It has also been observed in London. The cases of typhoid fever which I have observed may be arranged into three groups : Those in which all the symptoms have been present ; those in which only one has been present ; and those in which all the symptoms, with the exception of the fever, has been absent. I see no reason, clinically, for saying that these cases which present the typical temperature of typhoid fever are not cases of this disease. It is not necessary that the temperature should reach any special degree. Any temperature, provided it presents the typical curve, may be characteristic of typhoid fever.

DR. R. H. FITZ, of Boston. An epidemic of an anomalous form of fever recently occurred in Boston, among a number of emigrants. The diagnosis lay between typhoid and typhus fever. It was concluded that they were cases of typhoid fever. One case ended fatally. The intestinal lesions were of the most trivial character. The enlargement of Peyer's patches was no greater than is seen in many cases of enteritis. The lesions were so superficial, that it seemed quite probable that they would have disappeared if the patient had lived a few days longer.

DR. ISRAEL T. DANA, of Portland. Some of the cases to which Dr. Fitz has referred found their way to Portland, and one of them died there. The autopsy in this case showed well-defined, but not complete, lesions of typhoid fever. I believe that this is what will generally be found : that the atypical cases will present lesions as imperfectly developed as the symptoms.

DR. W. J. COUNCILMAN, of Baltimore. I had expected to hear some allusion made to the examination of the blood as a means of diagnosis. I think that a simple examination of the blood will enable us to differentiate between the continued malarial fevers and typhoid fever. The organisms found in these cases of continued malarial fevers are very easy to recognize. They are large, crescentic forms, free in the blood, and not contained in the corpuscles. They do not require a high power for their detection.

DR. WILLIAM OSLER, of Philadelphia. I quite agree with the last speaker that we have, in the microscopical examination of the blood, a positive means of diagnosis. I have no doubt that in these doubtful cases, a careful examination of the blood will determine whether they are malarial or not, while a careful

examination by culture methods will determine whether or not it is a case of typhoid fever.

I have had three instances in which the examination of the blood aided in the diagnosis. One was a case of continued malarial fever, thought to be typhoid. Another was a case of remittent fever, supposed to be typhoid. In both these instances, examination of the blood showed the case to be malarial. In the third instance the patient had a chill, which was repeated. It was supposed to be a case of remittent fever, but the malarial organisms were not found. The case pursued an atypical course, and when two weeks advanced in convalescence, had a well-marked relapse of typhoid fever.

DR. I. E. ATKINSON, of Baltimore. I have been much interested in the remarks made by Dr. Guiteras. The cases which I have reported were, I think, cases of typhoid fever. I have never seen death in these atypical cases. I claim that the cases of fever which occur in this locality, and which present the characters which I have described, are cases of typhoid fever, and not of malarial fever.

EXECUTIVE SESSION.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. William Pepper, of Philadelphia (with Dr. Reginald H. Fitz, of Boston, as alternate), was appointed as the representative of this Association.

OFFICERS FOR THE ENSUING YEAR.

President, Dr. William H. Draper, of New York. *Vice-Presidents*, Dr. Francis Minot, of Boston, and Dr. J. Palmer Howard, of Montreal. *Recorder*, Dr. William Osler, of Philadelphia. *Secretary*, Dr. Henry Hun, of Albany. *Treasurer*, Dr. W. W. Johnston, of Washington.

The following were elected to active membership: Drs. A. V. Meigs, Louis Starr, and J. H. Musser, from Philadelphia; Dr. James E. Reeves, from Wheeling, W. Va.; Dr. William H. Whitney, from Boston; Dr. James Stewart, from Montreal; and Dr. M. Allen Starr, from New York.

Dr. John S. Billings, of Washington, was elected to honorary membership.

Adjourned.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.¹

NINTH ANNUAL CONGRESS.

A CASE OF STENOSIS OF THE LARYNX TREATED BY DIVULSION AND SYSTEMATIC DILATATION,

by MORRIS J. ASCH, M.D., of New York.

Miss K., up to the age of twenty-seven years enjoyed good health. She then had some pulmonary trouble, the exact nature of which could not be ascertained. In 1884, she had some wheezing in breathing, with slight cough. These symptoms increased in intensity gradually, and in May, 1885, the patient came under the observation of the author. There was at this time great dyspnoea, which was increased by lying down. Examination of the throat showed no abnormality in the larynx or above the cords. Below the cords there were two white swellings united by a membrane posteriorly. The opening of the larynx was diminished to one-third of the normal size. The

membrane was cut, and divulsion performed. This caused great improvement. Later, metallic sounds were used daily and the forceps once a week. She grew much better and ceased attending. In September, she again returned, with the difficulty of the breathing as great as before. This was the result of acute inflammation of the larynx. Under the use of steam and cold compresses the swelling subsided. O'Dwyer's tubes were tried, but they at once produced spasm, and were coughed out. Schroeder's hard rubber tubes were then used, and within three months the cure was perfect. All the symptoms have now disappeared. There was no history of syphilis, and no history of previous inflammation. The trouble was evidently the result of subchordal hypertrophic laryngitis.

DR. J. SOLIS COHEN, of Philadelphia. My experience in stenosis of the larynx has been limited. In one case, reported twenty years ago, I removed a morbid growth by thyrotomy after it had been destroyed by the internal use of the galvano-cautery, which was probably the first use of the galvano-cautery for this purpose in the United States. The growth had been examined by several microscopists who pronounced it epithelioma, but this was evidently an error, as the patient still lives. On this supposition, I separated the thyroid cartilage and removed the tumor with one vocal cord. Preliminary tracheotomy had been performed ten days previously. The operation was followed by adhesion of the vocal cord to the tissue of the opposite side. I then devised an instrument to cut this adhesion. I have never had the courage to attempt dilatation of the larynx without previous tracheotomy. I think it better to perform tracheotomy, so as to have nothing to interfere with the breathing and then pursue the most active measures for the relief of the stenosis. When the operation is performed with antiseptic precautions, the tracheotomy wounds heals up in a very short time. I have seen it closed within four or five days of the operation. I think that the danger from the operation is less than the risk of injury from the other methods of treatment.

DR. E. C. MORGAN, of Washington. I recently had under treatment a case of laryngeal stenosis. During a period of eight or ten months I was enabled to control this by the administration of iodide of potassium and by local applications of iodo-glycerine to the larynx. Finally, the disease advanced so far that on several occasions I advised tracheotomy to be followed by dilatation. The patient postponed the operation a number of times, although warned of his danger. He had at times suffocative spells at night, and finally, succumbed to one of these spasmodic attacks. I think that if tracheotomy had been allowed and dilatation performed, that man would have been alive to-day.

DR. D. BRYSON DELAVAN, of New York. The various forms of dilators used in these cases are likely to be replaced by O'Dwyer's tubes. This method has a most promising future before it. The tube can be left in for a length of time and respiration not interfered with.

ON THE ETIOLOGY OF DEFLECTIONS OF THE NASAL SEPTUM,

by DR. D. BRYSON DELAVAN, of New York.

FOREIGN BODY IN THE LARYNX.

by DR. S. W. LANGMAID, of Boston.

¹ Concluded from page 615.

The patient came under observation three months after swallowing a pin about two inches in length. The pin had lodged in the throat, and immediately after the accident an unsuccessful effort had been made to remove it with the bristle probang. At the time that she came under the speaker's notice, there were ulcerations of the larynx which were relieved by treatment. Two years later the patient again presented herself and an examination showed the pin, which had emerged from the ventricular band with the head down. It was with some difficulty removed.

DR. J. SOLIS COHEN, of Philadelphia, stated that in several instances he had seen on examining the pharynx what appeared to be the belly of a muscle above the mouth of the Eustachian tube, and that from this there extended to the fornix of the pharynx what looked like a tendon. This he had seen on both sides. He asked whether or not any of the other members had observed the same appearance.

RECURRENT NASO-PHARYNGEAL TUMOR. CURE BY ELECTROLYSIS.

by DR. RUFUS P. LINCOLN, of New York.

The patient presented himself in April, 1886. A growth had been removed from the posterior nares by another physician one year previously. It returned, and the operation was repeated six months later. When the patient came under observation he was unable to breathe through the left nostril. On examination a large growth was found occupying the left half of the posterior nares, and it was decided to treat this by electrolysis. On June 3d, two needles connected with the negative pole of the battery were introduced through the anterior nares into the growth, while the positive pole terminated in two large sponge electrodes which were applied to the front and back of the chest. In all, sixteen applications were made at intervals of three or four days. This caused an entire disappearance of the growth. The immediate effect of the electrolysis was to cause distension and a change in the color of the growth, but these passed off in the course of twenty-four hours. There is up to the present time no evidence of the return of the growth.

DR. F. H. HOOPER, of Boston. In October, 1881, a youth presented himself with a tumor extending from the tip of the right nostril into the naso-pharyngeal cavity. There had been a great deal of hæmorrhage and the patient was in a bad condition. He was sent into the hospital and operated on by Dr. J. C. Warren, with the galvano-cautery snare, and the whole mass removed in one piece. From that time to this the patient has been constantly under treatment. The tumor has been growing, and from time to time I have snared it off. The tumor has been pronounced to be a most malignant form of myxo-sarcoma, but the general health is excellent. I propose next to try the effect of electrolysis.

DR. D. BRYSON DELAVAN, of New York. During the past fifteen years I have seen a number of these patients operated upon, and I recall many cases in which the result was disastrous. Although there have been successful cases, none have come under my observation. The great point is in the early diagnosis. If taken in time, even if it cannot be cured, it can, as a rule, be kept in check. After the age of twenty-five years, it has been stated that these tumors have a tendency to stop growing, so that if kept in check until this age, they may entirely disappear. It

seems to me that the galvano-cautery exercises a modifying influence on the tissues which remain, which cannot be caused by the knife.

TWO UNIQUE CASES OF CONGENITAL OCCLUSION OF THE ANTERIOR NARES,

by W. C. JARVIS, M.D., of New York.

Complete congenital occlusion of the anterior nares is rare, and the author had been unable to discover any cases in searching the literature of the subject. The first case was a young man eighteen years of age, with complete closure of both nostrils. Inspection showed on each side within the anterior nares, a cup-shaped depression of white glistening membrane. On the left side a small hole was discovered. The operation was performed in April, 1886. The burrs devised by the speaker, connected with an engine, were used to cut through the cartilaginous occlusion. This was accomplished in a few minutes; the air passed freely through the nostril. At a subsequent operation the right nostril was opened. In April, 1887, the opening in the right nostril had become contracted and had to be reopened. A second case in which the anterior nostrils were included by an osseous occlusion, the operation was performed in the same manner as in the previous case, with successful result.

AFTERNOON SESSION.

A COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES,

by DR. ALEXANDER W. MACCOY, of Philadelphia.

He confined his remarks to occlusion due to enlargement of the soft parts. He had never seen occlusion of the posterior nares due to osseous growth. He referred to the methods used in the treatment of occlusion of the posterior nares, and highly recommended the use of chromic acid fused on the end of a probe, the end of which is covered with a tube which is withdrawn when the probe has reached the desired position. This is followed by the use of an antagonistic solution. He had found this better than the use of the galvano-cautery. Since using cocaine, he had not been able to use the cold wire snare in these cases, on account of the contraction caused by the drug. He had also found difficulty in using the needles recommended by Dr. Jarvis. The chief object of the paper was to call attention to the superiority of chromic acid used in this way, over the other methods of treatment which had been recommended. He did not recommend the use of the acid either in crystal or in solution, for then it was not easy to limit the application to the desired point.

DR. W. C. JARVIS, of New York. I never use cocaine as a preliminary measure where I intend to remove posterior hypertrophies. I first include the hypertrophies in the loop, and draw the wire home and then apply the cocaine-spray. The tissue included in the loop cannot be affected by the contraction produced by the drug. We thus have the advantages of the anæsthetic without its disadvantages. It has been pretty generally recognized that chromic acid has many disadvantages. It may produce serious symptoms. The snare will accomplish in a few minutes what chromic acid requires considerable time to do.

DR. C. C. RICE, of New York. I agree in the main with what the author of the paper has said. The turbinated bodies are difficult to penetrate with the

needles, and there are many cases in which it is difficult to apply the loop posteriorly. I have not found any special disadvantages in the use of chromic acid.

DR. D. BRYSON DELAVAN, of New York. I formerly used chromic acid, but then gave it up. Lately I have again tested it, selecting for this purpose five patients, three of whom were physicians. I added enough water to the crystals to make them deliquesce and then applied it with a cotton-wrapped probe, the excess of acid having been removed. I have also used it by fusing it on a probe. In all these cases there was more reaction than follows the use of the cautery or the snare, and all the patients preferred the cautery to the chromic acid.

PLASTER-OF-PARIS DRESSING FOR FRACTURE OF THE NOSE,

by DR. J. W. ROBERTSON, of Detroit, read by title,

DR. DEBLOIS, of Boston, exhibited a plaster splint which he had employed with advantage in a case of fracture of the nose. The splint consisted simply of a plaster cast into which a piece of roller bandage had been incorporated. This was applied over the nose, and held in position by the strips of bandage.

DR. J. O. ROE, of Rochester, exhibited a nasal saw run by an electric motor.

EXECUTIVE SESSION.

The report of the Committee on the Congress of American Physicians and Surgeons, was presented, received and adopted.

The following are the officers for the ensuing year: President, Dr. R. P. Lincoln, of New York; Vice-Presidents, Drs. J. N. Mackenzie, of Baltimore, and S. W. Langmaid, of Boston; Secretary and Treasurer, Dr. D. Bryson Delavan, of New York; Librarian, Dr. T. R. French, of Brooklyn; Council, Drs. Frank Donaldson, of Baltimore, J. Solis Cohen, of Philadelphia, F. H. Hooper, of Boston, and E. C. Morgan, of Washington.

The following were elected Corresponding Fellows: Drs. A. Gougenheim, of Paris, and J. Moure, of Bordeaux. Dr. A. Jacobi, of New York, was elected Honorary Fellow.

The Association then adjourned.

AMERICAN MEDICAL ASSOCIATION.¹

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE 7TH, 8TH, 9TH AND 10TH, 1887.

FOURTH DAY.

There was a large falling off in the attendance at the session of the American Medical Association at Central Music Hall. The Rev. Dr. Vibbert offered prayer, after which the Nominating Committee presented a final report, recommending that the following be appointed to deliver addresses before the Association next year: On Medicine, R. Beverly Cole, of California; on Surgery, F. M. Moore, of Rochester, N. Y.; on State Medicine, J. P. Connell, of Virginia. They also reported a resolution that a committee of three be appointed to notify the gentlemen, and to fill any vacancies that might occur. The report was adopted, and Drs. Toner, of Washington; Gussion, of

North Carolina; and Colvin, of New York, were appointed.

Surgeon-General Hamilton offered a resolution by which the Government was to print the reports of Dr. Sternberg, for the benefit of the medical profession. The resolution was adopted.

DR. J. S. MARSHALL, Chairman of the Section of Dental and Oral Surgery, read his annual address, in which he pointed out the rapid strides made in dentistry of late, and that the effort now was to save teeth, rather than extract them, the latter course only being pursued as a last resort. He entered a protest against the principles set forth in medical articles relative to the filling of teeth causing disease of the facial muscles, and advocated that, in every medical college, a professorship of dental surgery, by which the students would receive, at least, a theoretical knowledge of dental and oral surgery, and the treatment of diseases of those classes, and be enabled to advise their patients how to take care of their teeth, and when to consult a dentist. The address was ordered printed.

DR. I. N. QUIMBY, of New Jersey, Chairman of the Section on Medical Jurisprudence, read an address, in which he traced the origin of a medical jurisprudence, reviewed the creation of the office of coroner, the application of law to medicine, laws regulating marriage, etc., and then passed on to criticise foeticide and infanticide, asserting, amid applause, that the destruction of the foetus at any period of gestation was murder, and God forbid that any physician should be tempted by appeals, or a fee, however large, to become the assassin of the human race at any period of gestation. He suggested that a committee be appointed to report at the next meeting on the criminality of foeticide, and that measures be at once commenced for legislative action for its punishment. He also asserted that the countries of Europe are foisting a large number of their insane on this country, which apparently increases the ratio of insanity in this country, when, in fact, the ratio is not increasing. He then drew attention to the increased use of alcoholic stimulants, and, after much study, and a good deal of close attention to the subject, he had arrived at the conclusion, which would be regarded as a radical one by many, that drunkenness was a wilful act, for which the drunkards should be held responsible before the law, and that it would never be repressed by fining the dealers or retailers of spirits. He also held that the State, by licensing saloons, became *particeps criminis*, and denied that drunkenness was a disease. He closed with a hope that the medical profession had something to do with drunkenness, and should do all in its power to destroy the hydra-headed monster, which is stalking through so many homes, and committing every conceivable description of crime. The address was referred to the Committee on Publication.

DR. TONER, from the Committee on Necrology, reported that the Massachusetts delegation had informed him of the death of forty members during the past ten years, and he wished the members would report promptly the demise of any members.

The next business was the report of the standing committee on meteorological conditions and the relations to the prevalence of disease; also concerning the collective investigation of disease, in coöperation with the committee of the British Medical Association. Dr. Davis, chairman of the committee, said he had collected a lot of information, but had not had time to

¹ Continued from page 617.

arrange it for a report, and it was not in such a shape that he could let any one else do so. He therefore reported progress. The report was accepted, and committee continued.

DR. DAVIS then offered a resolution providing that graduates of dental colleges which required a standard of general education and a term of study equal to the best medical colleges, and a curriculum embracing the entire fundamental branches of medicine, but substituted practical and clinical instructions in oral and dental surgery, and medicine for clinical instruction in general medicine and surgery, be admitted members of the Association. Such a resolution, if passed, would remove a source of embarrassment, and tend to induce dental colleges to raise their standard.

The resolution was seconded and carried *nem. con.*

Dr. Davis then offered a resolution that, in future, the Committee of Arrangements reserve the third evening of the session for a dinner of the Association, the members to be at liberty to attend or not, as they pleased, and to put their names down for tickets with or without wine, as they chose. They would then be enabled to meet around one board and spend an evening in harmony, without any one being compelled to pay for wine for some one else to drink, and guard against the extravagance which heretofore existed, when the banquet cost \$10,000.

The motion was seconded and adopted.

Dr. WILSON moved that an honorarium of \$300 be granted to the Secretary.

Dr. BALDWIN seconded the motion.

Dr. DAVIS said, after giving \$1,000 to the International Medical Congress Committee, that would about use up their balance, as it was the wish of the Association that the report should be made more valuable, and the trustees had been ordered to use all available funds for that purpose, he moved, as a substitute, that the trustees be constituted a finance committee, to which should be referred all matters of finance, consideration and report.

The substitute was adopted, and, on being put as a substantive motion, was adopted.

The SECRETARY read a telegram from Dr. Alexander Y. P. Garnett, the new President, acknowledging the honor conferred upon him by his election and regretting that the exigencies of his profession prevented his making his acknowledgment in person. The despatch was ordered entered on the minutes.

The Committee on the Sanitary Condition of Emigration Vessels, of which Dr. Bell is Chairman, was requested to continue its labors.

On motion of Dr. WOOD, a committee of three was appointed to report at the next meeting on the subject of "Dietetics," Drs. Wood, J. T. Whitaker, and F. Woodberry, being the Committee.

Dr. BRODIE moved a vote of thanks to the Committee of Arrangements and the residents of Chicago for the entertainment they had received, and also to the press for reporting the proceedings, which was adopted.

The PRESIDENT then said: Gentlemen, my work is finished. I wish it were done better; it has been done the best I could. There is nothing for me remaining but to say: "Thanks, good-bye, God bless you." I would gladly introduce to you your new President, but that is out of the question. I have learned that he is a man; that he possesses those qualifications which will be in keeping with the men who

have gone before him in this office; that he is a man of character, possessing all those qualities of mind and heart and capability which will insure success in his new position. I remember, thirteen months ago, the only man I envied was Dr. Brodie, the retiring President. I am proud to have been your President, and it will always be a pleasant remembrance. It only remains for me to add that you have honored and trusted me, and been most deferential and indulgent, and I offer you my heart's sincerest thanks. I now declare the meeting adjourned *sine die*.

Recent Literature.

The Science and Art of Obstetrics. By THEOPHILUS PARVIN, M.D., LL.D. 8vo, pp. 701. Philadelphia: Lea Brothers & Co. 1886.

This is a scholarly work, and an ornament to modern obstetric literature. The style is clear and polished; the illustrations are numerous and accurate; the typography and press-work are of the uniformly high standard of excellence that is always expected of the publishers.

The book is especially distinguished for its wealth of historical allusions and for its profuse quotations of authorities. These features make the work one of peculiar value to the physician, but render it less desirable for the student. Undergraduates require, we believe, more dogmatic teaching, and had better leave the conflicting opinions of various authorities for the consideration of their maturer years. The student-physician, however, will delight in, and profit by, Professor Parvin's work, and to him we especially recommend it.

Texas State Medical Association. Report of the Special Committee on Surgery. Presented at the Annual Meeting, at Dallas, April 27, 1886. GEORGE CUPPLES, M.D., Chairman and Reporter, Austin, Texas. 1886.

As the title suggests, the book is a statistical record of the surgical work done in Texas previous to 1886. It represents the work of one hundred and thirty-eight surgeons, and has been compiled by the editors, a committee of the Texas State Medical Association, from the answers returned to their circulars. The cases are classified and arranged in tables quite convenient for rapid reference. Sixty-five pages are devoted to a detailed synopsis of 4293 operative cases, giving in each the age, sex, race, character of operations performed, name of surgeon, and result. Also, if antiseptic treatment was employed or not, the kind of anæsthetic, and a summary of remarks. The remaining eleven pages of the work are occupied by abridged tables containing a synopsis of the general results obtained in each class of cases.

The results shown by this report are quite interesting; and the system adopted in the arrangement of the entire work very satisfactory. Carbolic acid has been the antiseptic most extensively used; and chloroform the most popular anæsthetic (In 3179 of 3547 cases, with one death). Such reports, if issued annually, and with proper attention to accuracy in collecting and compiling the material used, will furnish the profession in a few years with much interesting valuable data.

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SCARLATINA CONVEYED BY MILK.

THAT scarlatina is occasionally transmitted through the medium of cow's milk is a fact which, of recent years, has been gradually assuming certainty in the minds of sanitary authorities. In view of the fact that other substances, when infected through diseased persons, were capable of carrying the infection, it was naturally supposed that milk acted in a similar way with other fomites, receiving its infection from some human being.

In 1881, Mr. Ernest Hart presented to the International Medical Congress the tabulated facts concerning all the milk epidemics which had been reported up to that time. Many of these had been investigated by the Local Government Board. In most of Mr. Hart's cases, the facts seemed to show that the origin of the infection, carried through the milk, had been in the human body, and in none was that possible origin disproved.

A class of cases began, however, to accumulate, in which the possibility of a directly human origin of the infection was not excluded, yet a careful study of the date of the outbreaks made it difficult to reconcile this view of a human origin to the disease with what is known of the period of incubation of scarlet fever. For instance, an epidemic of scarlet fever and sore throat occurred at Oxford, Eng., in 1882, among the persons supplied with milk from a dairy of three cows. The earliest cases of the outbreak occurred March 10th, and most of them developed several days later. The dairyman's child had had scarlet fever, and a young woman had had diphtheria, but the latter had been removed March 1st, and the former March 3d, and with the latter date, all chance of direct infection from these or any other persons ceased. The period of incubation of scarlet fever is, as a rule, less than seven days, yet almost all the cases developed from eight to twelve days after the patients were taken away, and the cows put into new hands. The suspicion arising in this case that the cows themselves may

have been at fault, was not confirmed by any actual evidence of such disease.

We have already laid before our readers¹ the particulars of two epidemics of scarlatina, investigated by the British Local Government Board, one in 1882, at St. Giles and St. Pancras, and the other in 1885, at Marylebone, from a dairy at Hendon, both cases showing a very strong presumption that scarlatina had been conveyed to human beings through the channel of milk, from a disease in cows, itself analogous, if not identical, with scarlet fever. As we remarked at that time, there was still lacking the evidence of inoculation into the human subject of a milk sub-culture, or of feeding of calves with such milk-cultures as appear to have been fed to children. The first of these proofs can hardly be expected, but the second has now been offered with considerable detail and conclusiveness by Dr. E. Klein, F.R.S., who has worked upon the matter at the instance of the Board, and who has given the result of his inquiry in a recent address before the Royal Institution. He finds that a microbe, the *micrococcus scarlatinae*, is the cause of human scarlet fever. Further, that it produces in bovine animals a disease identical with the Hendon disease and human scarlet fever, and that, consequently, while the cow is susceptible to infection with human scarlet fever, it can, in its turn, be the source of contagium for the human species, as was, no doubt, the case in the milk epidemic from the Hendon farm.

These conclusions are reached by Dr. Klein from observations and experiments showing that, in the blood and tissues of persons affected with scarlet fever, there occurs the same micrococcus that was present in the cow, both being identical in microscopical and in cultural characters. In the second place, it was found that the action of this microbe on animals is exactly the same as the micrococcus found in the Hendon cows. Calves and mice, after inoculation or feeding with a trace of the growth of both sets of micrococci, become affected with cutaneous and visceral disease, similar to human scarlet fever. In calves, the disease was of the same mild type as in the Hendon cows. Further, it was shown that from the blood and the tissues of these animals infected with one or the other set of cultivations, the same micrococcus was recovered.

Dr. Klein, furthermore, adds that he has found the micrococcus of scarlatina in several cans of a cheap brand of condensed milk, which was supposed to have given rise to scarlatina in persons who partook of it. The microbe is identical, he claims, with that obtained from the Hendon cows and from human scarlet fever, and inoculation experiments with it in calves and mice produced the same disease that arose from inoculation with the microbe, as obtained from the cow and from the human patient. This brand of condensed milk, it should be said, was not raised in the manufacture to a temperature high enough to destroy the micrococcus.

Again, there occurred during the beginning of this year, a severe epidemic of scarlet fever in Wimbledon.

¹ Vol. CXIV, p. 601. Vol. CXV, p. 115.

This epidemic was also traced to milk coming from a particular farm. In one of the houses supplied with this milk, there occurred cases of scarlet fever among human beings, and at the same time, a pet monkey, which also consumed a good deal of the milk, became ill; it died after five days. Dr. Klein made a post-mortem examination of this animal, and had no doubt about its having died of scarlet fever. From the blood of the monkey, he obtained, by cultivation, the same micrococcus as was obtained from human scarlet fever, from the Hendon cows, and from the condensed milk. Experiments made on animals with this micrococcus of the Wimbledon monkey showed that the same disease was produced both by inoculation and by feeding.

It will readily be seen that the corner-stone of Dr. Klein's demonstration of the production of scarlet fever in the human subject from disease in the cow, consists in the validity of his *micrococcus scarlatinae* as the cause of true scarlet fever in the human subject. On this point, we must await the final verdict of the micro-biologists. It is to be said that most of the previous discoverers who have described the microörganism of scarlatina have found it to be a micrococcus, among them Klebs, Coze and Feltz, Babes and Cornil. Eklund, of Stockholm, described in detail the microbe as a micrococcus, multiplying by fission, and named it *Plax Scindens*. Yet, on the other hand, the germ has been said by other authorities to be a bacillus, and even coincidentally with the announcement by Klein, two observers of the University of Edinburgh, Drs. Jamieson and Edington, have completed a series of observations, showing, to their satisfaction, a bacillus in the tissues of scarlatinous patients capable of cultivation, and inoculable in calves and other animals, with the result of producing true scarlatina in them.

The British Dairy Farmers' Association naturally felt somewhat disturbed by the report of Drs. Powers and Klein on the Hendon epidemic, and employed Professor Axe to investigate the subject. His report was published by the Agricultural Department of the Privy Council Office. He confesses to not having seen the affected cows until the characteristic eruption had, in almost all cases, disappeared. Nevertheless, he appears, as we judge from comments on his report, the document itself not being at hand, to have assumed that the disease was identical with another disease having a vesicular eruption, which latter did not convey scarlatina. His conclusions are evidently of small value in comparison with the observations of the officers of the Local Government Board, and their chief value would appear to be in illustrating the need of more careful study by veterinaries of the various eruptive diseases of the cow.

Dr. Klein believes that the milk of scarlatinous cows may convey the infection in two ways: both as a secretion of a diseased animal, and from the mingling in it of contagious particles brought off from the udder by the hands of the milker. He finds that a temperature of 85° C. (185° F.) will destroy the micrococcus of

scarlatina, and hence recommends that the milk be heated to that point, though not necessarily that it be boiled, before it is consumed.

A NEW BILL TO REGULATE THE PRACTICE OF MEDICINE IN ILLINOIS.

A BILL amendatory to the existing act passed the Senate of Illinois, May 10th, and the House of Representatives June 15th. It has received the Governor's signature and goes into effect July 1st. By it three classes of persons are specified as alone allowed to practice medicine in that State; (1) graduates in medicine from legally chartered institutions in good standing, who have presented their diplomas to the State Board of Health, for verification as to genuineness. (2) Those who, not possessing diplomas, have passed an examination satisfactory to the Board. (3) Those who have practised in the State for ten years; but these persons must, if they have not already done so, obtain a certificate to that fact from the Board of Health within six months of the taking effect of the act in order to secure registration. The certificates granted are to be signed by all the members of the Board and for each certificate of authority to practice general medicine the recipient is to pay five dollars into the treasury. For the certificate in midwifery the fee is two dollars.

All examinations of persons not graduates or licentiates are to be made directly by the board, and the certificates given by the board authorize the possessor to practice medicine and surgery in the State of Illinois.

The fees for the examination of non-graduates are fixed as follows: Twenty dollars for an examination in medicine and surgery, ten dollars for an examination in midwifery only, to be paid into the treasury of the board. If an applicant fails to pass the examination, his or her fee is to be returned. Upon successfully passing the examination the certificate of the board issues to the applicant without further charge.

The State Board of Health may refuse to issue certificates to individuals guilty of unprofessional or dishonorable conduct, and it may revoke such certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the Governor, who may affirm or overrule the decision of the board, and this decision shall be final.

Among the other important provisions of the act are the following:

"SECT. 10. Any person shall be regarded as practising medicine, within the meaning of this act, who shall treat, operate on, or prescribe for any physical ailment of another. But nothing in this act shall be construed to prohibit service in cases of emergency or the domestic administration of family remedies. And this act shall not apply to commissioned surgeons of the United States Army, Navy or Marine Hospital Service in the discharge of their official duties.

"SECT. 11. Any itinerant vendor of any drug, nostrum, ointment or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing or any other method, profess to cure or treat disease or deformity, by

any drug, nostrum, manipulation or other expedient, shall pay a license of one hundred dollars per month into the treasury of the board, to be collected by the State Board of Health, in the name of the People of the State of Illinois for the use of said Board of Health. And it shall be lawful for the State Board of Health to issue such license on application made to the State Board of Health, such license to be signed by the President of the Board, and attested by the secretary of the board, with the seal of the board. Any such itinerant vendor who shall vend or sell any such drug, nostrum, ointment or appliance without having a license so to do, shall, if found guilty, be fined in any sum not less than one hundred dollars, and not exceeding two hundred dollars for each offense, to be recovered in an action of debt before any court of competent jurisdiction. But such board may for sufficient cause refuse such license."

The penalty for practising medicine or surgery without the certificates issued by this board is one hundred dollars for the first offense, and two hundred dollars for each subsequent offense, the same to be recovered in an action of debt before any court of competent jurisdiction: any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification is declared guilty of a felony, and upon conviction, will be subject to such fine and imprisonment as are made and provided by the statutes of the State for the crime of forgery.

Upon conviction of either of the offenses mentioned in this act, the defendant is to be committed to the common jail of the county until the fine and costs are paid. But either party may appeal in the same time and manner as appeals may be taken in other cases, except that where an appeal is prayed in behalf of the people, no appeal bond is required to be filed, whether the appeal be from a justice of the peace, or from the county or circuit court or from the appellate court. That is, the State Board of Health may appeal its cases without bond.

MEDICAL NOTES.

—The United States Consul at Baranquilla, under date of May 26, forwards a copy from the *Star and Herald*, of Panama, under date of May 19, relative to the inoculation for the prevention of yellow fever, as follows: "A letter from Cucuta, Santander, dated April 14th, says: 'On the 6th, I sent you a telegraphic message containing important information. I told you how successful inoculation is proving here for yellow fever. About ten per cent. of the inoculation patients are attacked by the disease, but none of them die. The heat is intense; ranges between 34° and 38° centigrade.' Cucuta is not far from the place where yellow fever seems to have its headquarters." At Key West thirty-one cases of yellow fever and eleven deaths were reported up to June 18th.

BOSTON.

—During the recent Annual Meeting of the Massachusetts Medical Society the following interesting operations, the description of which reached us too late to be inserted in our report of the meeting, were performed in the amphitheatre of the Massachusetts General Hospital before a large number of the Fellows. Dr. Beach performed an excision of the knee for anchy-

losis with deformity, following tubercular disease of the joint; removed a congenital cyst from the upper eyelid and border of the orbit; applied the actual cautery for recurrent epithelial disease of the face; tapped a hydrocele, withdrawing three quarts of serum; and removed two uric-acid calculi, weighing thirty-one and twenty-nine grains respectively, by lateral lithotomy, from a three-year-old child. Dr. John Homans removed a tumor of the neck, of twenty-five years' duration, with a circumference of thirty-nine inches, which weighed thirty-two pounds. Dr. Porter performed amputation of the thigh for long-standing disease of the knee-joint.

Between the operations Dr. Beach showed a patient, aged eighty, from the back of whose hands symmetrical cancer had been removed in April and the resulting wounds entirely healed by means of skin and sponge grafts; a stone one-and-seven-eighths inches by three-and-one-fourth inches, weighing one hundred and ninety grains, removed from a boy of fourteen, and a second stone weighing two hundred and forty grains, from a boy aged eight years. The stone first mentioned was almond-shaped and its appearance suggested the incrustation of some foreign body previously introduced. Upon section and analysis, Professor Wood pointed out the interesting fact that the elongated nucleus was due to a gradual growth upon the end of the stone held by the lower end of the ureter, and as it grew, it was projected forward upon the floor of the bladder in the direction of the internal meatus. The direction of the striæ in the nucleus, which was composed of oxalate of lime, substantiated this theory — afterwards the stone had become enlarged by the deposition of urate of ammonia and phosphates. Both stones were successfully removed by lateral lithotomy; also a recovery from caries of the tarsus in child, after excision of the astragalus and scaphoid.

Dr. Warren exhibited a case of recovery after dislocation of cervical vertebrae, and showed the apparatus for maintaining a gastric fistula in his recent case of gastrotomy for malignant stricture of œsophagus. He also showed the patient upon whom Dr. M. H. Richardson performed gastrotomy for removal of a plate of artificial teeth, a patient whose knee Dr. Richardson had excised in 1886, and a successful case of resection of the musculo-spiral nerve, done a year ago by Dr. Richardson.

NEW YORK.

—The medical bill recently passed by the Legislature has been signed by the Governor.

—A case of hydrophobia at Nyack, on the Hudson, terminated fatally on the 23d. Dr. Wm. A. Hammond saw the patient, who was an adult, in consultation with the Nyack physicians the day before death occurred, and pronounced it undoubtedly genuine rabies.

—Dr. Woolsey Johnson, recently one of the Health Commissioners of the city, died June 21st, of Bright's disease, at the age of forty-five. He was graduated at the College of Physicians and Surgeons in 1863.

and afterwards continued his medical studies at Paris and in Germany. He devoted himself more particularly to diseases of the throat, and was at one time lecturer in this branch at the College of Physicians and Surgeons; while for many years he was a visiting physician to the New York Hospital and the New York Eye and Ear Infirmary. He was very highly esteemed in the community, and was a prominent member of several of the best known New York clubs.

Correspondence.

LETTER FROM BERLIN.

BERLIN, June 13, 1887.

MR. EDITOR,—The Museum of the Pathological Institute of Berlin, has reached proportions which are remarkable. The office of custodian has hitherto fallen to the first assistant of Professor Virchow, and has been quite acceptably filled for the past fourteen years by Dr. Juergens; it has, however, grown to such dimensions as to demand a custodian especially appointed. It has increased from the union of two collections, that belonging to the Charité and a part of the Anatomical Museum of the University. The latter was separated from the Anatomical Museum in 1858, when an independent professor of pathological anatomy was first named. Professor Reichert, who was then director of the Museum, clung to his rights so tenaciously, that it was twelve or sixteen years before the preparations were removed, and then only in part. The entire collection was not removed until after his death. Part of these specimens came down from the earlier years of the last century. Of special worth are the preparations left by Johannes Mueller, constituting as they do, the evidence of his pathological and anatomical work. The Charité collection, which was the ground-work of the Museum, began to assume important proportions in the third decade of the present century. Its originator was Philip Phœbus, who was less known as pathological anatomist than by his labors in pharmacology and through his general usefulness. His industry has left us writings which remain to this day. He is particularly known in his dealing with the regions of the heart. His successor was Robert Frossep. His most important work was not in the field of pathological anatomy, either. Professor Virchow became prosecutor in 1846, and continued until 1849. The successors of Virchow were his friend Benno Rheinhardt, who, with Professor Virchow, originated the Archives of Pathological Anatomy; and Heinrich Meckel, of Heinsbach. Both died in early life, the victims of consumption. Meckel was the friend of the poet Iken, who died insane. Meckel examined his brain, and published a carefully prepared report. In 1858, the Museum was again put under Virchow's direction, and it continued to grow until it is one of the first of its kind, both as to the number and worth of its specimens. Pathological anatomy is now the great incentive to a visit to Berlin. Virchow's reputation attracts students and practitioners from every part of the globe; it is true that the man is over-run with politics, the affairs of State, and his many other interests. His lectures can be read as well as heard; he is usually tardy, frequently absent, very cross and irritable, yet he has a great reputation, and men crowd to his lectures.

The University of Berlin has about 2,000 medical students, 6,000 of all kinds. In the medical department there are 44 professors, 57 docents, and 69 assistants.

Some of the professors of the medical department realize quite snug little sums from their teaching. Suppose, for instance, as is usually the custom, each student pays 50 marks (\$12.00) per semester for his instruction. Say from 150 to 300 take a certain professor's lectures. He then receives \$1,800 to \$3,600 for his six months' work,

which six months, omitting holidays and tardiness in beginning, is reduced to five months. For this, however, he lectures every day or nearly so, sometimes twice in one day, and frequently two hours at a time. The professors depend largely on their teaching, of course, and give it much time and attention. Many students do not pay cash, however. The professor gives to such, time to finish their course, get out into practice, and make the money to pay for their instruction. The student has not enough money to pay for his beer, kneipe, duelling expenses, and lectures too, so the latter is deferred. It is considered a debt of honor, though, and payment is seldom avoided. If the man dies and leaves nothing behind, the Professor loses his money. For years afterward, he receives frequent small installments for a former semester's course of lectures.

The students are required to attend nine semesters, four-and-one-half years, before graduating. Examinations are frequent and they do not take up much at a time. There are several professors on each branch, and if a student is expecting to be examined on some department, he can spend almost the entire day in attending clinics and listening to lectures on that subject. The professor examines about four or six at a time, two or three times a week. The examinations are oral and clinical.

Berlin maintains ten medical societies: the Gesellschaft der Charité Aertze, Dr. M. Molhausen, President; Professor Henoch, Secretary; six members, meets every two weeks. Gesellschaft fuer Geburtshilfe und Gynecologie, Professor Olshausen, President; Dr. A. Martin, Secretary; nine members, meets fortnightly. Gesellschaft fuer Heilkunde, Dr. Cock, Secretary; 165 members, meets annually. Gesellschaft fuer Naturwissenschaft und Heilkunde, Prof. R. Hartmann, President, Dr. Oertels, Secretary; 52 members, meets monthly. Gesellschaft fuer Nervenheilkunde, Prof. Westphal, President, Prof. Bernhardt, Secretary; 92 members, meets monthly. Medicinische Gesellschaft, Prof. R. Virchow, President, Prof. B. Fränkel, Secretary; 652 members, meets weekly. Physiologische Gesellschaft, Prof. Du Bois Reymond, President, Prof. Hirschley, Secretary; 151 members, meets fortnightly. Psychiatrischer Verein, Dr. Lehr, President, Prof. Guttschaft, Secretary; 112 members, meets quarterly. Verein fuer Innere Medicin, Prof. Leyden, President, Prof. Paul Guttman, Secretary; 230 members, meets fortnightly. Vacations and holidays very greatly reduce the annual number of meetings. As will be seen, the Medicinische Gesellschaft is the leading medical society of the city. It meets in a fine large hall with generally 150–300 members present and is a power in the land. This society has a large library for the benefit of its members.

Berlin has 30 hospitals, containing 5,000 beds. Two thousand of these are in the Charité, by far the largest hospital in the city. Berlin has 1,150 physicians, 8.98 per 10,000 inhabitants, 65 dentists, and 88 druggists. Prussia has 9,071, or 8.84 per 10,000 inhabitants, 275 dentists, 2,519 druggists, 1,420 hospitals, with 72,808 beds. Germany has 15,783 physicians, 48 per 10,000, 470 dentists, 4,624 druggists, 2,645 hospitals, with 128,306 beds. While these statistics show the low rate of physicians, as compared with the United States, it gives a large number of hospitals and beds, which makes the difference. So many more in Germany receive free treatment at the hospitals, that there are fewer pay-patients left. Yet I think, with the small number of physicians, they might get on without grumbling. What if they had one physician for every 500 inhabitants, and old women were permitted to practice!

It may be of interest to American physicians to know a few of the legal rates allowed German physicians and surgeons for their work. Remember that a mark is a quarter, or about twenty-three and one-half cents: Light, natural labor, 6–15 marks; twin, 9–24 marks; natural, but tedious labor, day and night, 12–15 marks; foot-presentation, 12–30 marks; turning, 12–36; forceps, 12–30 marks; craniotomy, 30–60; Cæsarean section, living woman, child alive or not, 30–60; same, dead woman, 12–24; removal of unripe ovule or mole, 8–12. Examination of pregnant

woman, 1.50-6 marks. Writing a full report of case, 1.55-3 marks.

Surgery: Trephining, 24-36 marks. Strabismus, operation, one eye, 24-45; both eyes, one-half more. Extirpation epithelioma of the lip, 12-24; second operation, one-half as much more. Enucleation of the eye, 12-36 marks; hair-lip, 12-24 marks. Excision of the tonsils, 9-18 marks. Removal of nasal polypus, 18-80 marks. Catheterization, men, 3-6; women, 1.50-3 marks. Foreign body in the œsophagus, 6-12 marks. Tracheotomy, 18-86 marks. Excision of the breast, 24-45 marks. Paracentesis thoracis, 15-20 marks. Circumcision, 6-12 marks. Castration, 30-60 marks. Cut for stone, 60-150 marks. Amputation upper arm and leg, 24-45 marks. Reposition dislocated arm, 9-18 marks. Setting broken collar-bone, 9-16 marks; neck of femur, 12-24 marks. Blood-letting, 2-6 marks. Assistant at operation, 3-9 marks. Post-mortem, 6-12 marks.

Physicians' visits in the city, first two, 4 marks; each successive visit, with prescription, 1-2 marks. Patient

one mile from city, first visit, 6-8 marks; each succeeding visit, 2-8 marks. Contagious fevers, charges doubled. Night visits, first, 6-9 marks; each following, 3-6 marks.

Only two visits daily can be charged for. Prescriptions in office, one-third to three-fourths mark. First consultation, 4.50-9 marks; each succeeding, 2.25-3 marks.

These fees, as may be readily seen, are very low. They are not followed closely, however, but are the legal fees, and are the amounts which may be collected by law. They have been in force since 1815, but usually these rates are exceeded.

As a contrast to these small figures, we may now view some large ones. As nearly as your correspondent could ascertain, Professor Schroeder enjoyed from his practice an income of 250,000 marks annually, Gusscroy 150,000 marks, Martin, 100,000 marks, while Waldeyer, from his teaching, realizes 25,000 marks yearly. Martin has been known to ask and receive 4,500 marks for an ovariotomy.

M.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 18, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	680	278	24.00	15.15	2.85	7.80	7.80
Philadelphia	993,801	341	129	12.76	11.60	—	2.03	6.96
Brooklyn	745,108	290	115	22.05	10.85	3.15	8.05	6.65
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	127	59	24.40	14.07	—	3.94	16.53
Boston	400,000	138	40	14.60	21.17	.73	4.38	1.46
New Orleans	242,750	136	57	24.42	8.14	—	.74	17.76
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	112	70	34.71	6.23	—	1.78	28.48
Pittsburgh	210,000	112	72	46.61	8.92	—	3.56	38.27
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	47	31	10.65	8.52	—	2.13	4.26
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	61	28	24.60	11.48	—	—	24.60
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	21	9	33.32	9.52	—	—	19.04
Charleston	60,145	50	16	26.00	12.00	—	—	16.00
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	28	16	17.85	10.71	3.57	—	7.14
Lowell	64,051	35	15	21.74	8.58	—	2.86	11.44
Cambridge	59,660	16	6	25.00	18.75	—	6.25	6.25
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	12	3	8.33	8.33	—	—	—
Lawrence	38,825	13	5	—	15.38	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	7	7.14	14.28	—	—	7.14
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	1	—	25.00	—	—	—
Holyoke	27,894	6	2	16.66	16.66	—	—	16.66
Chelsea	25,709	12	6	8.33	16.66	—	—	—
Taunton	23,674	6	0	—	33.33	—	—	—
Haverhill	21,795	8	4	25.00	50.00	—	12.50	12.50
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	4	0	—	50.00	—	—	—
Newton	19,759	10	2	—	—	—	—	—
Malden	16,407	2	1	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	—	—	—	—	—	—	—
Newburyport	13,716	7	3	28.56	28.56	—	28.56	—
Northampton	12,896	1	—	—	—	—	—	—

Deaths reported 2,297; under five years of age 975; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 506, consumption 293, acute lung diseases 196, diarrhœal diseases 256, diphtheria and croup 107, scarlet fever 30, typhoid fever 24, malarial fever 24, measles 24, cerebro-spinal meningitis 16, whooping-cough 14, erysipelas six, puerperal fever four, small-pox (New York) one. From measles New York six, Lowell four, Philadelphia three, Brooklyn, Boston, New Orleans and Cambridge two each, Pittsburgh, Chelsea and, Charleston one each. From typhoid fever, Philadelphia six, New York five, Charleston four, Boston three, Worcester two, Brooklyn, Baltimore, New Orleans, Pittsburgh and Lawrence one each. From malarial fever, Brooklyn seven, New York six, New Orleans five, Baltimore and Nashville, three each. From cerebro-spinal meningitis, New York 11, District of Columbia two, Philadelphia, Boston, Milwaukee one each. From

whooping-cough, New York and Boston, four each, Philadelphia two, District of Columbia and Milwaukee one each. From erysipelas, New York three, Brooklyn, Boston, and Lynn one each. From puerperal fever, District of Columbia two, New York and Philadelphia one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 4th, the death-rate was 19.5. Deaths reported 3,452; infants under one year of age 755; acute diseases of the respiratory organs (London,) 264, measles 252, whooping-cough 143, scarlet fever 44, diarrhœa 34, diphtheria 26, fever 22.

The death-rates ranged from 12.8 in Derby to 30.5 in Manchester; Birmingham 18.8; Bradford 18.1; Hull 18.3; Leeds 17.5; Leicester 15.3; Liverpool 22.6; London 17.9; Nottingham 20.0; Sheffield 19.3; Sunderland 22.9; Wolverhampton 25.2.

In Edinburgh 20.0; Glasgow 20.4; Dublin 21.4.

The meteorological record for the week ending June 18, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 18, 1887.																			
Sunday, ... 12	30.19	62.0	68.0	53.0	49.0	44.0	50.0	48.0	S.W.	E.	S.	2	12	6	C.	C.	C.		
Monday, ... 13	29.91	74.0	83.0	58.0	64.0	41.0	48.0	51.0	N.	F.	N.W.	6	8	10	C.	F.	C.		
Tuesday, ... 14	30.16	58.0	74.0	56.0	74.0	62.0	66.0	67.0	N.E.	E.	S.E.	25	18	4	C.	C.	C.		
Wednes., ... 15	30.20	58.0	71.0	50.0	67.0	63.0	79.0	70.0	S.E.	E.	S.W.	6	17	14	C.	C.	C.		
Thursday, 16	29.81	69.0	80.0	52.0	66.0	55.0	71.0	64.0	S.W.	S.W.	W.	12	18	20	F.	F.	O.		
Friday, ... 17	29.69	68.0	77.0	65.0	74.0	76.0	77.0	76.0	N.	E.	S.W.	12	12	9	O.	F.	O.		
Saturday, ... 18	29.75	61.0	68.0	58.0	61.0	50.0	55.0	55.0	N.E.	E.	S.	10	12	4	C.	F.	F.		
Mean, the Week.	29.958	64.3	63.0	56.0				61.6											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 18, 1887, TO JUNE 24, 1887.

BARTHOLF, J. H., major and surgeon. Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

RICHARD, CHAS., captain and assistant surgeon. Sick leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

COCHRAN, JNO. J., captain and assistant surgeon. Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

BORDEN, W. C., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

SUTER, WM. A., first lieutenant and assistant surgeon. Designated as medical officer for the Rifle Camp at Creedmoor, N. Y., July 5, 1887. S. O. 124, Division of the Atlantic, June 21, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 25, 1887.

CLEBORNE, C. J., medical inspector. Ordered for examination preliminary to promotion as medical director.

LUMSDEN, G. P., passed assistant surgeon. Ordered to Receiving Ship "Franklin," Norfolk, Va.

HORVITZ, P. J., medical director. Permission to leave the United States for six months.

HARRIS, H. N. T., assistant surgeon. Commissioned assistant surgeon in the navy June 13, 1887.

SPEAR, J. C., medical inspector. Detached from Naval Laboratory and granted three months leave.

BLOODGOOD, DELAVAN, medical director. Detached from Naval Hospital, Norfolk, Va., and to the Naval Laboratory.

BRADLEY, MICHAEL, medical inspector. Ordered to Naval Hospital, Norfolk, Va.

BEYER, H. G., passed assistant surgeon. Remain on present duty until September 1, 1887.

HERNDON, C. G., passed assistant surgeon. Remain on present duty until June 17, 1888.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 18, 1887.

BRATTON, W. D., assistant surgeon. To proceed to Seattle, W. T., on special duty, June 8, 1887. When relieved to rejoin station at San Francisco, Cal., June 11, 1887.

WATKINS, R. B., assistant surgeon. Granted leave of absence for thirty days, June 8, 1887.

HEATH, P. C., assistant surgeon. To proceed to Marine Hospital, Detroit, Mich., for temporary duty, June 17, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Cornell University. Announcement of the School of Pharmacy for the Year 1887-88.

Annual Report of the Carney Hospital for the Years 1885-86. Boston, 1887.

The Sixty-Third Annual Report of the Officers of the Retreat for the Insane, at Hartford, Conn. April, 1887.

Practical Examples in Prescription Writing. By Charles H. May, M.D. Issued for the Use of his Quiz Classes.

Transactions of the American Gynecological Society, Vol. 11. For the year 1886. New York: D. Appleton & Co., 1887.

Certain Causes of Sterility in the Female and their Treatment. By Egbert H. Grandin, M.D., of New York. (Reprint.)

Electricity and Life: or, the Electro-Vital Theory of Nature. By Edward C. Towne, B.A. Cambridge: Charles W. Sever. 1887.

Notes on the Treatment of Amenorrhœa with Permanganate of Potash. By Thomas A. Ashby, M.D., of Baltimore. Baltimore, 1887. (Reprint.)

Abdominal Surgery, by J. Greig Smith, M.A., F.R.S.E. Surgeon to the Bristol Royal Infirmary, etc. Philadelphia: P. Blakiston Son & Co., 1887.

Pelvic Inflammations; or Cellulitis *versus* Peritonitis. By Thomas Addis Emmet, M.D., Surgeon to the Woman's Hospital, New York. 1886. (Reprint.)

Iodol: an Effective Substitute for Iodoform. By R. Norris Wolfenden, M.D., Cantab., Senior Physician to the Hospital for diseases of the Throat. Golden Square, London.

A Case of Nephrolithotomy during the Fifth Month of Pregnancy. By Louis McLane Tiffany, M.D., Professor of Surgery in the University of Maryland. 1887. (Reprint.)

First and Second Special Reports upon the Improvement in the Scale of Diet in the Imperial Japanese Navy, for the Seventeenth and Eighteenth Years of Meiji (1884 and 1885).

Transactions of the Eighth Annual Meeting of the American Laryngological Association. Held in the City of Philadelphia, May 27-29, 1886. New York: D. Appleton & Co. 1887.

Congenital Occlusion of the Posterior Nares. By Alvin A. Hubbell, M.D., Buffalo, N. Y., Professor of Diseases of the Eye, Ear, and Throat, in the Medical Department of Niagara University, etc. 1886. (Reprint.)

Some Observations upon the Modern Treatment of Urethritis. By George E. Brewer, M.D., Assistant Surgeon to the Outdoor Department of Roosevelt Hospital. New York: Wm. Wood & Co. 1887. (Reprint.)

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By James Alex. Lindsay, M.A., M.D., Physician to the Consumptive Hospital, Thronemount, Belfast, etc. London: Macmillan & Co. 1887.

Nasal Reflexes as a Cause of Diseases of the Eye. By W. Cheatham, M.D., Lecturer on Diseases of Eye, Ear, Throat and Nose, University of Louisville; Eye, Ear, Throat and Nose Physician to Louisville City Hospital. 1887. (Reprint.)

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M.D., Professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital; Curator to the Presbyterian Hospital. One Vol. 100 illustrations. New York: Wm. Wood & Co.

A Practical Treatise on Obstetrics. Vol. IV. Obstetric Operations. The Pathology of the Puerperium. By A. Charpentier, M.D., Paris. Illustrated with lithographic plates and wood engravings. Being also Volume IV of the "Cyclopedia of Obstetrics and Gynecology." New York: Wm. Wood & Co.

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Original Articles.

ALCOHOL AGAIN: A CONSIDERATION OF RECENT MISSTATEMENTS OF ITS PHYSIOLOGICAL ACTION.

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THE friends of temperance, falsely so-called, since total abstinence, and usually prohibition, are meant, are persistent distributors of printed matter, by which they hope to convince, or, at least, to influence their neighbors. Quite recently, such a tract on "Alcoholic Liquids as Therapeutic Agents" was extensively circulated in this vicinity, and doubtless in other places. Were it merely a pamphlet issued by the "Woman's Temperance Publication Association" of Chicago, and distributed hereabouts by the "Boston Women's Christian Temperance Union," any criticism might seem superfluous. But the tract is more than this: it is the reprint of a chapter of a medical work,¹ and, moreover, this chapter is said to have constituted a special lecture, "the closing lecture in the Practitioner's Course for 1884, and was given in compliance with a special request of the class in attendance." As a teacher's statement of the truth about alcohol, as the declaration of an older and prominent physician to younger men just entering the profession, this lecture may very properly attract our attention and criticism, since it is full of error and misstatement concerning the physiological action of alcohol, and the therapeutic inferences drawn therefrom are, to say the least, most doubtful.

It is for this reason that I venture to reopen the question, and to give a brief summary of the chief points of our knowledge of the physiological action of alcohol and alcoholic beverages. And I will say here, for the benefit of any multiscient reader, that while I hope to put together the best and the freshest of our knowledge, I have nothing absolutely new to give. While I shall endeavor to make due acknowledgment to the men whose labors have been chiefly valuable in establishing experimentally that portion of our knowledge which has such foundations, it would be as impracticable as it would be tiresome and unprofitable to name every experiment which has been made. Merely to give the enormous literature of the subject, would make a long article.

I. It is generally supposed that alcohol introduced into a sound stomach, in a not too concentrated form, is absorbed *unchanged*. The evidence that a portion is oxidized in the stomach or intestine is not strong; in any case, the amount thus altered must be exceedingly small. If the intestinal tract is affected by catarrhal or other disturbance, the absorption of dilute alcohol will be delayed or prevented, just as that of any liquid would be hindered. On this point, everybody is in substantial accord with the tract. Whether the absorption be altogether by the blood, is open to further investigation. The function of the leucocytes has been so much extended recently, that it would be hasty to deny them a share in the absorption of any substance that passes from the intestine into the body, and Dogiel claims to have demonstrated the presence of alcohol in the thoracic duct very soon after it has been taken into the stomach. The introduction of

alcohol into the body appears to stimulate various glands, so that the flow of saliva is increased, and, apparently, that of the gastric juice as well. The immediate effect on any digestion which may be going on has been the subject of much experimental inquiry. The observations which have been made with artificial digestions have generally been unfavorable to any admixture of alcohol, certainly to any considerable one. The experiments of Ogata² on a dog with a fistula also seemed to show that alcoholic beverages cause a delay in the digestive process. The very recent investigations of Gluzinski³ shed light on the discrepancy hitherto existing between these experimental results and the clinical experience that a sluggish digestion is often favorably affected by a little alcohol. Gluzinski found that, while the presence of alcohol does retard the digestive process (as shown by examination of the substances which can be pumped out of the stomach), the alcohol is rapidly absorbed, and the digestion is then accelerated, on account of an increased secretion of gastric juice. This taking place all the more readily in an empty stomach, would explain the good effects of alcohol in this connection.

II. The alcohol which has been absorbed does not leave the body in any considerable quantity as alcohol, nor as the more immediate products of oxidation (aldehyde or acetic acid). This is, perhaps, the most important truth, and has been most exactly established. It is unfortunate that Dr. Davis has again denied it. He says, page 4 of the tract: "The experimental researches of Lallemand, Perrin, and Duroy proved conclusively that alcohol . . . was eliminated as alcohol, unchanged chemically, from the lungs, skin, and kidneys," and he adds cautiously, a few lines later, that these experiments have been confirmed, "except the claim that the amount eliminated is not equal to the whole quantity taken." Surely, no beginner would infer from the last quotation that *every* competent investigator had found the amount eliminated to be not only "not equal to the whole quantity taken," but really to form only a small fraction of it; yet such is actually the case. This misstatement is aggravated by being followed a little later by another, and perhaps worse one, concerning Anstie's conclusions on the question of elimination.

The researches of the French authors mentioned above⁴ have acquired the distinction of serving as the chief weapon of the opponents of alcohol. Their apparent exactness has recommended them to many, and has rendered it difficult to give a complete and convincing demonstration of the falsity of the most important conclusion of the book: "*L'alcool est éliminé de l'organisme en totalité et en nature*" (p. 233). If the reader will take the trouble to examine the experiments on which this conclusion is based, he will be astonished at the weakness of the evidence. If he will also reckon out the amounts of alcohol which it was considered necessary to give to dogs in these investigations, and then state these amounts for a man of average weight, his astonishment will in no wise be diminished.⁵ Now it may be very instructive

² Ogata. Ueber den Einfluss der Genussmittel auf die Magenverdauung. Arch. f. Hygiene, 1885, III, 204.

³ Gluzinski. Ueber den Einfluss des Alkohols auf die Function des menschlichen Magens, sowohl im physiologischen wie im pathologischen Zustande. Dtsch. Archiv. f. klin. Med., 1886, xxxix., 405.

⁴ Lallemand, Perrin, and Duroy. Du rôle de l'alcool et des anesthésiques dans l'organisme, Paris, 1860.

⁵ It appears from the memoranda, on pages 47, 57, 63, and 66 of the above work, that an amount of alcohol equivalent to a whole bottle of brandy for an average man was a common dose for the dogs. In

¹ Reprinted from a new and very valuable work on "Principles and Practice of Medicine," by Prof. Nathan S. Davis. Published by A. C. McClurg & Co., Chicago. A large octavo volume of 900 pages."

to know just how much alcohol a dog can take and live—or die; to infer the physiological action from these amounts is dangerous; but, as we shall see presently, these investigators, in using such doses, have, in several instances, dug a pit for their own destruction.

When we recall how soluble alcohol is, and the ease with which it is absorbed, it need not seem strange that some should be excreted through the ordinary channels. It does not commonly surprise us that water is excreted, or salt, and we do not venture to build up enormous hypotheses on these facts. No one is ever restrained from using the iodide of potash because of the wonderful speed with which a portion is eliminated, and nowadays, the occasional presence of even a little albumin in the urine is looked upon with great complacency. We ought, then, to be very cautious in drawing hasty conclusions from the partial elimination of alcohol, which undoubtedly often takes place. The question which really concerns us is the amount of alcohol thus disposed of.

I ought to add, in passing, that the work of Subbotin⁶ is sometimes quoted, as showing positively a considerable excretion. It has, however, been very properly urged that he only used rabbits in his experiments, and gave them enormous doses of alcohol, so that his results do not really demonstrate its physiological action.

The most careful and extended experiments to determine the amounts of alcohol which pass off through the lungs, the skin, and the kidneys are those undertaken in England by Anstie chiefly, or at his suggestion, and those made by Binz and his pupils in the Pharmacological Laboratory at Bonn. It is, however, worthy of notice, that the work of Lallemand, Perrin, and Duroy, which led to this long controversy, contains its own refutation in itself,⁷ and was speedily objected to in its own country (Baudot). The methods for determining the excretion are not all as exact as is desirable. The simplest, (the iodoform test and the test by the reduction of chromic acid)⁸ permit the establishment of an upper limit as to the amount of the excretion but do not give an exact quantitative determination. The inflammability or the odor of the products of distillation is obviously the most uncertain of tests as regards quantity. Much more exact would appear to be the determination with the vaporimeter which has been used more extensively at Bonn than in England.

one experiment, the equivalent was as much as two and one-half bottles, and in another case, three bottles of brandy.

⁶ Subbotin. Ueber die physiologische Bedeutung des Alkohols für den thierischen Organismus. Ztschr. für Biologie, 1871, vii., 361. See Dupré's severe, but just, criticism in the Practitioner, Vol IX., page 28.

⁷ The amount recovered, for example, in the urine collected from several men for four hours after the consumption of three bottles of Burgundy and 120 grammes of Cognac, is by a most liberal calculation, less than 1 per cent., (probably not more than 0.4 per cent.) The amount obtained in the respiration experiments, so far as it can be calculated, does not seem to make a much better showing.

⁸ Of these the iodoform reaction (which arises on heating dilute alcohol with a solution of iodine in the iodide of potassium decolorized with sodic hydrate) is especially untrustworthy, since carbohydrylates, albumin, fibrin, etc., also form iodoform under similar conditions. Although this source of error was made known by Millon, as early as 1845, it was commonly overlooked by later investigators. It has also been found (Lieben) that perfectly normal dog urine contains substances which can be distilled off and give the iodoform reaction. Rajewsky (Pflüger's Archiv, xl. 122), observed that the distillation of perfectly fresh muscles (horse) or liver (horse or dog) or of the brain of a rabbit which had eaten nothing for two days, produced substances which gave this reaction, and, strangest of all, these tissues actually seemed to also contain very small amounts of alcohol. And the test with chromic acid or the bichromate of potash in sulphuric acid, although very delicate, is unfortunately not limited to alcohol. Aldehyde, acetic acid, and many other substances produce the same color change and may be mistaken for alcohol.

It would require too much space to give the details of the English and German researches. To some extent they may be considered to supplement each other since the latter have developed the quantitative methods more fully, while the careful work of the former has established certain other points very completely, although more indefinitely as to quantity. Anstie⁹ and his fellow-workers found that under the most varying conditions and with the use of all sorts of alcoholic beverages, the amount excreted, by dog or man, through all the channels already mentioned, was invariably small. Although Anstie's views are expressed with such perfect clearness in the publications just mentioned, that he who runs may read, Dr. N. S. Davis ventures to twist them as follows (Tract, p. 4); "The late Dr. Anstie, who followed up the investigation of this question with the most commendable perseverance, came to the conclusion that an average-sized adult in ordinary health, was capable of retaining about forty-five grammes (fl. 3iss) of pure alcohol in the twenty-four hours, admitting that whenever more than this was taken in the time specified, it re-appeared in the evacuations, or was eliminated unchanged." But Anstie's "admission" consisted in the declaration that "the total amount eliminated, however, even in these cases, (that is, for more than 3iss), was very small."¹⁰ For 3iij-iv he could never find more than one or two grains in the urine.

Anstie's efforts were ably seconded by Dupré, who in a number of researches showed that the amount of alcohol excreted daily (and which he found to be altogether a minute fraction only of the amount taken), does not increase with the continuance of the alcohol diet, and he showed furthermore, (*contra* Parkes and Wollowicz) that this elimination is practically finished in twenty-four hours after the alcohol is taken.¹⁰ Dupré's experiments have also a peculiar interest because he found that after abstaining from alcohol for ten days he still eliminated a substance through the kidney which when oxidised by chromic acid, yielded a volatile acid having the smell of acetic acid, and therefore simulating the excretion of alcohol as determined by this reaction. But the urine of a teetotaler who had but once in his life taken alcohol, and that two years previously, contained a similar substance at various times!

The work done in reference to this question at Bonn, has yielded quite a literature,¹¹ and its latest contribution¹² is the result of such careful experimentation under control of the vaporimeter as to leave no possible doubt concerning the amount of alcohol commonly excreted from the body, and I venture to remind the reader that it appeared some months before the delivery of the lecture forming the tract we are considering. I must refer the reader to Bodländer's article for the details of the experiments made on himself and on a

⁹ The reader will find a sufficient account of this work in Anstie's Stimulants and Narcotics, 1861, and more especially in his "Final experiments on the elimination of alcohol from the body," in the Practitioner, 1874, xlii., 15. The latter article reviews the course of the English researches on the subject, and is particularly interesting because the author died about two months after its publication.

¹⁰ Dupré, "On the Elimination of Alcohol." Proceedings of the Royal Society, 1871, xx., 268. The substance of this paper may also be found in articles in the Practitioner, viii., 148, 224.

¹¹ Its results are reported in several dissertations and in articles by Binz, who has also briefly collated it in Lectures xxix and xxx, of his recent "Vorlesungen über Pharmakologie." See also Binz, Die Ausscheidung des Weingeistes durch Nieren und Lungen. Arch. f. exp. Path. u. Pharm., vi., 287, and Heubach, Quantitative Bestimmung des Alkohols im Harn, in the same Archiv, viii., 446.

¹² G. Bodländer: Die Ausscheidung aufgenommenen Weingeistes aus dem Körper. Pflüger's Archiv für die ges. Physiologie, 1883, xxxii., 398.

dog. It took 50–100 cm. absolute alcohol diluted with water, equal to two-thirds to four-thirds of a bottle of claret. The dog received rather large doses, 10 to 30 cm. alcohol, or the equivalent of one and one-third to four bottles of claret for an average man. The amounts recovered may be tabulated as follows :

Excreted by	DOG.		MAN.		Remarks.
	Experiments	Avg. Recover'd	Experiments	Avg. Recover'd	
Kidneys	4	1.58%	12	1.18%	The chief excretion is during first hour, and is usually reduced to zero after three hours, provided the bladder has been fully emptied.
Skin	2	0	3	0.14	The excretion by the skin is practically over in four hours.
Lungs	3	1.95	3	1.60	The lung excretes alcohol much longer than the other organs, but the amount is small.
Intestines	....	....	1	0	Parkes' determination of alcohol in this connection, was made with faeces which had been preserved several days, so that many fermentative changes may have taken place.
		3.53%		2.92%	

The only other probable path of elimination would be the mammary gland, but experiments with this has led to negative results, and the stories about the intoxication of infants by means of the mother's milk are probably fables.¹³

Bodländer's results for the kidney excretion are in substantial agreement with those of Heubach¹⁴ from the examination of the urine of various fever patients, who had received considerable doses of alcohol (18.0 to 325 ccm.) in different forms. The average output through the kidneys for 22 experiments was 1.12 per cent., or possibly 1.5 per cent., on account of errors in the method.

Even if we allow 10 per cent. for a possible error in the method of Bodländer (and the error of the vaporimeter is not greater than this) we shall find that less than 5 per cent. of the alcohol taken into the body is excreted by the ordinary channels during the entire time that delicate tests show the excretion to continue. In other words, it appears that at least 95 per cent. of any reasonable amount of alcohol introduced into the animal body by the stomach, disappears, and is not found in the excretions, either as alcohol or as its more immediate oxidation products (aldehyde or acetic acid). This is result not merely of Bodländer's work but of Anstie's and of the experiments of many others. All experimental results of a contrary nature are either inexact in method or have been arrived at by the use of quantities of alcohol so large as to be considered unreasonable.

III. The alcohol which is taken up into the body and not excreted disappears; it is transformed in some way not made out as yet, and is not stored up as alcohol.

This is evident from a number of considerations which have an experimental basis. In the first place, the determinations of Anstie and Dupré showed that the excretion does not increase when the alcohol diet is continued, as it might be expected to do if the alcohol remained in the body as alcohol. Should it be urged that this excretion is already the greatest possible, it would be well to consider an experiment made by Anstie¹⁵ in 1873. He gave a small dog (9½ pounds) one ounce of brandy (containing 198.9 grains of alcohol) daily for a number of days. The excretion on the tenth day was only 1.13 grains of alcohol. On the eleventh day, two hours after receiving half-ounce of brandy, the dog was killed, and very rapidly cut up into very small pieces, and every fragment of the animal was put into water for extraction. A few hours later this mixture was examined, and only twenty-four grains of alcohol could be recovered, or not more than one-fourth of the amount which had been taken but a couple of hours before. Remembering that the elimination of the previous day was only 1.13 grains, we must infer that the dog had used up some eleven ounces of alcohol with great completeness. This corroborates an earlier discovery made by Schulinus and Sulzynski, pupils of Buchheim.¹⁶ In the course of some experiments showing that little alcohol is excreted, and that the blood contains, relatively, rather more than other tissues, it was found that fresh blood causes a portion of the alcohol which has been added to it to disappear. The loss seems to be, at least, ten per cent. This is in some way a "vital" phenomenon of the blood, for blood which has been carefully kept from eighteen to twenty-four hours disposes of much less alcohol, apparently less than one per cent. Lallemand, Perrin, and Duroy¹⁷ held that the alcohol accumulated in the blood, but especially in the brain and liver. Their figures for the amount in the liver permit no convincing calculation of the proportion of the alcohol to be found in that organ. As to the brain and the blood, such statements as are so made as to permit a calculation, show that, although very large doses were given, not more than one per cent. of the alcohol was found in the brain (experiments with six dogs), and not more than eleven per cent. in the blood (experiments with two dogs). A still further incidental corroboration of the disappearance of alcohol I shall refer to later.

I do not see how the conclusion can be avoided that alcohol is disposed of as really and as truly as any food. In fact, if we could consider its behavior as thus far presented without any bias whatever, I doubt if any one would hesitate to call alcohol a food.

I venture to place here the almost pathetic words with which Anstie closed the report of his "Final Experiments," which were, unfortunately, to be really final for him:

"I therefore trust that we may consider one important portion of the alcohol question to be closed. It is certainly rather hard that the very inadequate researches of Lallemand, Duroy, and Perrin should have been allowed so long to mislead the majority of the profession and of the public upon the subject of the elimination of alcohol, being, as they were, mere qualitative experiments, and, even as such, devised and

¹³ Anstie. Final experiments, etc.

¹⁴ See Bodländer, op. cit., p. 425.

¹⁵ See also Heubach, Ueber die Ausscheidung des Weingeistes durch den Harn bei Fiebernden. Inaug.-Diss. Bonn, 1875.

¹⁶ Schulinus. Untersuchungen über die Vertheilung des Weingeistes im thierischen Organismus. Arch. d. Heilkunde, 1866, vii., 97. See, also, Harnack's edition of Buchheim's Lehrbuch der Arzneimittellehre, 1883, p. 558.

¹⁷ Du rôle de l'alcool, pp. 63, 82, 230, 233.

carried out with such an absence of all reasonable precaution against fallacy, as should have set physiologists on their guard at once. As it is, it has cost some fourteen years of almost unintermittent work to explode the errors which the French observers made current respecting a merely preliminary investigation into the action of alcohol. I appeal to the respectable members of the teetotal party, and I put it to their sense of honor not to continue to circulate the gross misstatements on this subject which, even now, are circulated broadcast in the tracts with which their society floods the country. It cannot do the temperance cause any good in the end; indeed, the discovery that they have been systematically misled on a point to which their informers could have no difficulty in ascertaining the truth, has already produced a strong revulsion in the minds of many persons against everything that bears the most distant relation to teetotalism."

Nearly another fourteen years have passed since these words were written, and yet the same misstatement continues.

IV. Various practical considerations have led physiologists, as well as pharmacologists, to examine the influence of alcohol, particularly on the body temperature, on the heart, and on the transformation and tissue changes in the body, which are now very commonly called its metabolism.

Historically, it seems to have been chiefly the favorable results obtained by the use of large doses of alcohol in the treatment of fevers, especially in England, and there particularly under the leadership of Todd, which directed attention to the question of temperature and eventually to the other points of inquiry. The well-known "warming" effect of alcoholic drinks which manifests itself at first in the epigastric region, "making glad the heart of man" seemed at variance with its favorable action on fevers. It was thought by theorists that alcohol ought to raise the temperature and so be harmful in fever, but careful investigation has shown that alcohol tends to lower the temperature of the body. Dr. Davis (page 3 of our tract) suggests that this knowledge is due to him, having been demonstrated in experiments which he made in 1830, and used in a paper¹⁸ read before the American Medical Association in May, 1851. As there detailed his experiments prove nothing of the kind. He mentions *two* experiments made apparently with no control experiments whatever, and showing a fall of 0.5° F., which is attributed to the brandy taken. When we remember that these observations were made between nine and eleven o'clock at night, in other words, at a time when the temperature would naturally sink, we shall see how little credit is to be attached to them. Not only were Dr. Davis's observations quite inconclusive, but they are not even the earliest. A couple of years before, Duméril and Demarquay¹⁹ had demonstrated that alcohol causes a very considerable lowering of the temperature. Their method was not altogether unobjectionable; the control experiments do not appear to have been sufficiently numerous, and the doses were very large. Still earlier Nasse,²⁰ had

observed a fall of temperature in rabbits, but he laid no stress upon it.

Here, again, the Bonn pharmacological laboratory has been active in making the measurements required to clear up this question.²¹ The fact is, that it is not always quite as easy to affect the temperature by alcohol as many who are but partially familiar with the subject commonly suppose. All careful investigators are agreed that alcohol taken into a healthy animal body never raises the temperature. As to the lowering, the following statement, condensed from Binz (Vorlesungen, page 360), gives the view which has a good claim to general acceptance: The temperature of healthy persons is not sensibly altered by small amounts of alcohol, which, however, may be large enough (particularly in a concentrated form) to produce a feeling of warmth in the stomach and later in the skin. Moderate amounts of alcohol, 30 to 80 grammes, (that is, two-fifths to one bottle of claret), may cause the temperature to fall 0.3° to 0.6° C. (0.5° to 1.1° F.) and this without the production of intoxication. This reduction of the temperature is also evident at the time of day when a rise would be naturally expected, (Daub), but the amount of the reduction is very much lessened by the habit of using alcohol. Narcotic doses, on the other hand, reduce the temperature several degrees and this continues for some hours. In other words, a glass of whiskey or a pint of beer has no appreciable effect on the body temperature; doubling the dose will perhaps cause the temperature to fall somewhat in those unaccustomed to the practice; complete intoxication (from alcohol) is accompanied by a great fall of temperature.²²

The conclusions of Ringer and Rickards²³ and those arrived at by Parkes²⁴ are in substantial agreement

²¹ See: Binz, Sitzungsber d. Niederrh. Ges. 1869; Berl. kl. Wochenschr., 1869, 334.

Bouvier: Untersuchungen über die Wirkung des Alkohols auf die Körpertemperatur. Pflüger's Arch., 1869, 111, 370.

—: Alkoholstudien. Ctbl. d. med. Wiss. 1871, 801.

Daub: Ueber d. Wirkung des Weingeistes auf d. Körpertemperatur. Arch. f. exp. Path. u. Pharm., 1875, 111, 260.

The literature is very fully given in Binz's "Vorlesungen" including several dissertations which I omit.

²² And this fall is all the greater when the drunkenness happens to coincide with exposure to cold. Several illustrations of this have become classic:

See: Magnan, Gaz. méd de Paris, 1870, 88: "Une femme ivre, qui était restée pendant plusieurs heures exposée à un froid très-vif, a présenté au rectum et à l'aisselle une température de 26°, (78.8° F.) qui s'est élevée progressivement, de huit heures du matin à quatre heures du soir, jusqu'à 37°, température normale. La malade, du reste, est sortie guérie de l'hôpital."

Reinke, Beobachtungen über d. Körpertemperatur Betrunkener. Dtsch. Arch. f. kl. Med., 1875, xvi, 12. These were cases brought in by the police. Temperatures from 39° to 35.4° C. (86° to 95.7° F.), were common. In some lethal cases it was still lower. His most extraordinary temperature (p. 15), was in a man who was found drunk shortly after midnight. He was transferred to the hospital in the morning with a rectal temperature at 8 o'clock of 24° C. (75.2° F.) There was gradual improvement during the day and at 7 o'clock the next morning the temperature was normal and he was discharged at noon.

Weckerling, same Arch., 1877, xix, 317. Rectal temperature of 35.4° C. (95.7° F.) in a child (three and three-quarters years), which had drunk a large quantity of "schnaps."

²³ Ringer and Rickards: Influence of Alcohol on the Temperature of Non-febrile and Febrile Persons. 1866. Proc. Roy. Med. and Chir. Soc., v, 209.

²⁴ See: Lond. Med. Rec., 11 Mch. 1874. Parkes' chief contributions which bear on this point are:

(1) Parkes and Wollowicz. Experiments on the Effect of Alcohol (Ethyl Alcohol) on the Human Body. Proc. Roy. Soc., 1870, xviii, 362. (No unquestionable reduction from 1-8 oz. of rectified spirits daily, or from 1-2 bottle of fine brandy in divided doses. A slight rise of 0.5° F., is complicated by the presence of a "febrile catarrh.")

(2) Parkes and Wollowicz. Experiments on the action of Red Bordeaux Wine (Claret) on the Human Body. Proc. Roy. Soc., 1871, xix, 73. (Practically no effect from 10, or from 20 oz. of good claret; certainly no rise of temperature.)

(3) Parkes. Further Experiments on the Effect of Alcohol and Exercise on the Elimination of Nitrogen and on the Pulse and Temperature of the Body. Proc. Roy. Soc., 1872, xx, 402. (No depression of temperature for three daily doses of brandy of 4 oz. each.)

(4) Parkes. On the Influence of Brandy on the Bodily Temperature, the Pulse, and the Respirations of Healthy Men. Proc. Roy.

¹⁸ An Experimental Inquiry concerning some points in the Vital Processes of Assimilation and Nutrition, Northwestern Medical and Surgical Journal, 1852, iv., 169.

¹⁹ Duméril et Demarquay. Recherches expérimentales sur les modifications imprimées à la température animale par l'éther et par le chloroforme, et sur le mode d'action de ces deux agents. Arch. gén. de méd., 1848, xvi., 334.

²⁰ Nasse. Ueber die Wirkung des Aderlassens auf die thierische Wärme. Med. Correspondenzblatt rhein. u. westf. Aerzte 1845, iv., 316.

with the views I have noted from Binz. Parkes seems to have found that the small reductions of the temperature are brought about by smaller doses, while the body is at rest and especially while fasting, than with food and exercise. In general, his men (soldiers) required rather large doses to affect the temperature, but they were all accustomed to alcohol. Or is it possible, as an eminent physiologist once suggested privately to me, that the temperature of the body has a somewhat different regulation in England from that on the Continent?

The reduction of fever temperatures by the use of alcohol has been equally fully demonstrated, and is generally admitted, so that alcohol is also considered by many that have seen this effect, to be a very important antipyretic. It would, however, lead much too far, were we to examine this aspect of the question, and I only wish to consider the physiology of the subject.

We come now to the consideration of an effect where the experimental evidence is in a very unsatisfactory condition—that on the heart. It is a fact often enough observed clinically that a weak heart can be quickened and strengthened by alcohol administered either hypodermically or through the intestinal tract. It is, however, somewhat uncertain whether we have to do here with a direct action on the heart or with a reflex stimulation.²⁵ On the other hand there is some evidence that such an effect is altogether problematical. Zimmerberg's dissertation (written at the suggestion of Schmiedeberg in 1869) is commonly given as authority for the statement, the stimulating influence on the heart does not exist. It has however, been urged the Zimmerberg's doses were toxic.²⁶

Martin, too, in an article which I shall quote presently, seems to have found that a small dose of alcohol well diluted (15 cc. in 50 of water) does not quicken the heart-beat of a teetotaler.

The direct action of alcohol on the mammalian heart has only recently been studied, in fact the Baltimore method of isolating the dog's heart so as to permit such investigations is itself quite new. By ingeniously picking out what he wanted, Dr. Davis derives great comfort from the work of Martin and Stevens.²⁷ These investigators found that defibrinated

Soc., 1874, xxii, 172. (The Temperature of a man remaining quietly in bed was not especially changed by brandy (1 to 6), taken four hours after breakfast. During complete inanition (no food from 6 P. M., until 1 P. M., 6 ozs. of brandy being taken at 10 A. M.), the temperature was more distinctly lowered, but the average for the three hours is only 0.6° F.)

²⁵ Bleuler and Lehmann have recently shown (Archiv. f. Hygiene III, 215) that the pulse is readily quickened by all substances (hot water, salt solutions, etc.) which cause any feeling of burning, pressure or nausea in the stomach, or a fullness in the intestines, especially in the rectum.

²⁶ Zimmerberg, Untersuchungen über den Einfluss des Alkohols auf die Thätigkeit des Herzens. Dorpat, 1869. An examination of this dissertation certainly does show very large doses for frogs, rabbits, and cats, but it cannot be urged that those given the men were unduly large. The average pulse, as I figure it from the data printed, really shows less increase from alcohol than we should expect from clinical and other experience, and the blood-pressure (cats) is undoubtedly lowered in a way which does not agree with the results of other observers. The rabbits showed a very marked rise of the pulse-rate, and Zimmerberg endeavors to explain this by an experiment with the injection of water (into the stomach) which was also followed by increased heart activity. But the water effect only lasts forty minutes, while the alcohol quickening still continued at the end of the experiments, or some sixty-five minutes after taking the alcohol. Of all the animals used for this work the rabbit is the most likely to have had a considerable quantity of food in the stomach. It is, therefore, a plausible explanation that the slowness of the absorption and the continuance of a mild reflex stimulus may have raised the pulse, and it is also noticeable that the dogs, which apparently received more moderate doses do show some quickening of the pulse shortly after the alcohol was given.

²⁷ Martin. The direct action of ethyl alcohol upon the heart. From the Transactions of the Med. and Chir. Fac. of Maryland, 1883. In Maryland Medical Journal, September 8, 1883, p. 289. Experimental details of these experiments are given in the "Studies from the Biological Laboratory," of Johns Hopkins University, Vol. II, p. 477.

blood fed directly to the heart (only the heart and lungs being in the circulation in this method of working) and containing 1-2 per cent. by volume of ethyl alcohol, invariably caused a very rapid and marked diminution in the work done by the heart in a given time as indicated by the amount of blood pumped out. With blood containing 1-4 per cent. alcohol the effect is in most cases the same, but sometimes little or none, and no influence is exerted by blood with but 1-8 per cent. at least for several minutes. This effect is due to a distension of the heart, the systole growing less and less complete. Martin calculates the amount of alcohol which would be 1-4 per cent. of the blood of an adult man and calls it about 15 ccm., or the equivalent of a good "glass" of brandy. Thus far Dr. Davis quotes him correctly in his lecture, but appears to have overlooked the following very important passage with which Martin's article in the *Maryland Medical Journal* ends (p. 294):

"We have made a few experiments to see what dose of alcohol given by the stomach to a dog will produce some similar action on the heart. When the heart lies in the body and in connection with the central nervous system there are of course considerable difficulties to be overcome, and all we can say as yet is that to get any distinct influence on blood-pressure one must put much more alcohol into the stomach than an amount equal to 1-4 per cent. of the total blood of the animal. It is either not absorbed fast enough to reach at any moment the heart-poisoning limit, or, more probably, is picked up by other organs, very likely the liver, and held back from the heart.

"We then tried in another way, by directly injecting into the jugular vein of a curarized dog, a small quantity of salt solution containing an amount of alcohol equal to 1-4 per cent. of the total blood of the animal reckoned as 1-13 of the weight. In such cases we found usually a very temporary enfeeblement of the heart, indicated by a lower arterial pressure, but this seems only to last while the injected solution is flowing through the organ, or for a few seconds afterwards. Before the blood returns it has apparently deposited its alcohol elsewhere in the body, or at any rate got rid of it somehow, so that it no longer acts immediately upon the heart, at least to a directly noticeable extent."

It will thus be seen that although the results of Martin and Stevens are probably true for alcoholized blood circulating through the heart, the body does not permit the heart to be reached ordinarily by any such amount of alcohol. The reader will see in this fresh evidence that the body disposes of the alcohol by some other process than excretion. This behavior of alcohol need not particularly astonish us, for we know now that various products of the digestive process ("peptones" or diffusible bodies standing near these), which in all probability are readily taken up from the intestine, cause much disturbance when injected directly into the blood. There is, however, some experimental evidence that alcohol really stimulates the heart and raises the blood-pressure.²⁸ The investigations of Parkes and Wollowicz, and those of Parkes alone, certainly show a considerable quickening of the

²⁸ See Dogiel in Pfäuger's Archiv viii, 605, (unfortunately only a résumé) and the *Referat* on the (Strassburg) dissertation of Rioschiro Maki in the *Centralblatt f. klin. Medizin*, 1884, 685. The latter's experiments appear to have been made on the frog's heart with Williams' apparatus, and are in a measure opposed to the conclusions which Davis draws rather loosely, as usual, from the work of Ringer and Sainsbury. (*Practitioner*, 1883, xxx, p. 339.)

pulse in the soldiers they experimented on. This quickening seems to last too long to be merely the result of intestinal stimulation. Their sphygmograms will apparently bear the interpretation that the tension is increased, but all sphygmographic work is more or less enigmatical.

Here belong, too, the apparently careful experiments of Castillo,²⁹ who found (for rabbits and dogs) that small doses of alcohol accelerate the pulse by direct stimulation of the heart (the nerves being cut) with an increase of the cardiac force and a higher arterial pressure, while larger doses accelerate the pulse but diminish cardiac force and lower the arterial pressure. With an excessive dose the pulse-rate is diminished from the first; there is a direct paralysis of the heart, which always comes to a standstill in diastole. This shows, what is also generally admitted, that there is a period of the alcohol effect, often easily and rapidly reached (it being probably rather a question of quantity rather than of time), when the heart is weakened, the bloodvessels much relaxed and the blood-pressure greatly lowered. This is probably a nervous phenomenon and due to a paralysis of vasomotor centres, for Kobert found that bloodvessels showed no special change when alcoholized blood circulated through them.³⁰

(To be continued.)

THE SURGERY OF THE ABDOMEN ILLUSTRATED BY EIGHT CASES.

BY D. W. CHEEVER, M.D.,

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CASE I. PERICÆCAL ABSCESS.¹

THE patient was a girl of ten years, who, though always delicate, had never up to the present illness, had any serious disease. For about six weeks before she was seen by me in consultation, she had suffered from abdominal pain with occasional vomiting, and feverishness. On examination there was found to be a solidification of a large part of the right lung which interfered seriously with respiration. Indistinct fluctuation was made out in the right iliac region and by aspiration at a point midway between the umbilicus and the crest of the ilium, about sixteen ounces of pus was drawn out. As at this time the child was much exhausted and the removal of the pus afforded relief, it was thought wiser to pause here. The abscess, however, refilled, and eighteen days after, the aspiration was laid open.

It was found necessary to make the abdominal incisions, one in the median line, and one at each side of it. A large quantity of foul pus was let out. The finger introduced through the median incision entered at once a large abscess cavity, extending across the abdomen from side to side, which must have held at least a pint and a half of pus. No connection with the viscera was detected, and the intestines were apparently walled off by inflammatory exudation. The cavity was washed out with carbolic solution, large drainage-

¹ This case occurred in the practice of Dr. G. E. Titecomb, of Concord, Mass.

²⁹ Castillo. The physiological action of alcohol on the circulation. Philadelphia Medical Times, 1880, xi, 44. This is an abstract of a prize inaugural essay, and unfortunately does not contain full details.

³⁰ Cf. Binz' Vorlesungen, p. 386. Kobert. Ueber die Beeinflussung der peripheren Gefässe durch pharmakologische Agentien. Arch. f. exp. Path. u. Pharm., 1886, xxii, 77.

tubes were inserted into the two lateral incisions and a braid of silk into the median one. Carbolic oil dressings were used. After the operation there were no signs of collapse, and the temperature fell rapidly to normal. The cavity was daily washed out with a solution of corrosive sublimate. The patient began to gain flesh and strength, and three weeks after the operation the middle sinus closed, the silk having been removed in the mean time.

Six weeks after the operation the sinus on the right side had closed permanently. That on the left nearly healed up, but began finally to discharge faecal matter. Two months after the operation this faecal fistula healed spontaneously.

The right lung did not entirely clear up, until about four months after the operation, at which time the child was well and strong.

The final formation of a faecal fistula seemed to indicate some low or tubercular ulceration of the bowel. The original site of the abscess was near the cæcum and ascending colon. There was no stoppage of the bowels. Considering the feeble constitution of the child and the infarction of the right lung, together with the long duration of the illness, the recovery was a remarkable one. The spontaneous closure of the faecal fistula was also remarkable, although this is often seen after hernia and strangulation.

CASE II. PERITYPHLETIC ABSCESS.

The patient was a Swede, twenty-three years old. He was undersized and poorly nourished. On account of the language it was impossible to obtain a complete history. So far as could be made out, however, the patient received a blow in the left groin about three months before he first came under my care, and for the last month or so pain had been present in the abdomen, gradually increasing in severity. This pain has been so constant and severe as to prevent sleep. The patient had lost flesh and strength and had little or no appetite. Micturition difficult and painful. The abdomen was enlarged symmetrically. The catheter drew off twenty ounces of clear urine, after which the right lower abdomen seemed somewhat more prominent than the left. The aspirating needle was inserted in the median line four inches below the umbilicus, but nothing was found. There was a fluctuating area on the left of median line, and the aspirating needle was again inserted, this time an inch below and to the left of the umbilicus. A few drops of pus were drawn out. With the needle as a guide an incision was made down to the peritoneum, but no pus was found. The finger introduced into the peritoneal cavity detected an induration below and to the right, which could be grasped between the finger of one hand within, and the other hand without. The needle was then introduced at a point two inches to the right, and three inches below the umbilicus, and considerable thick, foul pus evacuated. Using the needle as a director a free opening was made into the abscess cavity. The index finger introduced into this cavity, discovered three apparently blind pouches; one directed upwards and towards the first incision, a second passing outwards and towards the flank, and a third passing backwards. The abscess-cavity was irrigated with carbolic solution, and drainage-tubes were introduced. The first incision was carefully sutured, and sealed with the compound tincture of benzoin. A rectal examination was now made, and a fluctuating projection discovered on the

anterior wall. It was apparently of about the size of an orange, and the tissues about it were indurated. Into this swelling a long curved trochar was introduced, and several ounces of very thick, extremely offensive pus were evacuated. The canula was tied in, but removed on the next day.

After the operation the patient steadily gained flesh and strength, the wounds healed rapidly, and indurated swellings in the abdomen and rectum gradually disappeared.

This was probably a case of perityphlitic abscess finally descending into the pelvis. The points of interest were the false start made by cutting down upon the needle, and the opening of the peritoneal cavity without subsequent infection.

CASE III. PYONEPHROSIS.

The patient was a woman, twenty-five years old. About two months previously she had been delivered of her first child, after a tedious labor, in which forceps were used. She had made a good recovery, and was up on the tenth day. By the end of the third week, she began to have pains in the abdomen and back, which gradually became more severe and more constant. The urine contained much sediment, mostly pus. On questioning, it was found out that the urine had been cloudy ever since the confinement. On examination of the abdomen, a tumor was found in the right lumbar region, which extended far back toward the spine, and under the false ribs. It reached, in front, to within one inch of the umbilicus. This tumor was dull on percussion, and was quite hard, though indistinct, deep-seated fluctuation could be made out. There was considerable tenderness.

An aspirating needle was introduced a little in front of the middle of the tumor, and fœtid pus was found. The needle was left in position, and an incision four inches long made from the lowest rib to the middle point of the iliac crest, in a direction downwards and slightly forwards. The anterior border of the quadratus lumborum muscle was seen running diagonally across the line of incision. The transversalis fascia was then divided, and the sac-wall disclosed. On tearing through the latter, six or eight ounces of very foul pus was let out, and the tumor disappeared. The peritoneum was not disturbed. The examining finger could make out a sinus, extending upwards toward the kidney. The cavity was irrigated with carbolic solution, and drainage-tubes inserted. They penetrated fully four inches.

After the operation the patient rallied, and soon began to gain in strength. The discharge from the tubes diminished gradually, but the sediment in the urine, though somewhat less than formerly, contained a large amount of pus. Sixteen days after the operation, a slight amount of urine escaped from the wound in the side. The cavity was, however, contracting, and the tube was introduced with difficulty. From this time on there was a gradual improvement in the condition of the patient, in spite of many set-backs. When she was last seen, some months after the operation, there was a small sinus, which discharged slightly from time to time. A round swelling, about the size of an orange, was still to be felt in the right side. The urine contained a faint trace of albumen and considerable sediment, mostly pus.

It was quite uncertain, in this case, whether the disease was puerperal or not. Life was saved by bold

operative procedure, but the entire disease was not yet removed. To remove the suppurating kidney, was a question for future consideration. It seemed probable that this was a perinephritic abscess, opening early into the pelvis of the kidney.

CASE IV. PELVIC ABSCESS.

The patient was a single woman, thirty-one years old. She had never had any children. Was well up to within four years, at which time she had "inflammation of the bowels." She recovered from this illness, and was able to return to work. Within the last six months or so, she had suffered from a stopping of the catamenia, with pains in abdomen and back. The pain in the abdomen had been, for the last two weeks, severe enough to prevent sleep. The patient had been losing flesh and strength; constipation was present, as well as a frequent desire to micturate; urine cloudy when passed, and contained large amount of pus.

On palpating the abdomen, a large mass, painful on pressure, was found occupying the lower part of the abdomen, on the left side. It was apparently above the true pelvis. No fluctuation could be made out, and the aspirating needle, thrust into the most prominent part of the mass, failed to discover pus. A careful vaginal examination, with the sound in the bladder, gave no additional information as to the limits and position of the tumor. The urethra was then dilated, and the index finger introduced into the bladder. This viscus seemed to be attached high up, but no opening into it could be made out.

The bladder was washed out daily with antiseptic solutions, and the patient gained in strength, and the pain decreased, though the urine still contained a large amount of pus. Suddenly, pus began to be noticed in the stools, showing that an opening had been made into the rectum. Eventually, the patient made a perfect recovery.

The refraining, in this case, from opening the peritoneal cavity, when a vent for the abscess existed through the bladder, was rewarded by entire recovery through the outlets made by nature. It is a well-known fact that pelvic abscesses are much more likely to recover spontaneously than those wholly within the abdomen.

CASE V. INTESTINAL OBSTRUCTION FROM VOLVULUS; ABDOMINAL SECTION; ARTIFICIAL ANUS; DEATH.

(This case occurred at the City Hospital, in the practice of Dr. G. H. Lyman, who transferred it to me for operation.)

A well-developed young man of twenty-three years, who had, up to the present illness, always been well, was seized with abdominal pain and tenderness, particularly in the region of the umbilicus. There was persistent constipation and vomiting. The vomitus, at first thin and colorless, later became stercoraceous. Warm-water enemata, introduced through the rectal tube, failed to bring away more than a few small fecal lumps.

The patient's condition growing gradually worse, and collapse threatening, he was transferred for operation.

An incision five inches long was made in the right linea semilunaris, downwards from the level of the umbilicus. The bowel was moderately distended and dark-colored. The cœcum could not be found. The hand, passed into the peritoneal cavity, failed to detect

any adhesion, hernia, or twist. The small intestine was opened and stitched to the lower extremity of the abdominal wound. About seventy-two ounces of thin, fecal matter was discharged. The patient could not be made to rally, but died quietly three hours after the operation.

An autopsy was made by Dr. Gannett, fifteen hours after death. On opening the abdominal cavity, a portion of the large intestine, enlarged to about the size of the calf of a man's leg, was found lying diagonally across the abdominal cavity, from the right ileo-cæcal to the left hypochondriac region. The cæcum was a portion of this, and occupied the last-named position. The upper 30 cm. of the large intestine, and the lower 150 cm. of the small one, were markedly distended, injected, and in patches showing a uniform, dark-bluish appearance.

The portion of large intestine below the distended part mentioned was of about the size of the thumb. It was found that the *cæcum* had no attachments, and that the ascending colon had a long meso-colon, and that this portion of intestine had been twisted once-and-a-half on itself, in the direction of the hands of a clock. This caused a constriction at a point 30 cm. below the ileo-cæcal valve, through which, evidently, nothing could pass. A revolution and a half of this portion of large intestine restored it to its normal position.

The opening in the small intestine, which corresponded to the external wound, was situated 300 cm. above the ileo-cæcal valve. The constricted portion was very dark in color, but showed no evidence of actual necrosis.

The autopsy revealed the reason why the cæcum could not be found *in situ*. Although all the symptoms pointed to the right side of the abdomen, and the incision in the right linea semilunaris was over this, yet it would have been better had a long median incision been made. The operation should have also been undertaken earlier.

CASE VI. STRANGULATED INGUINAL HERNIA; HERNIOTOMY; RESECTION OF INTESTINE; DEATH.

The patient, a well-built, hardy-looking sailor of twenty years, had had a reducible hernia for years, but had never worn a truss. He thought that he strained himself while at work on his vessel, for there was a pain in the region of the hernia, and that night the rupture would not go back as usual. All the symptoms of strangulation set in, but it was not until four days afterwards that his vessel reached Boston, and he was taken to the City Hospital. There was found in the right groin, extending from the external ring to the lower extremity of the right side of the scrotum, a prominent swelling of a red, dusky hue, the size of a fist. The overlying tissues were oedematous and somewhat tender. Abdomen moderately distended and tender.

A vertical incision was made over the most prominent part of the tumor, and passing nearly to the end of the scrotum. The tissues were divided, layer by layer, until the sac was reached. This was punctured, and several drachms of a dark-colored fluid escaped. In the sac was a portion of omentum, almost black, lying in contact with the testis (the hernia being of the congenital variety).

Under the omentum was a loop of bowel, apparently almost necrotic. There were adhesions at the rings.

After free incision of the constricted parts, *including both rings*, healthy bowel was brought down, and resection decided upon. The incision was carried up in the right linea semilunaris for three inches. The necrotic omentum was excised, and the stump secured in two sections by carbolized silk and dropped into the peritoneal cavity. The dark portion of the intestine was removed, together with a good margin of apparently sound gut on each side. The mesentery was secured by a running suture. The ends of the intestine were united by a dozen Lembert stitches, and the whole was then dropped back into the abdominal cavity and the wound closed.

The patient rallied quite well from the operation, but persistent vomiting set in, and finally, collapse, and the patient died quietly eighty-four hours after the operation.

The post-mortem examination showed that the bowel was turned sharply on itself at a point one foot above the cæcum, the finger thus formed being thrust down into the right side of the pelvis, and so firmly fixed there as to require considerable force to dislodge it. The neck of this loop was so constricted that no fecal contents, evidently, could pass. The intestine above was much distended with gas and feces, while all below was empty. The point where the bowel had been sutured was found three inches *above* the sharp turn in the bowel, the bowel being collapsed between the two points, and bluish-black at the constricted point.

At the point of suture the intestines were all adherent in a mass, and were so fastened to the abdominal wall that a portion of the latter had to be removed in getting them out. The intestine above was covered with injected vessels—that in the vicinity of the wound was covered with masses of fibrinous false membrane. Union was very perfect, apparently, lymph having filled up the sulcus between the two rolled-in edges, except at one point, where these edges seemed to have sloughed off, and at this point a probe could be passed out into a cavity which had been walled off by peritoneal adhesions. Along the mesenteric border, when the surrounding intestines, which were closely adherent, were pulled away, was found a small quantity of pus.

This patient died of combined external strangulation at the ring (hernia), and internal strangulation within the pelvis.

Probably the strangulated hernia preceded the other condition. Strangulated hernia of five days' duration commonly ends in death, or artificial anus. The necrosed piece of intestine removed was from three to four inches long; the gut on either side appeared well, and the internal strangulation, lower down, was not discovered. The sloughing condition of the scrotum was also an element in the prognosis. The patient was a tough young sailor, and survived his first attack eight and a half days.

CASES VII AND VIII.² STOPPAGE OF BOWELS. RECOVERY WITHOUT OPERATION. STOPPAGE OF BOWELS WITH PERITONEAL IRRITATION.

The two following cases occurred in the practice of Dr. George B. Shattuck, and he has kindly allowed me to report them.

C., a cabinet-maker, fifty-four years of age, entered the Boston City Hospital, October 9, 1886. Accord-

² See page 13 of the Journal.

ing to his account six or eight months previously began to have pain in the umbilical region, frequent eructations, a good deal of nausea, and occasional vomiting; had some shortness of breath and general weakness, but continued to work up to four days before coming to the hospital; since which time his bowels had not been moved; he had had great pain all over the abdomen, so severe as to keep him awake at night and prevent his lying on his back or straightening out his thighs; had kept his bed for the past four days, vomiting all food and the medicines he had taken, among which were cathartics.

On admission, temperature 99.6, pulse 88, respiration 36; tongue covered with thin white fur; abdomen somewhat distended, tympanitic, very sensitive throughout to deep pressure. Was ordered twenty minims of the deodorized tincture of opium, to be repeated in an hour, *si opus sit*.

October 10th. Fairly comfortable night, less pain, bowels moved slightly by enema. Liquid diet, small quantities frequently repeated. Opium continued, *pro re nata*.

October 11th. Vomited several times during the morning, the vomitus being stercoraceous. Pain controlled by opium. A rectal injection of five pints of tepid water administered with long rectal tube brought away very little fecal matter.

October 12th. Abdomen less tympanitic, softer, less tenderness, no vomiting; some prominence in the umbilical region; patient takes scarcely any nourishment; vomited several times, vomitus stercoraceous. Large enemata of tepid water without result.

October 13th. Occasional vomiting of same character, rather more tenderness and fulness at the umbilical region. Enemata without result. Temperature 98°, pulse 88. (Seen by Dr. Cheever with reference to the propriety of surgical interference.) "This I decided against because I could not localize the difficulty. The patient looked badly, haggard, anxious, and emaciated; vomiting and tympanites were the prominent symptoms — but it did not seem to me that an incision afforded sufficient promise of success."

October 15th. Enemata continued since last record, and on this day a good deal of thin fecal material came away. No vomiting since the 13th, patient somewhat more comfortable with a little relish and desire for food.

October 16th. Bowels moved spontaneously, a moderate amount of thin, orange-yellow fecal material being evacuated. Temperature normal, pulse 80.

October 19th. Enemata continued, and much thin fecal matter has been evacuated during the last few days. Last night, after several hours of severe pain, patient passed per anum, a hard irregularly cylindrical mass with rounded ends, measuring three-and-three-fourths inches in length, and one-and-one-fourth to one and one-half in diameter, so hard as to be broken with difficulty, of slight fecal odor, consisting of dark orange and grayish material in flakes and lumps, firmly compacted together.

A. B., female, forty-three years of age, single, domestic service. Always had had very good health. Entered the City Hospital October 27, 1886. Three months before began to have diarrhœa, dejections watery in character, at times very frequent as often as every hour, followed by pain in bowels and back-passage. Occasional vomiting for several weeks and some incontinence of urine, both of these symptoms absent

for two weeks before coming to hospital, and the diarrhœa less frequent. Had lost much flesh.

On admission complained of some pain in lower abdomen and small of back.

Examination showed that the abdomen was considerably distended and tympanitic, with marked tenderness and sense of resistance in the right iliac fossa. Rather frequent diarrhœal dejections.

November 2d. No movement of bowels since October 28th. Examination by rectum found the rectum filled with masses of soft putty-like feces. A hard body felt on the right side, pushing in the wall of the rectum. Attempts to empty rectum by enemata were fruitless. Taking very little nourishment. Vomiting at times, and complaining of rather severe abdominal pain.

November 4th. Vomited frequently, abdominal distension, pain and tenderness increased; tenderness general, but most marked as before, in the right iliac region. Pulse small, increased weakness. Seen in consultation by Dr. Cheever who considered surgical interference undesirable, and thought the chronic peritonitis was possibly due to malignant disease. In this case the aspect was sunken and almost that of threatening collapse.

November 7th. Less pain, less vomiting, increased desire for nourishment. Rectum emptied, and examination by Dr. Cheever who found a hard lobulated tumor behind and at right side pushing in the rectal wall.

November 8th. Enemata of castor oil and olive oil administered since yesterday, had brought away several masses of hard feces, and during the night the patient had four spontaneous movements, the first since October 28th.

January. The patient is still in the hospital, and a tumor is now very evident above the pubes. She suffers from paralysis of the rectum.

PROGRESS IN DENTISTRY.

BY WILLIAM HERBERT ROLLINS.

EFFECTS OF URIC ACID ON THE TEETH.¹

THE effects of uric acid in the blood is an absorption of the alveoli of the teeth, or this absorption may be accompanied by a new deposit of bone. In some cases, the processes occur side by side on the same alveolus, as on the superior molars, where it is not uncommon to find on the palatine roots absorption, both of the gums and alveoli, while, on the labial roots, the thickness of the alveolus is increased. The formation of tophus often accompanies this disease of the teeth. When it is present, absorption of the alveoli always precedes the deposit by about a sixteenth-of-an-inch. Not infrequently, the uric acid tophus is mixed with a deposit of phosphate of lime. The uric acid dissolves the pericemental membrane. This solution may be free from pain, but usually there is a sense of uncomfatableness in the teeth which are attacked. In addition to the usual constitutional treatment, alkalies should be applied to the gums, as they have the power to dissolve the deposits. Carbonate of soda is mixed with chalk and some pleasant essential oil, and the patient is directed to rub the mixture on the gums before going to bed.

¹ Reese in Independent Practitioner, p. 247, 1886.

CHANGES IN THE TEETH IN LOCOMOTOR ATAXIA.²

The writer believes that the changes which are found in the trigeminal nerves, and the functional disorders that may result from them, favor the growth of germs, which, in his opinion, are the immediate cause of the loss of the teeth. He was not able to find any differences in the teeth lost in this disease from those shed in the ordinary alveolar pericementitis.

A NEW STREPTOCOCCUS.³

Mr. Black describes a new streptococcus, which he considers the cause of sordes in fevers. Cultivated on gelatine, its colonies become milk-white in three hours, and in tubes of peptonized broth, the contents are completely gelatinized in fifteen hours. Unlike other streptococci, it does not form in pairs or rows of even numbers, odd numbers being as frequent. When present, the dorsum of the tongue is its favorite seat.

FOUR SETS OF TEETH BEFORE THE AGE OF FIFTEEN YEARS.⁴

The child, who was under the care of Dr. Gatching, developed the first set of teeth at the age of six months. These teeth were all shed at nine months. At eleven months, she began teething again, another set of teeth being erupted in four months. Six weeks after, these teeth began to crumble, and were entirely lost. Her weight at this time was ten pounds. At thirty months the third set appeared, and these remained till the age of four years, when they were extracted. The fourth set began to erupt at eleven years, and the dentition was complete at fifteen.

SYPHILIS IN RELATION TO DENTISTRY.⁵

The patient who intends to go through a course of treatment for syphilis with a minimum of suffering must place himself in the hands of a competent dentist, because tartar, carious cavities, or any rough points about the teeth are almost sure to produce a most luxuriant growth of mucous patches or destructive ulcerations. When the teeth or gums are out of order, the patient is so intolerant of mercury that it is almost impossible to give him enough for his disease. These oral lesions are so actively contagious, that every precaution should be taken to clean the instruments after they have been used. A lesion so slight as to escape notice, may be the means of transmitting the disease to another person through improperly cleaned instruments. A safe rule is to use no instruments which we should hesitate to put in our own mouths. Lydston does not consider that the absence of Hutchinsonian teeth invalidates a diagnosis founded on other grounds, and points out that few children so badly affected reach the age of teething.

RELATIONS BETWEEN DISEASES OF THE GUMS AND DISEASES ELSEWHERE.⁶

The various skin eruptions, vomiting, convulsions, diarrhoea, and constipation, so frequently found to be coincident with teething, are supposed by the writer to be due to an infection of micro-parasites in the gums. For treatment, he uses a mixture of chloride of sodium, two parts; iodine, one part; and water, two hundred parts. With the paling of the gums

which follows the local application of this mixture, there is a concomitant subsidence of the catarrh of the respiratory and digestive surfaces, and the feverishness and reflex nervous phenomena come to an end.

ACCIDENTS IN TOOTH EXTRACTION.⁷

The patient was supposed to have a malignant tumor of the rectum, for a hard, well-defined tumor, painful to the touch and ulcerated, could be felt encroaching on the external sphincter. She was put under preparatory treatment for an operation, but, being attacked by pneumonia, the operation was delayed, and in the course of a few weeks, while at stool, a hard point was felt in the tumor, which, on removal with the finger, proved to be a tooth. She then remembered that, fifteen years before, she had swallowed a tooth when her teeth were being removed for an artificial set.

GASTROTOMY FOR THE REMOVAL OF ARTIFICIAL TEETH.⁸

The patient, a robust man, thirty-seven years old, swallowed his teeth September 23d. By July 23d he had lost sixty-seven pounds, and was growing weaker. Therefore, an operation was decided on. A preliminary examination showed that the plate was in the œsophagus, fourteen inches from the incisor teeth. On August 5th, an incision six inches long was made, one-and-one-half inches below, and parallel to, the margin of the left hypochondrium. It began at the outer border of the rectus abdominis, and three inches from the tip of the ensiform cartilage, extending outwards and downwards. The stomach was drawn out and placed on a carbolyzed towel. An incision large enough to admit the hand and forearm was made in its walls. The middle and index fingers being inserted into the œsophagus, grasped the plate and removed it. The patient recovered rapidly, weighing, on November 13, forty-six pounds more than at the time of the operation.

GANGRENE OF RIGHT LUNG FOLLOWING PYORRHOEA OF THE TOOTH-SOCKETS.⁹

The patient, thirty-one years old, was far from strong, and for many years had suffered from Rigg's disease, from which her teeth were so loose that they were extracted. Under the anæsthetic given for the removal of the teeth she collapsed, rallying under stimulants. The gums healed rapidly, in three days showing no signs of suppuration. For a day or two the patient seemed to be recovering, but on the fifth day the temperature rose to 103.4°. Then followed cough, scanty expectoration of viscid sputa, which grew more putrid. Death took place on the nineteenth day. The autopsy showed many cavities in the right lung, filled with foul, greenish-yellow fluid.

LOSS OF SIGHT FROM AN ULCERATED TOOTH.¹⁰

An unsuccessful attempt was made to extract an upper eye-tooth. Great swelling of the face followed, an abscess forming in the orbit, which resulted in total loss of sight. An examination, two months afterward, showed the disk white and sharply outlined. From its lower edge, there ran three white lines downward, the remains of the obliterated vessels.

² Galippe in *British Journal of Dental Science*, p. 583, 1886.

³ G. V. Black in *The Independent Practitioner* for 1886, p. 546.

⁴ *Dental Cosmos*, p. 714, 1886.

⁵ Lydston in *Dental Register*, p. 368, 1886.

⁶ Koczowski in *British Journal of Dental Science*, p. 644, 1886.

⁷ Mathes in *Archives of Dentistry*, p. 284, 1886.

⁸ Richardson in *Boston Medical and Surgical Journal*, p. 569, 1886.

⁹ C. E. Stedman. *Boston Medical and Surgical Journal*, p. 441, 1887.

¹⁰ Burnett in *Ohio State Journal of Dental Science*, p. 331, 1886.

From the upper edge, ran one white line, and a narrowed artery and vein still containing blood. The fundus was even in tint, with two exceptions: pigment patches were found in the macula region, interspersed with white lines. The interest of the case lies in the similarity of the ophthalmoscopic appearances to those seen in blindness after facial erysipelas.

EXCISION OF THE LOWER JAW FOR THE RELIEF OF MECHANICAL TRISMUS.¹¹

He reports three successful cases, and recommends the operation in all similar ones. The directions given for operating are to take the tragus of the ear as a guide, and make a horizontal incision of an inch across and down to the neck of the jaw, so as to divide the neck by means of strong cutting-forceps, and then to evulse the condyle by impacting a strong steel point into the bone, to act as a lever to turn out the bone. The interarticular cartilage is left, to prevent osseous union. This operation is another instance of the warrantable sacrifice of healthy parts so as to affect the well-being of the whole body.

CYSTS OF THE JAW.¹²

There are two kinds of cysts in the jaws. The first are due to tooth-germs which have not developed. The second arise from the periosteum surrounding the roots of the teeth. Under some inflammation the periosteum separates from the tooth and forms the wall of the cyst. The fact of the second kind of cysts being sometimes lined with epithelium does not prove that these cysts are formed from masses of epithelium left over in the jaws from the days of tooth formation, as it may easily rise from the original follicular membrane which surrounds the tooth-germ and which is afterwards converted into the root-membrane in the adult tooth. Each cyst that has its starting point at the root of a tooth, results from a previous lesion of that organ, and is immediately dependent on the inflammatory exudation which arises in the ligamentous fibres surrounding the root, which remains free and denuded in the sac. This mode of origin is similar to that of sub-periosteal abscesses, the difference being that owing to the intensity of the inflammation the exudation is purulent, while in the other it is serous. The treatment of the second form of cysts consists in inserting minute metal drainage-tubes through which suitable antiseptic and astringent washes are to be injected. Magitot claims to have used this treatment with success for ten years.

PLANTING TEETH IN ARTIFICIAL SOCKETS.

Dr. Younger has invented this new operation. When a tooth has been lost he drills a suitable hole in the alveolus. Into this hole, which should be of the same shape as the root of the tooth to be planted, he forces the tooth which has been previously filled and soaked in a solution of bichloride of mercury in water, of a strength of one to a thousand. In most cases no ligatures are required to hold the tooth in position. There is little soreness of the parts, and in a day or two the tooth feels like the others in the mouth. Younger considers a tooth which has been out of the mouth for several years as good as a recently extracted one, as the root-membrane retains its vitality as do seeds. There are two dangers in the operation; First, one

may transmit syphilis or other disease; Second, the planted tooth has no living pulp and is more liable to decay, and like all pulpless teeth may ulcerate. I have examined the teeth of sheep with the view of dissecting out the incisors of a freshly killed animal of the proper age to have the roots unclosed. The pulps in these cases are large, and if properly cut off and inserted into the human jaw ought to go on growing. If this should happen, the roots would close and the tooth would then be a living tooth, instead of a pulpless one. By cutting off the ends of the crowns of a sheep's incisors, these would answer very well for this purpose, and if Younger's operation is really a successful one as tried by three or four year's time, this experiment will be made.

ON THE IMPORTANCE OF REGULARLY EXAMINING THE SALIVA.¹³

Now that we know that decay in the teeth is due to acids formed from fermenting substances, the importance of keeping the saliva alkaline cannot be overestimated. If it is acid or neutral, it cannot neutralize the acids formed in fermentation, which collecting in the spaces between the teeth and about their necks, are certain to produce decay. The patient should be taught the use of litmus paper, and directed to test the reaction of the mucous membrane and parotid saliva at least once a week. If the reaction is acid, he should take the remedies found appropriate to his case. Fermentation takes place in every mouth, and yet there are many persons in whose mouth decay is either wanting or is what may be called accidental. In all such mouths the reaction of the saliva is always alkaline.

ADMINISTRATION OF NITROUS OXIDE.¹⁴

As at present given, the gas is exhaled into the surrounding air through a separate valve. The patient in this way always inhales the pure gas. Hewett claims that anæsthesia can be made longer by inhaling the fresh gas till anæsthesia has begun; then by turning the stopcock, shutting off the supply of fresh gas, and allowing the patient to breathe in and out of a bag of gas holding two gallons. He gives the following explanation of the method. If, after allowing the patient to breathe fresh gas till anæsthesia has begun, we then present to the lungs and so to the cerebral centres, an atmosphere of nitrous oxide, which is not quite so concentrated, in other words, one which contains a little oxygen, the respiratory centres will continue to discharge rhythmic impulses, and so respiration will go on longer than it would were fresh gas constantly inhaled. In this way the whole of the blood becomes saturated, and so the anæsthesia is prolonged.

EFFECTS OF TINCTURE OF CHLORIDE OF IRON ON THE TEETH.¹⁵

A tooth immersed in a solution of the tincture in eight parts of water has its enamel entirely destroyed in one hour. The tincture, therefore, should never be diluted with water before it is taken, as this dilution makes the preparation more active than the undiluted tincture, for the hydrated oxide of iron which is thus formed, does not adhere to the teeth as strongly as the anhydrous peroxide that forms in the original preparation, and on this account they are

¹¹ Richard Davy in London Dental Record, p. 502, 1886.

¹² Magitot in British Journal of Dental Science, p. 1033, 1886.

¹³ Dental Cosmos, p. 627, 1886.

¹⁴ Hewitt in Journal of British Dental Association, p. 349, 1886.

¹⁵ Weld, in Dental Cosmos, p. 827, 1886.

acted on more rapidly. For administration, the preparation should always be diluted with alcohol or syrup.

TREATMENT OF SALIVATION IN PREGNANCY.¹⁶

The author considers that his experiments, which are extensive, show that bromide of potassium is the most efficient preparation for this purpose. In one of his analyses of saliva, he found that ptyalin was entirely absent.

ON THE ABSORPTION OF DENTINE.¹⁷

The experiments were undertaken to determine whether the structures of the teeth took any part in the absorption of their roots, or whether this absorption was due entirely to cell-formations of the root-membrane or other tissues outside of the tooth. In order to prevent the participation of the teeth in the process, it was decided to see if the same absorption would take place out of the mouth. Pieces of tooth were introduced into the abdomen by means of incisions through the skin and deeper tissues. After periods varying from three weeks to three months, the rabbits were killed and the pieces examined. They were in every case found encapsulated with connective tissue densely filled with round cells. On decalcifying and making sections, the dentine separated from the surrounding capsule, leaving a hole exactly like the piece of tooth. In the pieces examined after six weeks, the process of absorption had begun at all points not covered with pericementum. At these latter points a perfectly firm union had taken place with the surrounding tissue, so that the dentine could not be removed without tearing the new membrane. In no case was there union except when the cementum was present. Taken in connection with the contribution of Younger on the vitality of the periosteum of the root, Miller's investigations show how important it must be in performing Younger's operation of tooth-planting, to preserve the cementum of the root unimpaired, as even when the periosteum is torn off the soft tissues of the cementum evidently have the power of producing a new covering, just as in bone, which has been deprived of its periosteum there is in favorable cases a new covering developed from the soft tissues of the bone. Cementum resembles bone so closely in some ways that this similarity might have been expected.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

O. H. MONKS, M.D., SECRETARY.

MEETING February 2, 1887. DR. J. C. WARREN, in the chair.

DR. DAVID W. CHEEVER showed a specimen of

OSTEO-SARCOMA OF THE SCAPULA

of five years duration, and related the history of the case.

The patient was a strong woman, and it was decided to operate, with a view of probably removing the scapula, and leaving the arm. It was found that a strong bony bridge united the scapula by the cora-

coid process to the clavicle. A portion of the outer end of the clavicle was cut away, and then the whole growth removed with the entire scapula; the arm was left. Hemorrhage was slight, but shock extreme; and the patient survived the operation only a short time.

The statistics of removal of the entire scapula are very favorable. The mortality is about twenty per cent.

Had the growth been free and on the scapula alone the operation would have been less prolonged and probably not fatal.

The key of the operation is to unlock the coracoid process from beneath the clavicle; and at this most dangerous part of the operation, involving the vicinity of the subclavian vein and artery, and of the brachial plexus, the dissection of the subclavian triangle was impeded by the synostosis of the scapula and clavicle. The subclavian region was overlaid by a dense bony plate. It was divided and raised without injuring any large vessels or nerves. The supra-scapula, posterior-scapula, and sub-scapular arteries were controlled without difficulty.

DR. D. W. CHEEVER read some remarks upon

ABDOMINAL SURGERY: ILLUSTRATING THEM WITH EIGHT CASES.¹

DR. M. H. RICHARDSON spoke of the difficulty of removing a kidney which had been for a long time the seat of a suppurative process. In such cases the surrounding parts become so closely adherent that it is almost impossible to isolate the kidney itself. This difficulty had been met with the past summer in making an attempt to remove a kidney which had been suppurating for many years, and from which the speaker had removed a calculus several years before. On cutting down upon the kidney nothing was found remaining of its original structure except a thin shell so closely adherent to the surrounding parts that its removal was out of the question. The original cavity of the pelvis had become enormously distended, and very little, if any, of the renal substance remained. This cavity was drained and the patient made a good recovery, with a small sinus still discharging when he left the hospital.

DR. J. C. WARREN said that the attention of surgeons had been called anew to pus in the neighborhood of the appendix vermiformis, by the interesting article of Dr. R. H. Fitz, which had recently appeared. A case which had come under his care at the hospital in December, was worth quoting in this connection. The patient, a healthy Irish woman, forty-seven years of age, the mother of three children, doing "scrubbing" for a living, presented herself at the hospital with a painful swelling in the ileo-cæcal region of one week standing. Three or four weeks previously she had an attack of acute pain at this spot which confined her in bed two days. Eight days before entrance she exposed herself to wet, and on the following evening was seized with severe pain, a chill and considerable nausea but no vomiting. The pain had continued since in the right iliac region. There was no constipation.

On examination a large indurated mass was felt in the right iliac fossa with a distinct outline extending from just below the margin of the ribs to the crest of the ileum. No induration or redness of the abdominal parietes was found. The swelling was tender all

¹⁶ Schramm, in *Ohio State Journal of Dental Science*, p. 128, 1887.

¹⁷ Miller, in *Independent Practitioner*, p. 16, 1887.

¹ See page 6 of the Journal.

over, but very painful at a spot one-and-one-half inches above and one inch anterior to anterior superior spinous process. The expression was anxious, face flushed, tongue furred, pulse 90, nausea, but no vomiting. A poultice was applied for the relief of pain. Two days later an aspirator was introduced at the tender spot, but no pus found. Nevertheless, after consultation with Dr. Fitz, an incision was made on the following day, beginning a little in front of and below anterior superior spinous process, and extending upwards and backwards three-and-one-half inches. The various layers of the abdominal wall were divided and the surface of the swelling reached. A trocar was thrust into it in the direction of the pelvis and about three ounces of bad smelling pus evacuated, the opening was enlarged and a large drainage-tube inserted and stitched to the upper end of the wound which was closed by suture. The temperature, which was 102.5° on the evening previous, sank in two days to normal and continued so until the wound was entirely healed a month later.

DR. RICHARDSON spoke of the treatment of obstruction to the bowels sometimes seen after the operation of herniotomy has been done. In one of his cases the reduction of strangulated bowel had been followed by complete obstruction. At the end of four days the question of interference came up. The only methods of relief were in resection and artificial anus, it having been first determined that there was gangrene of the intestine. After consultation, resection of the gangrene bowel was decided upon and performed. About nine inches of gangrenous bowel were removed, and the ends of the healthy intestine brought together and sutured with silk, which had been specially prepared for a previous operation on the stomach. The patient died in twelve hours from exhaustion. The bowel was removed and found to be perfectly tight and the surfaces already firmly glued together. The operation lasted but twenty minutes, and probably added but little to the profound shock which already existed as a consequence of five days of complete obstruction and gangrene.

In this case it seemed best to do resection because the condition, which is most to be feared after this operation was already present, that is, the existence of a septic process in the peritoneal cavity. The operation of excision of the putrid mass would add nothing to the already existing local peritonitis and very little to the shock. The operation of making an artificial anus would not remove the danger of general peritonitis and would require an equally dangerous operation at some future time. It seems quite probable that this operation would have resulted favorably, considering the appearance of the specimen, had there been sufficient strength on the part of the patient to have resisted the prolonged shock of total obstruction, and gangrene.

DR. BRADFORD related a case of strangulated hernia which he had met with in practice, and in which he sewed the gut to the opening, on account of the gangrenous condition of the strangulated portion. The hernia was in the right femoral region. The patient recovered from the operation, but died in about ten days afterwards from starvation, it being found at the autopsy that the strangulation had occurred so near the pylorus that not enough of intestine remained above the artificial anus to carry on nutrition. The fact was noteworthy in that it is quite unusual for the

upper part of the small intestine to occupy the region in the vicinity of the hernial canal.

DR. GEO. B. SHATTUCK thought that in the past, as formerly with tracheotomy, the tendency had been, as a rule, to delay too long the consideration of the propriety of operative interference in cases of intestinal obstruction. Not that such interference was by any means always advisable, but the advisability should be carefully weighed before collapse rendered the operation desperate if undertaken. From such motives Dr. Cheever had been asked to see the two cases reported as having been in Dr. Shattuck's service at the City Hospital. The event in each of these cases had certainly justified Dr. Cheever's decision not to resort to laparotomy. The first case had recovered completely by means of repeated large injections, and the second case had slowly gone on to a fatal termination, shown by the autopsy to be due to tuberculosis originating in the fallopian tube, followed by abscess and general chronic peritonitis.

The plug or enterolith which was brought away in the first case was of a peculiar character and had been given to Dr. Gannett for analysis, but had not yet been reported on. Its gross appearance suggested those cases of obstruction from drinking shellac, so common among the poorer classes of furniture-polishers in Berlin, where after the absorption of the alcohol, which is the temptation, the resin collects in the intestine. The patient, singularly enough, was a cabinet-maker by trade, but a respectable, intelligent man who denied having indulged in further intimacy with his shellac bottles than drawing the corks with his teeth, and who was sufficiently well off to have procured alcoholic stimulant in a more attractive form, had he desired it.

DR. DOUGLAS GRAHAM said that at a meeting of the Royal Medical and Chirurgical Society, which was reported in the *London Lancet*, December 18, 1875, Dr. Brinton stated that of six hundred cases of intestinal obstruction, fifty-three per cent. were due to intussusception, and of these thirty to forty per cent. terminated favorably. The question was asked whether such a dangerous operation as laparotomy was justifiable in this affection in which the proportion of cases of recovery by other means was so high. Dr. Brinton also stated that the operation of laparotomy is only of value in the early stage of this malady, when the condition was one of obstruction and not of enteritis.

Dr. Graham added, that massage had been used in a number of these cases after the failure of other means, laxatives, anodynes, fomentations and injections, and in all the cases reported this method had proved successful, recovery resulting. It may have been employed in other cases not reported, where it was of no benefit or possibly did harm. In such cases massage should not be employed in the presence of inflammation, enteritis, or sloughing.

DR. G. H. LYMAN spoke of the value of an early diagnosis, which could often be made in pelvic abscesses by a vaginal examination. Such abscesses should, if possible, be drained at once.

DR. E. H. BRADFORD said that most of the cases of abdominal abscess which he had met with in practice were cases of psoas abscess which had not descended to the leg, and that the patients were chiefly children. He advocated early operation, if possible, before the abscess has reached the leg. He employed

the method first recommended by Kocher, of opening the abscess in the loin, and in the groin also as soon as it pointed there.

Dr. EMERSON in connection with the conservative treatment of abdominal abscesses, mentioned a case of his own, a psoas abscess, where through the neglect of the mother the child was not returned for treatment, but was kept in a plaster jacket for about a year, at the end of which the psoas abscess which formerly had pointed in the groin was not to be found. It had apparently dried up.

Dr. J. W. ELLIOT mentioned three cases of his of suppurating ovarian cyst which had shown the good effects of drainage. He had followed Tait's recommendation to do laparotomy and drain from above.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, May 19, 1887.

DISCUSSION ON THE MANAGEMENT OF EMPYEMA, MEDICAL AND SURGICAL.

Dr. L. EMMET HOLT read the first paper, his subject being:

SPONTANEOUS ABSORPTION IN EMPYEMA IN CHILDREN, AND THE RELATIVE ADVANTAGE IN CHILDREN, OF ASPIRATION AND EARLY INCISION.

More than one-half of all the cases of empyema, he said, occurred in subjects under ten years of age. The prognosis, however, was much better in children than in adults. Spontaneous absorption might possibly occur; but it was extremely rare, and he had been able to find but two cases of this on record, in which the diagnosis was verified by the test of the hypodermic syringe. As a result of his studies it was evident that the chances of recovery by means of nature's unaided efforts were very small. Having remarked that empyema was in reality nothing but an abscess in which the outer wall was rigid and the inner wall yielding, he said that the indication for treatment was to try to get rid of the pus in the easiest and safest manner possible, and that the only methods which he should discuss were aspiration and free incision.

The advantages claimed for aspiration were the following: (1) Simplicity; (2) freedom from danger; (3) that it does not remove the fluid rapidly; (4) that it does not require general anæsthesia; (5) that it does not require that the patient should be confined to bed; (6) that many cases are cured by aspiration alone. As a matter of fact its advantages, with the exception of the last, were not superior to those of incision. Of 121 cases of aspiration collected by him, 23 cases, or 19 per cent., were cured and six died. The remainder were subjected to other methods of treatment. In all but one of the 21 successful cases the empyema was localized, and in 8 a single aspiration was sufficient to effect the cure. Aspiration had many obvious objections, and among them were the following:

(1) The entire quantity of fluid cannot be removed by this means.

(2) The terror often excited in children, especially when the aspiration has to be repeated a number of times, constitutes a serious obstacle to its success.

(3) Where septa exist in the pleural cavity, but one division of the latter may be evacuated.

(4) There are certain cases where aspiration is not available, and if the case is allowed to go on for a considerable time without evacuation, septicæmia and other serious consequences are liable to result.

Among the advantages of incision were, first, its universal applicability, and, secondly, the fact that it enables the surgeon to explore the pleural cavity thoroughly. While the exposure of the cavity and the admission of air were formerly well-founded objections, since the introduction of antiseptics this was no longer the case. As to the use of general anæsthetics Dr. Holt said that he knew of two instances in which death resulted from this cause, in consequence of the rupture of a bronchus. He had never known of this untoward result occurring in a child, but he thought these cases were sufficient to warn us against the use of general anæsthetics in cases of empyema. He did not know whether local anæsthesia by cocaine, had been resorted to in this connection, but he should suppose that this would answer every purpose.

Considering the results that were met with, he thought it was no wonder that a low estimate was entertained of the operation by the older surgeons, and he quoted the opinion of Sir Astley Cooper and others, whose experience led them to regard it as almost necessarily fatal. He had collated 59 cases in children performed at a later period, but before antiseptics had come into as general use as at present, in which there were only eight deaths. Out of 63 cases in which the operation was done under strict antiseptic precautions, however, there were but two deaths: and he thought that no more complete evidence than this could be furnished as to the advantage of antiseptics. As to duration, out of 80 cases in which antiseptics were used, 5 cases lasted 4 months, or more; and in the remaining 75, the average duration was 6 weeks. In 21, the duration was one month, or less. In cases in which antiseptics were not employed, the average duration was 6 months.

Dr. HOLT's conclusions were as follows:

(1) All methods yield better results than non-interference.

(2) No case should ever be left to the unaided efforts of nature.

(3) Aspiration holds out a possible chance of cure, especially when the empyema is localized.

(4) If, after two aspirations, the fluid continues to accumulate, this method should not be persisted in.

(5) In large effusions it is well to make one aspiration before resorting to incision.

(6) In all other cases a free incision should be made, preferably under local anæsthesia.

Finally, he said, we could have no better guide, as a rule, in empyema, than Wagner's words, "Early incision, perfect drainage, and complete antiseptics."

Dr. F. HUBER read a paper on

ACUTE EMPYEMA IN CHILDREN,

in which he said that errors in diagnosis were of very frequent occurrence, especially in the earlier period of the disease, and also when it was complicated with pneumonia. A careful physical exploration and the use of the hypodermic syringe, however, would enable the physician to appreciate the real nature of the case. As to the matter of treatment, no medicinal agent would have any effect in producing absorption; but symptomatic and palliative remedies were of service, and it was important that the patient should be

placed in the best hygienic surroundings possible. As regards surgical interference, the more promptly this was made, in general, the better would be the results obtained: provided it was not during the first few days of the attack. As a rule, he had found it better to wait until a week or ten days had passed; so as to allow the acute febrile symptoms to subside, and give the patient a chance to rally. After this judicious delay, aspiration might be tried first; the hypodermic needle having been previously inserted at the point where the aspiration was to be made, in order to be sure of the presence of pus in this situation. Anæsthetics were not required for this operation.

If, after aspiration, the pus was found to be laudable and inodorous, and if it did not accumulate again very rapidly, aspiration might be repeated; but, as a rule, more radical measures were called for. Incision should not be long delayed, because the disease was characterized by fibrinous deposits, as well as purulent effusion, and the fibrine was liable to become decomposed and cause sepsis. The incision should be from an inch to an inch-and-a-half in length, and followed by the insertion of a drainage-tube; after which the cavity should be washed out with antiseptic fluid, and an antiseptic dressing applied. He had found local anæsthesia by cocaine to be all that was required for this operation.

Of thirteen cases in which he had performed it, three had proved fatal, one of the children dying from exhaustion, one from gastro-intestinal catarrh, and one from erysipelas. All but two (2) of the remainder had made perfect recoveries, and the average duration of the trouble was seven weeks. He had used injections of bichloride solution (1 to 5,000) in all his cases, and for the final injection, a solution of half this strength (1 to 10,000). He described the essentials of a good drainage-tube, and said that he was in the habit of employing the plan proposed by Baxton for preventing the tube from slipping into the cavity. The retraction of the chest remaining on the affected side, he had found it could be readily overcome by suitable gymnastics and exercise in the open air.

DR. ROBERT ABBE read a paper entitled

GENERAL CONSIDERATION OF THE SURGICAL TREATMENT OF EMPYEMA.

In the treatment of empyema, he said, it was necessary to abandon all idea of securing absorption, and the first thought should be, how to rid the patient's chest of the accumulated pus most promptly. Aspiration might be repeated a number of times, and in a certain number of simple cases, it was competent to secure recovery. As a rule, it was of more service in children than in adults. It was somewhat repugnant to the surgical mind, however, to leave even a small amount of pus in such a place as the pleural cavity, and if the trouble continued for any length of time after aspiration, complete evacuation should be practised. By far the best results had thus far been obtained with free incision, followed by drainage; and experience showed that the eighth or seventh intercostal space was, as a rule, the best position for the incision. Two large drainage-tubes, of the thickness of the little finger, were usually advisable.

In performing this operation, he used a spray of carbolyzed solution, of three per cent. strength, produced by means of a simple hand-bulb, and as soon as the flow ceased on inspiration, he dressed the wound with

sublimated gauze and iodoform. What we wanted, first and last, said Dr. Abbe, was a thorough outlet, and the purity of the wound was the other important factor. In the great majority of cases, he thought, there was no need of injecting the cavity. When there was a hectic condition, however, antiseptic injections, followed by hot water ones, should be employed; and bichloride solution (1 to 8,000), or a weak iodine solution, might be used for the purpose. Two serious results had been observed from injections; namely, toxic symptoms from the agents employed, and sudden death, due probably to either thrombosis or reflexes from the pleura.

The presence of the drainage-tube occasionally caused denudation of the periosteum of a rib, which had been erroneously designated as necrosis. When this occurred, it was necessary to perform resection, but he considered it unjustifiable to resort to this procedure at first. As regards anæsthetics, a few whiffs of chloroform would answer perfectly well for children, but in adults, local anæsthesia, with cocaine, was preferable. A four per cent. solution should be injected into the tissues, and the incision not made until about fifteen minutes afterward, when the anæsthetic effect had reached its maximum intensity. When there was decomposing fibrin, resection of a piece of rib was sometimes necessary, in order to secure free irrigation, and occasionally, in cases where a suppurating cavity remained after empyema, Estlander's operation of resecting several ribs proved very satisfactory. Dr. Abbe also alluded to "through-drainage" and Hewitt's method of "perflation," the latter of which, he thought, could never supplant free drainage.

DR. THOMAS H. BURCHARD said that he had operated in eleven cases of empyema, all of which were of chronic character. The shortest duration up to the time of incision was two months, and the longest thirteen months, the average time being six or eight months. The youngest patient was three years of age. In all the cases the operation was identical, and all were cases which had previously been aspirated, either by himself or some other physician. He made a free incision from one-and-one-half to two-and-one-half inches in length, along the eighth rib. The amount of purulent fluid evacuated varied greatly. In one boy of seventeen, whose case was one of the most chronic met with, there were only seven ounces, while the largest quantity evacuated was twelve quarts. This was taken from the left chest of a young man of twenty-eight, in whose case one-and-one-half pints had been removed three days previously by aspiration. In this instance, two drainage-tubes six inches in length were employed, and notwithstanding the fact that they were secured with plaster to the chest-walls, they slipped into the cavity during the night. He was not permitted to go on with the case, and it was not until a year afterward that they were removed by resection of the ribs, the operation being performed by the late Dr. James L. Little.

As to the results of his cases, he had followed up seven of them for, at least, one year. Three entirely recovered. Two developed phthisis and died. And a third, a year-and-a-half after the operation, now had phthisis. One died of dysentery of tubercular origin, fourteen months after the operation. In two cases he had observed in children, one of which was among his own cases, and the other of which he had seen in consultation with Dr. J. Lewis Smith, hæmorrhage suffi-

cient to cause death had resulted from the operation; and it seemed to him that this accident was analogous in character to that which sometimes happened in the case of old men, where too sudden and complete evacuation of the bladder was made, resulting in capillary extravasation. In these cases, no artery was cut, and no hæmorrhage occurred from the wound, and he thought the matter was one worthy of serious consideration, especially as he had been able to find no reference to such an occurrence in medical literature. As to the time of performing the operation, he thought it should be done early. If delayed too long, the patient would be liable to die, either of phthisis or tuberculous disease of the bowels.

DR. H. N. HEINEMAN said that empyema in children and empyema in adults were two entirely different affections, and in the former, when it was on the left side, it was very apt to be complicated with pericarditis. Having referred to the differences in the physical signs in the two classes of cases, he said that in children, especially on account of the gurgling met with, the affection was liable to be mistaken for phthisis. The use of the hypodermic needle was always desirable for diagnosis. As regards treatment, the indications had been very well stated by the previous speakers. If, after aspiration, the pus remained sweet, he thought it well to resort to this procedure a second time, after which incision should be practised. In the last ten years, he had made use of only one form of incision, and that was the one known as "thorough-drainage." This had been well described by Chassaignac as long ago as 1857, and he wondered that it had not received more attention than it had, since it was, as a rule, followed by the most satisfactory results.

DR. E. G. JANEWAY, having stated that in his own practice, if one aspiration failed to produce relief, he resorted, with very few exceptions, to immediate incision, spoke of some comparatively rare conditions which had not been alluded to in the discussion. The first of these was empyema as an accompaniment of pyæmia, which was usually due to a gangrenous focus. Again, there were extreme cases in which there were double empyema and purulent endocarditis, where the result was rapidly fatal. There were other cases in which although the fluid was septic, we were debarred from operating, and one of this kind he related. The patient suffered from pneumonia consolidation, pyopneumo-thorax, and sepsis, and the fluid in the chest was very foul. Yet at the highest possible point at which an incision would have been practicable only blood could be drawn with the hypodermic syringe. It was therefore necessary to leave the case to the efforts of nature, and strange to say, the patient had made a complete and perfect recovery. In making an incision it was sometimes necessary to choose a different site from the axillary space, and in such cases we should select the spot where we could get pus. He thought it was a good rule always to insert a hypodermic needle at the point where the incision was to be made immediately before operating.

DR. ALFRED L. LOOMIS said that he had been accustomed to regard the pleurisies of children as very different from those of adults. This, acute suppurative pleurisy was very common in children; and, indeed, whenever he found that a child's chest filled rapidly, he felt pretty confident that empyema was present. The treatment which he adopted in such

cases was such as had been described here to-night, and he had found it very satisfactory. But acute suppurative pleurisy in adults was a very different matter. It was a dangerous affection, and often rapidly fatal. He had come to regard it as infectious, and it was usually associated with some acute pneumonia in the other lung. We had, therefore, to contend with an acute disease which could not be shortened by removing the products of inflammation. After the acute stage had passed, however, he believed that incision did good, and was called for. In his opinion, these cases were fibrinous pleurisies at the beginning, and after this condition had continued for about twenty-four hours the chest rapidly filled with pus. Chronic empyema was not a simple pleurisy. We had not merely the pleural cavity to deal with, but a constitutional condition, and it was necessary to seek for the cause of the pus. It was not enough to operate; but, in addition, the physician was called upon to sustain the patient's vital powers in every possible way.

DR. J. WEST ROOSEVELT took exception to the use of the carbolic spray, as advocated by Dr. Abbe, since it was confessedly inefficient in destroying germs; and he also thought that antiseptic injections were entirely useless, on the ground that no solution that could be employed could have any possible effect on the walls of the pleural cavity on account of the thick covering of fibrinous exudations with which they were coated. As to the proposed method of "perflation," he said that if a good way of producing perforation of the lung were devised, he thought this procedure was the one to be adopted.

DR. CAILLE objected to the use of carbolic acid in children on account of the danger of producing toxic constitutional effects.

DR. JOSEPH E. WINTERS said that he had careful records of ninety cases of pleurisy in children, and in only four of these was there empyema. In the latter this condition already existed when the patients first came under observation, and of the remaining eighty-six cases, not a single one terminated in purulent effusion. It was also a fact that not one of these cases had now been lost sight of. Owing to the results thus met with in his experience, he was not able to subscribe to the statements made here to-night in regard to the frequency of purulent effusion in children. In the simple pleurisies commonly met with, he had often seen the temperature go up to 103 and 104; but under the employment of rest, hot applications, and sedatives, the cases almost all terminated in resolution in the course of a week or so. In no instance under his care had empyema resulted. Two cases were operated on on account of the mechanical pressure produced by the large effusion present, and while they both proved fatal, at the autopsy no pus was found in either case.

He had never seen a case of empyema in a child in which there was not an abundance of serum, and he therefore considered that the fluid in such cases was capable of absorption. Hence the condition was very different from that existing in empyema in adults, and he should not deem it necessary to resort to surgical procedures except to relieve the effects of mechanical pressure upon the viscera. Children with empyema invariably lay upon the affected side, and, therefore, in order to facilitate absorption, he encouraged the patient to sit up in bed as much as possible. Dr. Winters decidedly objected to the use of the hypodermic syringe or the aspirator until some such pro-

cedure was absolutely necessary, as he believed that the entrance of the needle into the pleural cavity directly tended to convert simple pleurisy into empyema; and Dr. Francis Delafield, he said, had expressed the same opinion to him. The termination into empyema was, as he had mentioned, naturally very rare in children, but when it did occur, and operative interference was called for, he was emphatically in favor of free incision in preference to aspiration.

Dr. HEINEMAN related a case in which there was symptoms of collapse due to hæmorrhage, produced, no doubt, in the same way as in the cases described by Dr. Burchard, in which the child's life was apparently saved by the injection of a certain amount of fluid, which was allowed to remain in the cavity.

The President, Dr. A. JACOBI, stated that he had frequently observed severe coughing to be set up by the removal of the fluid from the pleural cavity, and that this could only be arrested by partially filling the cavity again by injection. This seemed to him to be due to the irritation caused by the sudden filling up of the bloodvessels in consequence of the bronchial dilatation resulting from the evacuation.

Dr. ABBE said that in his opinion the phenomena sometimes noted after the withdrawal of the fluid were of reflex origin; and he mentioned a case in which there resulted aphonia, disorders of vision, and reflex hemiplegic manifestations.

Dr. JACOBI thought the symptoms might possibly be explained by sudden hyperæmia of the larynx, with accompanying anæmia of the brain.

SIXTH GERMAN CONGRESS FOR INTERNAL MEDICINE.¹

THE sixth congress for Internal Medicine, met in Wiesbaden during the Easter vacation under the Presidency of Professor Leyden of the University of Berlin. The meeting was well attended and full of interest. The therapy of Phthisis Pulmonalis was probably as much discussed as any subject. Fresh air was recommended above every thing else, and a much more favorable view taken of the curability of the disease. One reader said that more than half of the cases not far advanced would submit to cure. Prof. Nothnagel, of Vienna, read on the localization of brain diseases. Prof. Adamkiewicz, of Cracow, read favoring the use of cataphoresis in neuralgia. Prof. Mering, of Strassburg, reported some experiments on a dog which promise to throw some light on the dark subject of diabetes.

PROF. HAGENBACH, of Basel, read on

THE PATHOLOGY AND THERAPY OF PERTUSSIS.

He found our knowledge of whooping-cough to be defective and contradictory. For himself he had come to the conclusion that it was a true infectious disease, yet the question always presented itself, Is it a general infection or only a local one; Is the situation of the infectious body to be sought in the nose, larynx or the bronchial tubes? On account of this uncertainty, up to the present time there is no firm basis of therapy. He gave these statistics: according to Uffelmann, 240,000 children yearly contract the disease in Germany. In Basel from 1812 to 1872,

whooping-cough was next to typhus and diphtheria in its demands for sacrifices. Out of one thousand deaths in Basel, twelve were caused by whooping-cough. In England, twenty-two, in London alone, thirty-six. The mortality statistics bring into prominent view the fact the younger the child the greater the danger from whooping-cough. The complications also, especially those of the lungs, occur much oftener in the tender years. He considers it an infectious disease, which occurs epidemically, is endemic in large cities, and the infectious material is communicable. The circumstance that having had the disease once, guards against future contraction, speaks for a general infection. The localization of the poison to certain parts of the respiratory mucous membrane, and the usual absence of fever speaks for the local infection.

Rosbach, Rehn, Meyer-Hüni and Von Herff have published the most important results of late. From the most recent of these it appears that the laryngeal catarrh cannot be credited with the important rôle it has thus far held. According to Von Herff and Meyer-Hüni, the spasmodic attack originates from a deep point on the posterior laryngeal wall. Rosbach also considers the catarrh of the bronchiæ as important; at the same time he believes in a reflex neurosis, in which the cough centre is irritated by a specific virus. Others, for instance Baginski, considers it to be more of an infectious catarrh. The nasal theory has found many followers of late. Sommerbrodt, following Hack who first introduced the treatment, has cauterized the corpus spongiosum nasi of children suffering from whooping-cough. Micheal, of Hamburg considers it a reflex neurosis, and treats it locally. We have always believed the fungus will be found in the sputum. The different organisms found so far, have led to no conclusion. Efforts to communicate to rabbits have not been followed by success.

Does the sputum in general contain the fungus? We know the susceptibility to the poison is a general one. It is found in the first year of life, though rarely in the first months; children are most exposed until the tenth year. From this time on, the per cent. of the cases is less and less. The disease is contagious in the first and second stages, generally, so long as mucus is produced and the child coughs. The latter statement is probably too comprehensive, as some children cough long in consequence of complications, the disease having entirely discontinued. The contagium appears able to live outside the human body but a short time. Carrying by means of other persons, does not often happen, while this is well known to frequently occur in scarlet fever. The children are isolated only so far as to keep them from healthy children.

Prophylaxis is not practised as it should be. The kindergartens are to be watched with the greatest care; they form the nests for the plague, more so than public schools, because less under control. Schools should be closed and thorough disinfection practised. The author considered the ordinary plan of a change of air bad practice, while it may be good for the child in question, it has the tendency to spread the disease.

Treatment includes the recommendation of a large number of remedies and plans, which places us on the same ground where we were twenty years ago.

Our treatment, therefore, can only be one of empiricisms.

So great is the number of means of cure, that it

makes the therapist skeptical from the start. The general hygienic treatment is of importance, and above all, is to be urged the plentiful supply of good air. One must take into consideration the climatic and meteorological relations. Especially should this be done in the care of young children. As to the question whether the room should be damp or dry, the author decided in favor of dampness. He thought the good results obtained from hanging cloths wet in carbolic acid about the room, are probably due to the dampened atmosphere.

Among remedies, the narcotics and anesthetics formerly played a prominent part, and still continue so to do. Indeed, no remedy of this group remains unemployed. It is remarkable, in this day, how little we hear of opium and its derivations, though they are used often enough. Hensch recommends morphia, especially for relieving the urgent symptoms. The author was favorable to this medicine, which shortened the troublesome nights and weakened the attacks, and rendered them less frequent. In France, the medicine recommended by Trousseau, belladonna, is used most frequently. The bromides are given internally, and for inhalation. The author used bromide of potassium in connection with chloral. Gerhardt advised a four per cent. solution of bromide of potassium, with chloral, for inhalation. Lorenz and Heubner had good results in shortening the attacks by the use of chloral, in doses of seven-and-a-half to fifteen grains. The latter used it in the evening as an injection. Next to opium, the author had obtained the most benefit from the chloral, with bromide of potassium. Cocaine has been recommended for two years past, especially by Prior. The reporter had found no particular result from painting the parts with a five per cent. solution of cocaine. Ether applied along the course of the vagus by means of the atomizer is recommended, and also nitrate of amyl. Recently, the antiseptic remedies are highly spoken of. Preparations of quinia act against the general infection. Give sulphate of quinia or tannate of quinine. He considers quinine a good medicine, which lightens the attacks and shortens the disease. The tannate of quinine made by Zimmer is much used in Basel. It must, however, often give place to other remedies. In Heubner's critical work, quinia is made secondary to belladonna. Carbolic acid is often used by means of cloths dampened in it, and hung in the room. Also, acid benzoate of soda has its followers. Sonneburg, of Worms, has recently published his success with antipyrine, in which he used it in seventy cases, in doses of four-and-one-half to fifteen grammes. Calomel internally, and gray ointment externally, are highly praised. Letzerich first practised local applications, and in many cases had success with insufflation of quinia. No attacks occurred for a long time after the insufflation; perhaps the quiet came from reaction after the severe irritation of the sensitive-nerve filaments from the insufflation. Painting with solution of quinine is also advised. Hopes are cherished from resorcin in two per cent. solution; still more from salicylate of soda. Heubner has found favorable action from inhalation of salicylin. Of the astringent remedies, Meyer praises nitrate of silver and alum as antecatharrhal remedies. Michael, of Hamburg, insufflates resin of benzoin with surprising success. In France, boric acid, mixed with roasted coffee, is insufflated.

For a further solution of unanswered questions, we

must look to bacteriology and laryngoscopy to obtain a firm basis of treatment.

DR. MICHAEL, of Hamburg, in the discussion which followed, strongly recommended the insufflation of disinfectants in the nose. He had thus treated successfully seventy-five cases out of one hundred. The treatment had proven most beneficial in those cases which had already passed the six weeks, or were just in the beginning. In those patients where every action of the inhalation remained absent in the first few days, he was obliged to resort to other remedies.

PROFESSOR HEUBNER, of Leipsic, believed that all those remedies enumerated in his critical work had little favorable effect on the disease. There was, in his opinion, no single rule, as the severity of the attacks, as well as the duration of whooping-cough, depended on individual surroundings. We must consider the number of the attacks. By this and the duration of the disease, we can know whether we have done good or not.

DR. PRIOR, of Bonn, called attention to the fact that the inspiratory stentotic bruit can be entirely absent in pertussis. There is at present an epidemic in Bonn, where this is absent in the majority of the cases. It is, therefore, not always proper to consider this as a characteristic and diagnostic symptom.

DR. SCHLIEF, of Baden Baden, treated his own child in the pneumatic cabinet. After thirteen sittings, the attacks disappeared. The disease, however, returned in fourteen days, and a few more sittings were necessary to complete the cure. He thought from fifteen to twenty sittings necessary, and considered the action mechanical in that it chemically changed the hyperæmia of the mucous membrane, in consequence of the increased inhalation of oxygen. He had also used inhalations of a four per cent. solution of sulphur.

DR. SONNEBURG, of Worms, referred to his report in the *Deutsche Med. Wochenschrift*, where he used antipyrine with success.

DR. COHEN, of Hanover, called attention to the good effects attained by the inhalation of bromide of potassium and the use of musk.

Recent Literature.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886.

The first volume of the proceedings of this new Society has made its appearance in the form of a handsome volume of some two hundred and fifty pages. It contains the list of officers and members, the minutes of the first meeting, and the constitution and by-laws of the Association. There are, moreover, nineteen papers on various subjects of general medicine, to the whole of which a copious index is appended. Altogether, the book and the work which it represents are most creditable to the Association, which may now be said to be fairly launched on what promises to be a most successful career.

—The *Lancet* computes that between five and six hundred individuals were treated for various causalities during the procession in London on Jubilee day.

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Medical and Surgical Journal.

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THE FOURTH.

THE glorious fourth of July has passed, and those of us who survive unharmed have reason to be thankful that an opportunity is left us, after the smoke of the celebration has passed away, to count the cost of the exploded gunpowder and moralize over the wounded patriots. Utter recklessness in the use of explosives is not confined to the twenty-four hours that constitute the fourth, but is continued for a space of about three days. During that time it is positively certain beforehand that accidents from fire-arms will be numerous; that a certain number of hands will be disabled; that certain eyes will be destroyed and that a certain number of deaths will follow, if not immediately, yet more or less directly from the accidents during the subsequent weeks. Each fourth of July adds to the number of cripples and dependent persons whose lives are blasted, who are transformed from active producers to mutilated dependents. The character of the injuries has perhaps changed somewhat of late years; the cracker of a few years ago has been supplanted in some measure by the cannon cracker which makes a louder report and explodes with greater violence. The number of casualties due to this giant cracker has been particularly noticeable the present year. It is capable of doing great injury if held in the hand during explosion. The frequency of these injuries is shown by the fact that two men, each one over thirty, lay side by side in the accident room of the Boston City Hospital at one o'clock on the morning of the fourth, each with his right hand destroyed so far as future usefulness is concerned, because he had seen fit to show his patriotism by exploding cannon crackers at midnight and had been foolish enough to allow one to explode while he held it in his hand.

Revolvers and pistols, as a means of celebration have become frightfully common. They are originally produced at low cost, and the boy who cannot obtain a new one can hardly fail to find one discarded by his elders. The pistols are usually claimed to be loaded

without balls, but at the close range at which accidents occur, the pasteboard wad penetrates the skin. It may lodge in the flexor tendon of the index finger or penetrate the eyelid and the sclerotic, and destroy the eye. The wounds of the hand made by such wads have of late years been so frequently followed by tetanus as to make them the dread of hospital surgeons. But the use of ball cartridges is not very infrequent, and those who use them exhibit extreme carelessness. It is by no means rare to meet persons injured during the July period of lawlessness by balls which have come from some unknown source.

A procession of those who have been injured by explosives during the gunpowder carnival of the present week in Boston alone, would be a most impressive sight. No immediate deaths occurred so far as is known, this year, but exactly twenty-seven individuals have applied for surgical aid on account of injuries at the Boston City Hospital, and nine beds are at the moment of publication occupied by the victims of casualties. The number treated at the Massachusetts General Hospital is certainly not inferior. Were such a number injured during the same short time, from any cause, at any other season it would be considered something frightful, and public sentiment would demand the instant suppression of the cause. But the half has not yet been told in speaking only of accidents directly from gunpowder. Nor does Boston present an exceptional record.

The disastrous effects of the prevalent methods of celebrating our national *fête* day are unfortunately not confined to the active participants in the demonstration. If a man takes fire into his bosom and his clothes are burned, that result, however lamentable, is not without a certain justice. But we wish to utter a word of protest in behalf of the rights of those who try their best to keep out of the hurly-burly — the non-combatants, so to speak. And our protest is not only for those, numerous as they are, who must annually be shot, singed and mutilated, at the hands of the heedless and irresponsible noise-maker — those we might say who are butchered to make an American holiday, but for the great number of the sick and the feeble whose beds of pain are made racks of torture by the din of horns, powder, nitre, and we believe this year, thanks to the enterprising manufacturer, dynamite. For a week before the day arrives the sporadic and premonitory blasts of the raucous horn are heard. But the distress culminates with the night of the third of July and continues well toward the morning of the fifth. For we have to celebrate not the day of Independence itself but two nights as well.

True that some of the nervously organized are able to hie them away betimes to some quiet spot where-unto the sound of the fire-cracker cometh not. But there still remain through all our cities and towns a great army of sick persons and young children whose welfare is seriously compromised by the noise evolved by the healthy and thoughtless majority. How seriously compromised, can best be judged by the physi-

cians who go their rounds on the fourth and fifth of July to see the tired features to which sleep, however zealously wooed with hypnotic aids, has too long been a stranger. Yearly our police authorities are besieged by anxious requests from apprehensive relatives and from physicians, to abate from some special neighborhood the noise of the Fourth — its preludes and its postludes. But the reply is: not men enough to supply the necessary patrol.

The remedy, — well, that is not so easy to find. So long as every schoolboy can trace his warrant for racketing back to one of the very signers of the Declaration of Independence, we cannot, perhaps, expect much consideration for the welfare of those so unfortunate as to have their season of illness in the early days of July. But both sense and sensibility might combine to restrict the pandemoniac features of the occasion, at most to the one "day we celebrate."

FIRST ANNUAL MEETING OF THE NATIONAL ORTHOPEDIC ASSOCIATION.

THE formation of a National Orthopedic Association is of somewhat more than passing interest. In the last thirty years, this branch of surgery has been developed with a great deal of energy in this country, notably in New York. Any one familiar with the details of the subject and the practice in this department, will have noticed the many improvements in methods which have been introduced into the specialty, so that a relatively new and original school has been formed in America in orthopedic surgery well worthy of the attention of the medical world.

By proficient, it is claimed that all that has been done with us in helping to advance gynecology to a front rank among the different departments of surgery, is fully matched in the surgery of joints and deformities. The improvements in orthopedic surgery are, however, not as generally known in the profession, for the reason that the glamor (if we may be allowed to use the word in reference to what, to the uninitiated, seems the "infandum" in medicine) which appears to attract a number of general practitioners who interest themselves in gynecology is not found in a branch where success is won only after thorough and painstaking endeavor carried through a number of years. As few surgeons have worked in orthopedic surgery, few are aware of its successes. It is the object of the new Association to increase the general interest in the department by papers and reports, as well as to gain advantage from each other in the way of stimulus and mutual instruction from personal contact which such associations always give. At the first meeting, papers of a general interest were read by Drs. Morton, Packard and A. S. Roberts, of Philadelphia; Drs. Judson, Gibney, H. L. Taylor, L. H. Sayre, Ketch, Stillman, of New York; Dr. Hodgen, of St. Louis; and Dr. Bradford, of Boston. Dr. Schaffer was elected President of the Association for the ensuing year. We can most heartily wish the new Association success.

MEDICAL NOTES.

— The medical officer in charge of the Marine Hospital Service at Key West reports 51 cases of yellow fever, and 20 deaths, up to June 30th.

— Death occurred recently at University College Hospital from chloroform. The patient was suffering from pleuritic effusion on the left side. A puncture was made, but the fluid did not flow freely, and it was necessary to repeat it. The patient was nervous, and asked for chloroform. The patient died before anaesthesia was complete.

— The *Medical Record* says that a suit was recently brought against the New York Hospital by a patient who had been operated upon for cystitis by cystotomy. The damages claimed were \$30,000, on account of impotence from injury of both ejaculatory ducts and wound of rectum. The left lateral incision was made. The plaintiff claimed that, in consequence of the injury, all his semen escaped into the bladder. It was shown by the testimony of Dr. W. T. Bull, the operator, and Drs. George C. Shrady and L. B. Bangs, that such an injury was impossible under the circumstances, and a verdict for the hospital was rendered accordingly.

— In the concluding portion of a continued article on "Fever," published in the *Medical Chronicle*, James Niven, M.B., alludes to the diagnostic interest of the special odors attendant upon some of the infectious diseases. The odor of small-pox, he says, occurs only in the worst cases, and is probably due to a ptomaine generated in the process of necrosis. He then speaks of a peculiar, sweet, almost aromatic odor of the breath that he has noticed in scarlet-fever patients, most marked in the early stages of the disease. A case is mentioned in which a nurse to whom he had pointed out the odor diagnosticated scarlet fever by means of it, in a patient at the height of an attack of small-pox, a whole day before any other scarlatinal symptoms were recognized. Somewhat similar odors are noticed in typhoid fever and measles, but the author says that they can readily be distinguished.

— Mr. Stephen Paget (*British Medical Journal*, March 19, 1887) has, with great diligence, collected no less than 101 cases of parotitis consequent upon injury or disease of the abdomen or pelvis. Of this number, 10 were due to injury or disease of the urinary tract; 18 were due to injury or disease of the alimentary canal; and 23 were due to injury or disease of the abdominal, the peritoneal, or the pelvic cellular tissue. The remaining 50 were due to injury or disease, or temporary derangement of the generative organs. Under the latter term are included slight blows on the testis, the introduction of a pessary, menstruation, and pregnancy. This form of parotitis appears to be non-pyæmic, to have no definite incubation stage, and to end very often in suppuration. Mr. Paget considers that the sequence of disease is due to influences acting through the nervous system.

— We learn from the *Sanitary Engineer* that the

Court of Appeals of New York has lately rendered an important decision in reference to the powers of a town in the matter of the disposal of its sewage. The city of Rochester discharged its sewage into an open drain, which it had constructed across lands situated within the adjoining town of Brighton, and in such wise as to create a nuisance. The town Board of Health thereupon issued an order prohibiting this use of the open drain, but having no power to go within the limits of the city of Rochester, and abate the nuisance by preventing the discharge of the sewage, it brought suit in court against the city for an injunction restraining the discharge of the sewage into the open drain without its own limits, and within the boundaries of the adjoining town of Brighton. The court granted the injunction, and upon ultimate appeal to the Court of Appeals, the action of the court below has been sustained.

— At a recent meeting of the Académie de Médecine, according to the *British Medical Journal*, M. Cornil read a work of MM. Chantemesse and Vidal, upon "River-water and Typhoid Fever in Paris." In this work, the authors prove by statistics the connection between the appearance of typhoid fever, and of the distribution, in Paris, of river instead of spring-water. Pettenkofer's theory of ground-water, together with the discovery of the typhoid bacillus, have led the authors to conclude that, by the diminution in the bulk of water, the pathogenic organisms are concentrated, and, consequently, their dangerous properties acquire greater virulence. Boiling renders the cultivations of these bacilli sterile. M. Léon Colin remarked that the relation existing between the renewed outbreak of typhoid fever in the barracks and the use of river-water had been clearly proved by recent epidemics. River-water is now forbidden for drinking purposes in the barracks. M. Ranse was of opinion than when the administration was obliged to distribute Seine water instead of spring-water, the Paris population should be duly apprised of the fact, in order that proper precautions may be taken.

BOSTON.

— An "agent" is carrying about in this city for the purpose of entrapping the unwary, a hand lens of "400 diameters," whereby he displays the animalcules in "a drop of Cochituate water, that has stood a few days," said animalcules appearing about the size of angle worms. As the lens is of about twenty diameters it is needless to say that the stale "Cochituate water" which he carries for ready demonstration in his pocket is merely a culture medium for pretty gross organic decomposition. The fellow is foolish enough to have visited some physicians, but his victims are likely to be chiefly among the laity.

NEW YORK.

— Dr. Miguel Munez Rossie, one of the leading physicians of Havana, died on the 29th of June, on the steamship *City of Washington*, which had just arrived from Cuba. He had for some time been in bad health.

— At the request of Mayor Hewitt the State Board of Charities is at present engaged in making an investigation into the condition of affairs at the City Lunatic Asylum on Ward's Island, where, it will be remembered, a coroner's jury recently rendered a verdict that the death of one of the inmates was due in great part to injuries received at the hands of two of the attendants. From the testimony that has already been given there can be no question that the institution is overcrowded and that the attendants are insufficient in number, and in certain instances, at least, incompetent; but how far the Commissioners of Charities and Correction and the medical authorities of the hospital are responsible for these evils, it may be somewhat difficult to decide, as the amount of money appropriated for its maintenance is determined entirely by the Board of Estimate and Apportionment.

Miscellany.

A CASE OF TETANUS CURED BY HYPODERMIC INJECTIONS OF COCAINE.

DR. M. LOPEZ reports the following case in *El Genio Medico Quirurgico* for February 7, 1887: M. G., fifty, laborer, after working in the wet and cold, complained of rheumatic pains of back and limbs. Three days later, he had marked opisthotonus and painful cramps, and all the symptoms of idiopathic tetanus. Chloral hydrate and morphine were prescribed. For three days the patient was kept under the influence of these drugs, with the result that the pain was lessened, but the muscular rigidity and cramps increased. He now became unable to swallow, and death seemed imminent. Morphine was injected hypodermically, but was followed by no amelioration of the symptoms. Three syringefuls of the mixed solutions of morphine and cocaine (each five per cent.) were then injected. The effect was immediate. After two hours, he could move the limbs, turn in bed, and open his mouth. On the next day he was going on well; slight trismus and stiffness of the neck remained. On both sides of the neck, and at the angle of the jaw, a fourth-part of the syringeful of the same solution was injected. On the next day, all the symptoms had disappeared. The patient rapidly regained strength, and in a week's time returned to work. — *London Medical Record*.

DETECTION OF MORPHIA-TAKING.

THE physician who has been worried and deceived by the lying and cheating of the confirmed morphinomanic or opium-eater, says the *Medical News*, will be grateful for any help toward the diagnosis of this disease, which does not depend upon the morbid imagination or the torpid conscience of the patient. Dr. Oscar Jennings, of Paris, has earned some of this gratitude by following his previous studies of morphinomania with one on its diagnosis and treatment. He suggests, first, the examination of the urine for morphia or opium-salts. The reagents he uses are (1) the double iodide of mercury and potassium (HgCl 13.546,

KI 49.80, H₂O to a quart). This gives a yellowish-white precipitate with the alkaloids. (2) The iodized iodide of potash (I 10, KI 20, H₂O 500). the precipitate from which, in the presence of morphia-salts, is brown or yellowish. If the quantity be too small to discover by one of these reagents, boil the urine to a third, treat with tartaric acid, then dissolve the tartrate of morphia thus formed with amylic alcohol; decompose the salt with ammonia, and if morphia be present, the solution should show a blue color on adding the perchloride of iron. A slightly less troublesome proceeding will detect meconic acid and prove the taking of opium: evaporate, wash with alcohol and boiling water, neutralize with magnesium carbonate, and treat, after filtration, with solution of iron perchloride. A blood-red color is characteristic of meconic acid.

FAMILY PREDISPOSITION TO FRACTURES.

PROF. N. I. STÜDENSKY, of Kazan, adduces an instance (quoted in the *London Medical Record* from the *Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 8 and 9, 1886, p. 72) of family fragility of bones. Unfortunately, the details, which concern only father and seven children, are far from being complete. The number of fractures sustained by the family is upwards of fifteen. Here is the list: (1) Father had four fractures (three of the left upper extremity, and one of the femur) during the first five years of his life, while between fourteen and eighteen "he broke many times his legs and arms," and that "always from most trifling injuries, such as making a slip, etc." (2) Second son, at present aged twenty-seven, had six fractures (five of the left forearm, twice both the ulna and radius being broken, and one of the left humerus) during the first six years of life. "All the fractures took place during some harmless plays — from slipping and falling, or from striking his arm against the table's foot, etc." His general state at this time was "satisfactory," but in adolescence he suffered from "extreme anæmia, while now his state is "very satisfactory." (3) Fourth son, always anæmic and emaciated; at three, had a fracture of the forearm (both of the ulna and radius), "from a slow slip on the ice-ground; at five, a fracture of an antibrachial bone from tumbling down during play; at twenty-two, a fracture of his right clavicle from slipping on an ice-glazed pavement. (4) Fifth son, always anæmic, broke one of his forearms in childhood. (5) Seventh son (weak), at five, fractured a forearm, after a trifling fall, when at play in the room.

SOME RARE FORMS OF URTICARIA: GIANT URTICARIA, INTERNAL URTICARIA.

THE *Edinburgh Medical Journal*, June, 1887, quotes from a paper on the above subject by Rapin, in the *Revue Médicale de la Suisse Romande*, No. 17, 1887. The paper, based on eighteen cases, many of which are original, concludes as follows: "Among the various forms of urticaria, there is one remarkable from the considerable dimensions of its patches. It has received, for that reason, the name of giant urticaria. The eruption in giant urticaria may be limited to one or two patches, affecting, sometimes, certain special localities, as the hands, the forehead, the neck.

Itchiness, which is regarded, in general, as inseparable from every urticarial eruption, is sometimes absent. The œdema of neuropathic origin, which constitutes urticaria, scarcely pits, and retains but imperfectly the impression of the finger. The absence of these two characters, itchiness and pitting, the result of pressure, have, therefore, no absolute value in the diagnosis of urticaria. Urticaria of the scalp shows itself under the form of hard nodules, resembling the rheumatic nodosities, with which they may be confounded. The production or non-production of pain on pressure, the longer or shorter duration of the phenomena, permit, in the absence of other signs, the differentiation of these two affections. Urticaria does not occur solely on the integument. It is often internal, and has for its seat the mucous membrane of the digestive canal, in any part from the mouth to the intestine. The proofs of this localization are furnished us by the swelling of the tongue and the pharynx, the seat of pain in the course of the œsophagus and in the stomach, and finally, by the digestive disturbances — eructations, vomiting, diarrhœa. The localization of urticaria in the alimentary canal suffices to explain the anxiety and the dyspnœa. The existence of urticaria of the bronchi does not appear to Rapin to have been proved. Urticaria and migraine seem to be related as to their origin, and to belong to the same diathetic stock." Rapin adds: "The supposition of an urticaria of the bronchi does not appear to me tenable, even from a theoretic point of view. In fixing on the pulmonary mucous membrane, urticaria would expose the patient to the danger of asphyxia; its propagation to the glottis would occasion instant death. In point of fact, the prognosis of internal urticaria is not so grave."

THE CONSULTING-ROOM.

DR. DUBRAY has recently published some instructive and amusing advice to a beginner in the profession (*Conseils à un Débutant*), which are referred to in the *British Medical Journal*. The rules about the door-plate, necessary in the provinces, but not considered correct in Paris, concern French practitioners only. Dr. Dubray distinguishes four kinds of consulting-room: the unpretentious, the surgical, the artistic, and the encyclopædic varieties. They are not peculiar to France. In the unpretentious consulting-room the furniture is plain, the book-cases small, and there are just sufficient tables and chairs to allow the patient to sit down and the medical man to write a prescription. The surgical consulting-room presents instruments and appliances scattered about in an apparently artless manner. "Except in the case of a great and celebrated surgeon of admitted renown, an exhibition of this kind is in bad taste," but the exception itself is, perhaps, barely admissible. Complete abstention from parade of instruments is the best rule. It is not advisable to leave hypodermic syringes about the table, with specula serving as paper-weights. These instruments should not, any more than the herbalist's tape-worms and fetuses in spirits of wine, be made into advertising agents. Even the gynæcological couch should be kept in a corner, and not placed well in the light, displaying a good supply of steps and elevating mechanisms. Such practices savor too much of the crocodile which hung from the ceiling

of the alchemist's laboratory. The term artistic consulting-room, as used by Dr. Dubray, is not quite so innocent in insignificance as it appears. The objects of art are mostly votive offerings of grateful patients, including not only goblets, clocks, and bronzes, but also photographs, with autographs and expressions of gratitude contributed by patients who are distinguished public characters. Were the writer an Englishman speaking of British practitioners, he would add two other examples of art, one of a highly questionable type, the second unquestionably honorable, ornamental, and legitimate. We refer in the first case to framed and glazed diplomas, honorary certificates of proficiency in anatomy, and similar productions which can hardly be classed amongst either literary or artistic ornaments. The second essentially English type of what may be called personal art includes prize cups

and other testimonies of the athletic prowess which distinguished the practitioner in the days of his youth. Dr. Dubray rightly condemns an obtrusive display of patient's presents. In the encyclopædic consulting-room, instead of scientific or artistic neatness, the most admired confusion prevails. The tables are strewn with books, pamphlets, and journals, and sheets of manuscript scattered over the ground testify to the literary activity of the practitioner. Dr. Dubray recommends a happy medium. A few artistic adornments, a small library, but not too many books, and no instruments out of their cases should be the essential features of a consulting-room after the most important matter—the arrangement of the writing-table and the chairs in such a position that the patient can sit comfortably in a good light during the consultation.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 25, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	788	384	32.24	13.26	.78	9.75	17.03
Philadelphia	993,801	449	198	16.72	11.88	—	3.30	8.14
Brooklyn	745,103	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	193	104	27.56	12.44	1.56	1.04	20.28
Boston	400,000	152	53	13.00	18.85	4.55	5.85	—
New Orleans	242,750	129	45	20.79	20.02	1.54	2.31	12.32
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	169	119	45.43	8.85	.59	1.18	41.30
Pittsburgh	210,000	119	79	54.18	6.88	—	6.02	42.14
Montreal	186,257	—	—	19.69	—	—	—	—
Milwaukee	170,000	56	32	—	10.74	—	5.37	7.16
Providence	121,000	—	—	31.72	—	—	—	—
Richmond	100,000	41	23	—	4.88	—	—	26.84
New Haven	80,000	—	—	22.61	—	—	—	—
Nashville	65,000	31	14	19.38	6.46	—	—	12.92
Charleston	60,145	31	14	—	9.69	—	—	16.15
Portland	40,000	—	—	10.00	—	—	—	—
Worcester	68,383	20	11	40.40	5.00	—	—	10.00
Lowell	64,051	22	9	33.33	9.10	—	4.55	9.10
Cambridge	59,660	18	9	3.70	22.22	22.22	5.55	5.55
Fall River	56,863	27	8	—	22.20	—	—	3.70
Lynn	45,861	9	2	—	22.22	—	—	—
Lawrence	38,825	12	2	—	25.00	—	—	—
Springfield	37,577	—	—	13.33	—	—	—	—
New Bedford	33,393	15	8	—	13.33	13.33	—	—
Somerville	29,992	11	1	—	36.36	—	—	—
Salem	28,084	9	—	24.21	—	—	—	—
Holyoke	27,894	13	11	—	—	—	—	22.12
Chelsea	25,709	9	3	—	33.33	—	—	—
Taunton	23,674	5	0	—	20.00	—	—	—
Haverhill	21,795	9	3	—	—	—	—	—
Gloucester	21,713	3	0	—	33.33	—	—	—
Brockton	20,783	1	0	—	—	—	—	—
Newton	19,759	3	0	—	33.33	—	—	—
Malden	16,407	4	1	16.66	25.00	—	—	—
Fitchburg	15,375	6	3	25.00	33.33	—	—	—
Waltham	14,609	4	0	—	50.00	—	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Northampton	12,896	6	0	—	50.00	—	—	—

Deaths reported 2,274; under five years of age 1136; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 636, consumption 308, lung diseases 151, diarrhœal diseases 380, diphtheria and croup 122, measles 25, typhoid fever 25, scarlet fever 23, malarial fever 16, cerebro-spinal meningitis 12, whooping-cough 15, erysipelas eight, puerperal fever eight. From typhoid fever, Philadelphia 12, New York four, Pittsburgh three, Lowell two, Baltimore, New Orleans, Nashville, and Charleston one each. From scarlet fever New York 12, Philadelphia four, Baltimore three, Boston two, Pittsburgh and Nashville one each. From whooping-cough, Philadelphia five, New York three, Baltimore two, Richmond, Boston, New Orleans, District of Columbia and Nashville one each. From cerebro-spinal meningitis, New York five, Lowell two, Philadelphia, Boston, District of Columbia, Milwaukee and Holyoke, one each. From malarial fever, New York nine, New Orleans three, Baltimore

two, Philadelphia and Richmond one each. From puerperal fever, Philadelphia, Pittsburgh and Milwaukee two each, District of Columbia one. From erysipelas, Philadelphia two, New York, New Orleans, District of Columbia, Pittsburgh and Milwaukee one each. From small-pox (New York) two.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 11th, the death-rate was 18.5. Deaths reported 3,340: infants under one year of age 769; acute diseases of the respiratory organs (London,) 259, measles 227, whooping-cough 127, scarlet fever 55, fever 31, diarrhœa 29, diphtheria 17.

The death-rates ranged from 11.3 in Leicester to 29.4 in Birkenhead; Birmingham 16.6; Bradford 17.4; Derby 13.9; Hull 17.8; Leeds 18.9; London 17.5; Manchester 28.9; Newcastle-on-Tyne 24.6; Nottingham 15.1; Sheffield 21.0; Sunderland 19.7.

In Edinburgh 21.0; Glasgow 22.6; Dublin 31.2.

The meteorological record for the week ending June 25, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 25, 1887.																			
Sunday, ... 19	29.77	66.0	78.0	57.0	54.0	36.0	84.0	58.0	W.	S.	S.W.	10	14	10	C.	F.	O.		
Monday, ... 20	29.93	62.0	74.0	57.0	85.0	88.0	100.0	91.0	S.W.	E.	E.	9	16	8	C.	C.	G.		
Tuesday, ... 21	29.95	59.0	64.0	57.0	100.0	94.0	100.0	98.0	E.	E.	S.E.	12	13	5	G.	O.	R.	4	†T
Wednesday, ... 22	29.81	68.0	76.0	58.0	96.0	83.0	94.0	91.0	S.W.	S.E.	S.	2	6	10	G.	O.	R.	6	11
Thursday, ... 23	29.68	70.0	74.0	67.0	89.0	87.0	92.0	89.0	S.	S.	S.	19	14	11	O.	O.	R.	12	41
Friday, ... 24	29.91	73.0	83.0	66.0	93.0	44.0	76.0	71.0	S.	W.	S.W.	14	14	14	O.	O.	O.	3	38
Saturday, ... 25	30.14	69.0	76.0	64.0	62.0	41.0	59.0	64.0	N.W.	N.W.	N.	8	12	4	O.	F.	C.		
Mean, the Week.	29.913	66.7	75.0	61.0				78.9										25	90

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JUNE 25, 1887.

GUIERAS, JOHN, passed assistant surgeon. Detailed for temporary duty at Key West, Fla., June 23, 1887.

WASDIN, EUGENE, passed assistant surgeon. Relieved from duty at Marine Hospital, New York, N. Y., ordered to Marine Hospital, Chicago, Ill., June 23, 1887.

NORMAN, SEATON, assistant surgeon. To proceed to Charleston, S. C., for temporary duty, June 23, 1887.

HEATH, F. C., assistant surgeon. Relieved from duty at Chicago, Ill., June 23, 1887.

APPOINTMENTS.

Dr. C. B. Porter has been appointed Professor of Clinical Surgery, and Dr. J. C. Warren Associate Professor of Surgery in Harvard University. Dr. H. L. Burrell has also been appointed Demonstrator of Bandaging and Apparatus, and Dr. G. H. Monks Instructor in Surgical Pathology.

DEATHS.

Died at Belmont, N. H., Charles Warren Hackett, M.D., M.M.S.S., of Maplewood, aged thirty-five.

Died in Middleboro', Mass., June 28, 1887, Ebenezer Wade Drake, M.D., M.M.S.S., aged sixty-nine years.

BOOKS AND PAMPHLETS RECEIVED.

The Fourteenth Annual Report of the Board of Health of the City of New Haven. 1886.

The Uses of Adhesive Plaster in Orthopaedic Surgery. By A. B. Judson, M.D. 1887. (Reprint.)

Announcement of the Western Pennsylvania Medical College, Pittsburgh, Pa. Sessions of 1887-8.

Dr. Didama's Introduction to a Discussion on Tubercular Consumption. Syracuse, N. Y. 1886.

Announcement of the Oliver Wendell Holmes Hospital. Hudson, St. Croix County, Wisconsin, 1887.

Transactions of the American Ophthalmological Society. Twenty-Second Annual Meeting. New London, Conn., 1886.

Maternal Impressions. Discussion on Dr. Barker's Essay. By Samuel C. Busey, M.D., Washington, D. C. 1886. (Reprint.)

Woman's Medical College of the New York Infirmary. Nineteenth Annual Catalogue and Announcement. New York, 1887.

University of the City of New York. Medical Department. Forty-seventh Annual Announcement of Lectures and Catalogue. Session 1887-88.

Catalogue of the Albany Medical College, Medical Department of Union University. Fifty-sixth Session, 1886-87, and Announcement for Session, 1887-88.

Abstract from the Transactions of the Medical Society of the State of New York, for the Year 1887. Merritt H. Cash Prize Essay: the Physiological Conditions and Sanitary Requirements of School-Houses and School-Life. By A. N. Bell, A.M., M.D., Brooklyn, N. Y. 1887.

Forty-first Annual Announcement of Starling Medical College, together with Catalogue and Order of College and Hospital Exercises for the Session of 1887-8. Columbus, Ohio.

De la Jugulation de la Fièvre Typhoïde au Moyen de la Quinine et des Bains Tièdes. Par Le Docteur G. Pécholiér, Professeur Agrégé à la Faculté de Médecine de Montpellier. 1887.

Report of the Board of Censors of the Maine Medical Association at its Thirty-Fifth Annual Meeting held at Portland, June 14, 1887; containing the Committee's Report on the Status of the Registration Act.

The Causes and Prevention of Infantile Diarrhoeal Diseases. By F. R. Campbell, A.M., M.D., Lecturer on Hygiene, Niagara University, Sanitary Inspector of the Board of Health, Buffalo, N. Y. Buffalo, 1887. (Reprint.)

Practical Urine Testing: a Guide to Office and Bedside Urine Analysis for Physicians and Students. By Charles Godwin Jennings, M.D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes & Co. 1887.

A Manual of Treatment by Massage and Methodical Muscle Exercise. By Joseph Schreiber, M.D., Member of K. K. Gesellschaft der Aerzte of Vienna, etc. Translated with the Author's Permission by Walter Mendelson, M.D., of New York. Philadelphia: Lea Brothers & Co. 1887.

Treatment of Disease in Children, including the outlines of diagnosis and the chief pathological differences between children and adults, by Angel Money, M.D., M.R.C.P., assistant physician to the hospital for sick children, Great Ormande St., etc. Philadelphia. P. Blakiston Son & Co., 1887.

Statistique des Vaccinations Pratiquées avec la Culture Atténuée Du Microbe de la Fièvre Jaune de Septembre, 1885, à Septembre, 1886. Par le Dr. Domingos Freire, Professeur de Chimie organique et biologique à la Faculté de Médecine de Rio-de-Janeiro, etc. Paris Librairie J. B. Baillière et Fils, 1887.

What to do in Cases of Poisoning. By Wm. Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics in the Westminster Hospital, etc. First American from Fifth English Edition. Edited by Frank Woodbury, M.D. Published by the Medical Register Co. Philadelphia, 1887.

Practical Lessons in Nursing. Outlines for the Management of Diet: or the Regulation of Food to the Requirements of Health and the Treatment of Disease. By Edward Turvis Bruen, Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Co. 1887.

Resident Students of the Charity Hospital of New Orleans, Louisiana. Establishment of a Medical Library, by the Louisiana State Medical Society. By Joseph Jones, M.D., President of the Louisiana State Medical Society, Visiting Physician of the Charity Hospital of New Orleans, etc. 1887. (Reprint.)

Anatomische Untersuchungen am Menschlichen Rectum und Eine Neue Methode der Mastdarmspection von Walter J. Otis, M.D., aus Boston. Erster Theil; die Sacculi des Rectum. Mit einem Holzschnitt im Text und Acht Tafeln. (Aus dem anatomischen Institut der Universität. Leipzig: Veit & Co. 1887.

A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor. By A. F. A. King, M.D., Professor of Obstetrics, etc., in the Medical Department of Columbia University, Washington, D.C., and in the University of Vermont; President of the Washington Obstetrical and Gynecological Society, etc. New York: Wm. Wood & Co. 1887. (Reprint.)

Original Articles.

ALCOHOL AGAIN: A CONSIDERATION OF RECENT MISSTATEMENTS OF ITS PHYSIOLOGICAL ACTION.¹

BY JOSEPH W. WARREN, M.D.,
Assistant in Physiology in the Medical School of Harvard University.

A substance which is disposed of as completely as is alcohol by the human body, might be expected to exercise some influence on the nutrition. A large number of cases are cited by Anstie (in his "Stimulants and Narcotics") all showing that a human body well supplied with alcohol may get along very well or fairly well without the ordinary quantity of food. The clinical experience with alcohol, under conditions where it could not merely act by aiding the patient to absorb more food, also suggests that it may, at least at times and to some extent, take the place of acknowledged foods. In much of the discussion on this point, it seems but too often overlooked that alcohol, as a non-nitrogenous substance, could not be expected ordinarily to actually take the place of all and every food for a long time. It does not surprise us that men do not get on very well when fed on fat or sugar only, why should we expect them necessarily to thrive on alcohol? It is, however, a matter of common experience that people do thrive and keep perfectly well who use a moderate amount of alcohol in the form of various beverages. Some of these contain other substances of unquestioned nutritive value. The fact must not be overlooked that there are millions of people in this country and millions in Europe who constantly take small quantities of alcohol in some form and who are absolutely in no way the worse for so doing. It will not do to point to the drunkards, whether of the fat and lazy type or not; it will not do to urge that organs degenerate as a result of alcoholic excesses; these things merely have a value in enabling us to draw some line as to what is reasonable and prudent, but they do not demonstrate the injuriousness of the substance properly used. It is easy to find instances where acknowledged foods are abused. All about us are men who undoubtedly eat too much, or do too little, or both. There is good reason to believe that many persons drink too much water, while the abuse of coffee and tea is very frequently observed. It would be easy to multiply the instances where the good things of life, which are also its necessities, are abused, but no one ventures to infer that these things are therefore harmful. The degenerations of phosphorus poisoning are never advanced as an objection to the acid phosphates of Tom, Dick, and Harry, nor as showing the harmfulness of such phosphorus acid as is in accepted and traditional foods.

The experimental determination of the position of alcohol as a food, has hitherto met with great difficulties. Its disappearance suggests that it *may* play a part in the economy of the body in one of several ways. If it be burned up in the body, that is, completely oxidised to carbonic acid and water, as seems highly probable, we should not only have the development of a great amount of force, but we should also expect to find the products of this combustion, and these have not as yet been satisfactorily made out. There are, however, a number of good reasons for

this, and it by no means follows that they do not exist.³¹

As there is no nitrogen in alcohol itself, we may not expect any direct effect from the oxidation of this substance on the nitrogenous excretion. Indirectly, the influence might be either to increase or to diminish it. Alcohol might work unfavorably on the metabolism, causing more extensive tissue change and consequently an augmentation of the nitrogen output; or it might for some reason, while increasing the destruction, hinder the outflow, but this view is exceedingly improbable, and has no good foundation. On the other hand, the combustion of the alcohol may take the place of the oxidation of the nitrogenous substances (just as it may be easier at times to burn the wood a household happens to have at hand and spare the supply of coal); this would lead to a diminished excretion of nitrogen. Simple as the problem appears, the solution has not yet been reached. A large number of observers report a distinct diminution of the nitrogen output. Even Dr. Davis admits this, but he interprets it ingeniously as a retardation of "those molecular or atomic changes which constitute nutrition, disintegration and secretion, and on which the phenomena of life depend," and also as a retardation of the "elimination of waste matter." This, in very plain English, is much the same as saying that a family which happens to use a gas stove for a few days, ought to have as full an ash barrel as when using the ordinary range, otherwise they fail to eliminate the waste matter of the coals which they have not as yet burned! Although personally, I am inclined to think that there really is a diminution of the nitrogen outgo, I do not think that the evidence at our disposal fully proves it. None of the older experiments have much value now. We have learned, within a comparatively few years that to understand the nitrogenous metabolism the body experimented upon must be brought into nitrogenous equilibrium before any drug or other influence can be tested. Before studying a drug we must have been able to find all the nitrogen that goes into the body in the urine and in the feces, otherwise no fair inference can be drawn, because the body may be adding to its own albuminous material. And when we have this equilibrium we must still know not merely the nitrogen of the urine but also that of the feces. Evidently it is not enough to ensure a regular and measured diet, from which an unvarying import of nitrogen is inferred. All this was unknown to the older experimenters, and very much limits the value of their work, however excellent it was in its own day. It has also often not been duly considered in much work of a more recent date.

It is for these reasons, (and I think they are not final), that we are not justified in accepting as conclusive, many experiments commonly referred to as showing a reduction of the metabolism with reference to nitrogen, under the influence of alcohol, that is, a saving and storing up of albuminous material. To these belong the elaborate work of Böcker³² (who

³¹Thompson (Is Alcohol a Food? *Lancet*, 1885, I, 743), has suggested an ingenious plan to determine whether alcohol can act as a food. He argues that alcohol ought to appear in the urine more readily when the body is fully supplied with food than when there is a deficiency (as with little food and much exercise), which it may make up. A couple of experiments seem to corroborate this view, but evidently there are too many sources of error in the method there employed.

³²Böcker: *Beiträge zur Heilkunde*. 1849, vol. I, 240. It is, of course, easy to sneer, now, at work of this description which in its day and generation was unquestionably on a high level. I have no desire to speak of such investigations otherwise than with respect. What ought to meet with vigorous opposition is the fact that a

¹ Concluded from page 6.

seems to demonstrate a great falling off in the elimination of nitrogen, but with absolutely no control over the amount of nitrogen entering the body), that of Duchek, the investigations of Hammond³³ (with an apparent lessening of the nitrogenous excretion in the urine of about thirteen per cent.), those in the first three articles by Parkes noted above, (with practically no change in the urea outflow), and the more recent researches of Riess³⁴ (a lessening of fifteen to twenty-two per cent.).

In fact, almost the only experiments in which the nitrogenous equilibrium seems to have been carefully established are those of I. Munk³⁵ on dogs. Some earlier ones made by Fokker, and which appear to have been good (showing a diminution of from six to twenty per cent.) are, unfortunately, not easily accessible to me now. Munk found that moderate doses of alcohol diminished the nitrogen of the urine from six to seven per cent., while larger doses (not lethal, but producing much depression and insensibility) caused an increase in the nitrogenous output of from four to ten per cent. An independent confirmation of these results would be very desirable. It may be that alcohol can protect the consumption of other substances to some extent, but that large amounts either injure living tissues, or cause a destruction of albuminous material not yet worked into the living protoplasmatic network of the body.³⁶

The metabolism of the body is not measured by the excretion of nitrogen alone, but also by the amount of carbonic acid sent out. Many writers are disposed, nowadays, to attribute the latter to the oxidation of fat and carbo-hydrates, and to speak of the former as due to the transformation of albuminous substances. Such a view I believe to be exceedingly incomplete and unsatisfactory, but it would lead too far to consider that question now. Whatever the origin of the substances may be, there is no question that their formation goes on in such a way that the carbonic acid may be considered to be, in general, quite independent of the urea.

At the first glance, it would appear to be simple enough to determine this carbonic acid excretion, and

to draw inferences from it. Indeed, there are numerous older observations where such a course was pursued. It has turned out, however, to be of prime importance to know the amount of oxygen taken into the body, as well as the amount of carbonic dioxide excreted.³⁷

A body like alcohol, burning readily and completely to carbonic acid and water, might be expected to demonstrate its combustion by affecting the CO₂ excretion, and many observers have sought to determine this experimentally. For various reasons, no satisfactory unanimity of results has as yet been attained. The older observations are often inexact in method, although they generally show a diminution in the CO₂ output. To these belong the experiments of Prout,³⁸ Fyfe,³⁹ Vierordt,⁴⁰ Böcker, Davis, Hammond, and others, in which there was absolutely no determination of the oxygen, and the collection of the carbonic acid was made in such a way, or for such periods, as seem too little exact and sufficient. The ingenious and elaborate researches of Smith⁴¹ also fail to give the information we want concerning the amount of oxygen taken in. For the carbonic acid excretion, it was found that it is increased by spirits of wine and most beverages containing alcohol, but diminished by brandy, gin, and some specimens of whiskey.

Berg,⁴² who also found the absolute amount of carbonic acid increased after alcohol, does not appear to have made any determination of the oxygen.

Among the more recent investigators with exacter methods, Boeck and Bauer⁴³ found that alcohol in small doses diminished the O₂-inflow and the CO₂-excretion (about 20 per cent.) while larger quantities (without narcosis) caused an increase as regards both substances of 12-34 per cent. Only two experiments (dogs) are reported, but the authors say they obtained similar results on other dogs and cats. In some cases there appears to have been distinct intestinal disturbance, and this would probably affect the CO₂ production.⁴⁴ In one of the two cases the increase of oxida-

³⁷ The relation of these, $\frac{CO_2}{O_2}$, is now commonly called the respiratory quotient; it expresses the amount of oxygen returned as carbonic acid, any deficit being used presumably for other oxidations.

³⁸ It is an entertaining illustration of the danger that lurks in citations, that Dr. Davis speaks of Prout as overthrowing, "by direct experiment," the theory of Liebig after it was proposed, Prout, as a matter of fact, having made his investigations when Liebig was not yet ten years old. Dr. Davis (in common with many others, for example, Wolters) has been misled by a quotation in the second volume of the London Lancet (1843, p. 17). Prout's articles — "Observations on the Quantity of Carbonic Acid Gas emitted from the Lungs during Respiration, at different Times, and under different Circumstances" — are in Thomson's "Annals of Philosophy," 1813-14, Vol. II, p. 328, and Vol. IV, p. 331. Interesting as his work is, it has, of course, now only historical value. Any deductions which modern writers may wish to make from it must be modified also by Prout's statement (p. 336 of the second article) "that they (the numbers in his paper) do not represent the measures of the quantity of carbonic acid emitted on any given time from the lungs, but the measures of the power or capability of the lungs, at any given time, to form or throw off carbonic acid." What I mean to say is this: that the power or capability of the lungs for forming and throwing off carbonic acid is greater at noon, etc., and not that a greater quantity of it is actually thrown off at that time than at any other. A greater quantity will, indeed, be thrown off, *ceteris paribus*, on an equal number of similar respirations being made in the same given time; but whether this be really the case or not, I cannot pretend to determine."

³⁹ Fyfe in an Edinburgh dissertation, 1814, quoted by Prout.

⁴⁰ See Wagner's Handwörterbuch d. Physiologie, II, 884.

⁴¹ E. Smith. Experiments of the action of food upon the respiration. Brit. Med. Journal, 1859, 254. Practical deductions from an experimental inquiry into the influence of food. Ibid, p. 433. His paper in the Proc. Roy. Soc., 1859, p. 638, is only an abstract.

⁴² Berg. Ueber den Einfluss der Zahl und Tiefe der Athembewegungen auf die Ausscheidung der Kohlensäure durch die Lungen. Dtsch. Arch. f. klin. Med., 1869, vi, 291.

⁴³ H. v. Boeck and J. Bauer. Ueber den Einfluss einiger Arzneimittel auf den Gasaustausch bei Thieren. Zeitsch. f. Biol. 1874, x, 336.

⁴⁴ Zuntz and v. Mering (Pflüger Archiv, 1883, xxxii, 173) have shown that the work of the digestive act (and apparently any irritation of the tract) causes an increase in the amount of oxygen taken into the body.

teacher should cite such experimental work of an older date as valuable, and yet draw no distinction between it and that done in recent years with the most carefully elaborated methods, or even neglect to mention the latter altogether.

³³ Hammond: The physiological effects of alcohol and tobacco upon the human system. Reprint from the American Journal of Medical Sciences for 1856, in his Physiological Memoirs, 1863, p. 43. Hammond's urea determinations have not met with universal acceptance. Cf. Speck: Arch. f. exp. Path. u. Pharm., xv, 35.

³⁴ Riess: Ueber den Einfluss des Alkohols auf den Stoffwechsel des Menschen. Zeitschr. f. klin. Med., 1881, vol. II p. 1. Binz (Vorlesungen p. 361, and again quite recently in the Centraltblatt für klin. Med. for May I, 1887), seems to consider Riess's results satisfactory. I must observe, however, that the men examined were convalescents (from rheumatism and subacute myelitis), that although they were placed upon a carefully measured diet the nitrogen of this was not determined, and that the men were admittedly not in nitrogenous equilibrium.

³⁵ I. Munk. Ueber d. Einfluss des Alkohols u. des Eisens auf den Eiweisszerfall. Verhandl. d. Berliner physiol. Ges., 3 January, 1879. Archiv f. Anat. u. Physiol., 1879, 163. See, also, Munk-Uffelmann. Die Ernährung des gesunden und kranken Menschen, 1887, p. 60.

³⁶ The presumption that alcohol lessens the amount of oxidation in the body, in the sense of saving material, not of retaining "effete, waste substances," is strengthened by some interesting observations on the conversion of benzol to phenol and related products in the body. Nencki and Sieber (a) had shown that, normally, a pretty constant relation existed between the amount of benzol (C₆H₆) introduced into the body and the phenol (C₆H₅OH) found in the urine. Then Simanowsky and Schoumoff (b) found that alcohol lessened this transformation for rabbits, dogs, and for man.

(a) Nencki and Sieber. Ueber eine neue Methode die physiologische Oxydation zu messen und über den Einfluss der Gifte und Krankheiten auf dieselbe. Pflüger's Archiv, 1883, xxxi, 319.

(b) Simanowsky and Schoumoff. Ueber den Einfluss des Alkohols und des Morphiums auf die physiologische Oxydation. Pflüger's Archiv, 1881, xxxiii, 251.

tion is not convincing, for a change nearly as great occurs apart from any alcoholic influence.

In 1883 Henrijean published a preliminary communication⁴⁵ concerning experiments made on himself in Fredericq's laboratory at Liège, in which he found that the oxygen taken into the body was, on an average 19 per cent. greater in amount after taking alcohol than in hunger, and the increase after taking a moderate breakfast was about 23 per cent. The increase under alcohol seems to continue too long to be due to the action on the intestines; in fact the average for the later determinations (80-180 minutes after taking) is rather higher than for the earlier ones. No determination of the carbonic acid was made.

At about the same time Wolfers⁴⁶ published some experiments which he had made under Zuntz's guidance a couple of years before. He used rabbits which were sunk in a bath at a constant temperature. The alcohol was introduced sometimes through a vein, in some experiments directly into the stomach. The doses were large although narcosis does not seem to have been usually produced, nor considerable muscular movement avoided. Wolfers found that the consumption of oxygen increased under alcohol; the output of carbonic acid was also increased, but less extensively; the respiratory quotient was usually lowered. From this the inference is drawn that the alcohol is partly oxidized in the body, but that no lessening of the oxidation processes may be attributed to it. But even if more oxygen be consumed it does not follow that the increased oxidation may not be that of the alcohol, and at the same time include a protection of the tissues.

Against these experiments it has been argued that the animals were rabbits and fastened down in an unfavorable manner. On the other hand Zuntz has urged that perhaps the rabbit from living so largely on carbo-hydrates may be especially adapted to show the influence of alcohol in the respiration.

We have also incidental information in a research by Rumpf,⁴⁷ who found that in alcohol narcosis the temperature of guinea pigs is much lowered, and its regulation disturbed, and the oxydation as represented in the oxygen consumption greatly reduced. Obviously the conditions were such as to permit no fair inferences concerning the physiological action of alcohol.

Still more recent are experiments in this direction made by Bodländer, Zuntz (with Berdez), and Geppert.

Bodländer⁴⁸ worked with a new apparatus, which has the advantage of leaving the animal perfectly free in a small chamber and undisturbed by any operation for the introduction of breathing tubes and the like. Bodländer found the oxygen consumption reduced for two dogs, 12 per cent. and 19 per cent., the CO_2 -excretion 11 per cent. and 19 per cent., the same changes for a rabbit being only 3 per cent. and 8 per cent. respectively. There is, then, a small lessening of the respiratory quotient for the rabbit and no such change for the dogs. But as Zuntz has pointed out, in the article mentioned below, Bodländer's dogs had a very high oxygen consumption in the "normal" ex-

periments which leads to the inference that they were more restless than the experimenter supposed (and any muscular action is a most potent factor in the O_2 -consumption) and that the influence of the alcohol was to lessen their activity, and consequently to reduce the respiration. Zuntz also objects to the imperfect ventilation of Bodländer's apparatus, and thinks that the lowering of the temperature of the animals would also tend to lower the oxygen consumption, it having been shown by Pflüger and Veltan that a reduction of 1°C . lessens this about 5 per cent.

In Zuntz's experiments with Berdez⁴⁹ the latter breathed through a carefully fitted tube with valves, the nose being closed. It was thus possible to ensure perfect muscular quiet and examine the course of the respiratory change for twenty minutes at a time. The outcome of the very few experiments which could be made was that "none of the important factors of the respiratory process was lowered." The oxygen inflow rose about 3.5 per cent., the carbonic acid outflow increasing also about 4.5 per cent. The smallness of these figures as compared with those of Wolfers is attributed to the small amount of alcohol which Berdez was able to take without causing muscular unrest.

The latest and in some respects the most interesting experiments are those which Geppert⁵⁰ has published, while I was collecting the material for this paper. Geppert has a new and very ingenious apparatus for making respiration experiments on man. This renders it possible to exclude many disturbing factors which are met with in experiments on animals and are there often beyond the control of the experimenter. Excluding all cases where the alcohol caused muscular disturbance or produced sleep (since both conditions have nothing to do with the alcohol effect on respiration for itself) it was found in a number of experiments on four men that "the doses of alcohol employed had no important effect on the oxygen consumption." The carbonic acid excretion was not increased; it was either constant or somewhat lessened. In fact the respiratory quotient appears to me to have been in every case slightly lowered. This may be interpreted to mean that the oxidation of the alcohol has protected some other substance from oxidation and lessened the amount of oxygen which appears in the expired air as CO_2 . When carbo-hydrates are consumed the oxygen of the CO_2 sent out is equal to the oxygen taken in for the combustion, its respiratory quotient is said to approach 1.00; the combustion of alcohol on the other hand returns in the form of carbonic acid, but two-thirds of the oxygen taken in, it has a respiratory quotient of 0.66.

It will thus be seen that we are not as yet in a position to make very positive assertions concerning the influence of alcohol on the tissue changes as measured by the respiratory gas exchange or in terms of nitrogen excretion. An ingenious advocate could draw arguments for either side from the experimental evidence at our disposal. But we should be extremely cautious in inferring the physiological influence from those very common results of unwise indulgence in alcoholic beverages, and which are clearly pathological. The imperfect nourishment of many drinkers is explicable by the chronic disturbances of the intestinal

⁴⁵ Henrijean. Sur le rôle de l'alcool dans la nutrition. Bull. de l'académie royale de Belgique, 3me. sér. v. 1883.

⁴⁶ J. Wolfers. Untersuchungen über den Einfluss einiger stickstoff freier Substanzen, speziell des Alkohols, auf den thierischen Stoffwechsel. Pflüger's Archiv, 1883, xxxii, 222.

⁴⁷ Rumpf. Untersuchungen über die Wärmeregulation in der Narkose und im Schlaf. Pflüger's Archiv, 1884, xxxiii, 538.

⁴⁸ Bodländer. Einfluss des Weingeistes auf den Gaswechsel Ztsch. f. klin. Med. 1886, xi, 548.

⁴⁹ Zuntz. Beitrag zur Kenntniss d. Einwirkung des Weingeistes auf den Respirationprocess des Menschen. Reprint from the Fortschritte d. Med. 1887, p. 1.

⁵⁰ Geppert. Die Einwirkung des Alkohols auf den Gaswechsel des Menschen. Archiv f. exp. Path. u. Pharm., 1887, xxii, 367.

tract with the attendant upsetting of digestion and absorption. This, too, is often enough further complicated by a real insufficiency of food either in quality or quantity. The excessive formation of fat with accompanying degenerations often attributed to alcohol is certainly not always due to its moderate use alone (although even this, in some persons favors obesity); unwelcome or dangerous fatness is often enough met with where there is a complete disuse of alcohol.

Concerning the action of alcohol on the muscles, exceedingly little is really known. Nearly all the experimental researches merely show that quite concentrated solutions of alcohol kill muscular tissue, cause rigidity or hasten it, and precipitate or coagulate the albuminous substances. This is not only what might be expected, but also demonstrates actually nothing concerning the behavior of such quantities as would reasonably and probably reach the muscles. It has, for this purpose, no more value than the platform trick of coagulating egg albumin in a tumbler by spirits of wine, which, I am told, some audiences have found to be very impressive.⁵¹ There is, however, some reason to believe that the use of alcohol (certainly when given in rather large doses to healthy persons) does not enable a man to do more hard work with his muscles, at least, for any length of time.⁵² This effect is probably complicated by the influence of alcohol on the nervous system.

One of the most delicate reagents which we have for alcohol, or rather, for alcoholic beverages, is the human central nervous system. As a noted anatomist used to say of the external ear, this can be best studied on one's neighbors. It seems hardly necessary to point out that the effect first manifests itself in the cerebral centres, and that this, for a small amount, is a stimulation.

"It is very difficult to say how far the stimulating action depends on the increased circulation through the nervous centres only, or how much of it may be due to the action of the alcohol on the nervous structures themselves. The symptoms of intoxication must, however, be referred to a paralyzing action of the alcohol on the nerve-centres, for, although as intoxication progresses, a diminution in the activity of the cerebral circulation occurs, and the well-nourished brain becomes anæmic, this alone is insufficient to account for the effects we observe. The first of these are weakening of the mental faculties and of the power of coördination. The higher faculties seem to go first, and a man's judgment becomes impaired, while his memory and imagination are still more lively than usual. Then these faculties diminish, and the emotions become more prominent, so that a man is either ready to swear eternal friendship all round, or becomes as anxious for a fight as an Irishman at

Donnybrook; is gay, mirthful, and hilarious, or subdued and lachrymose, melting into a flood of tears without any apparent cause. At the same time, the power of coördination becomes impaired. This is most evident in the tongue and legs, the speech becoming thick and indistinct, so that the pronunciation of the words 'British Constitution' becomes next to an impossibility, and locomotion becomes staggering and uncertain. Although loss of the mental faculties and loss of coördination power generally go hand-in-hand, yet either of them may occur a good while before the other, so that persons who seem stupefied by drink may rise and walk with the utmost readiness, while others, who seem perfectly unaffected while sitting, and can discourse on any subject with freedom, will find great difficulty in steering their way from the table to the door." (Brunton.)

Although the course of the influence is clearly perceptible, such attempts as have been made to define or measure it experimentally have not been remarkably successful. The observations of Exner,⁵³ Dietl and Von Vintschgau,⁵⁴ and Kraepelin,⁵⁵ seemed to show that the reaction time (that is, the time required to perceive an appointed signal, and make a simple predetermined signal in reply) may be quickened by alcohol or alcoholic beverages, but that there follows ere long a period of slower replies, and that such a slowing occurs rapidly from a large dose.

Some experiments of my own, which will shortly be published, appear to demonstrate that the influence of alcohol in this respect is even more varied than has been supposed, and that no final conclusions can be drawn at present. I can see no valid reason for supposing that alcohol does not quicken mental activity (where there is any to be quickened). The stimulating influence of small quantities of alcoholic beverages is a matter of too common experience among brain-workers to permit a wholesale denial of it. Obviously, this results from a variety of causes, and is subject to enormous individual variations and limitations, and the bad effect of large quantities is beyond question. It will not do to urge, as is usually done, that mankind was mistaken as to the influence of alcohol on the body-temperature, and so must be about the effect on the brain. A man's knowledge of his temperature is exceedingly limited, quite subjective, affected by many influences, and altogether uncertain; he merely knows that he feels warmed. But if we test the temperature by a thermometer, why may we not judge somewhat of the mental effect by the work which is done under such circumstances? Looked at in this way, there is experience enough to warrant us in saying that very often men really do think better and write better with moderate alcoholic stimulation than without it. It does not in the least follow from this that constant stimulation for such a purpose is good or permissible any more than it does that a man should always run when he can just as well walk, although progression would thus be more rapid for a time.⁵⁶

⁵¹ Engelmann (Ueber die Flißmüßbewegung, 1868, p. 58, and in Hermann's Handbuch der Physiologie, I, 402) has shown that small doses of alcohol increase the frequency and energy of ciliary motion, while large doses bring it to a standstill. Dogiel, too, asserts that the force of inauseular contraction is similarly affected. His paper (Pflüger's Arch., viii, 606) is, however, but an abstract so brief and aphoristic, that it affords no chance of judging of its true value.

⁵² Parkes, in the first paper quoted above, tested the muscular power of his soldier (probably with a dynamometer), and found that no change was produced by alcohol. In one of the later series of experiments, where the soldier labored hard with the spade, he worked (in his opinion) very much less well with brandy than without it, but the quantities which led to this result were considerable. This view is also favored by his paper in the *Lancet* (1874, ii, 238, 263, "Report on the Issue of a Spirit Ration during the march to Coomassie") which presents evidence that the use of alcohol does not, on the whole, enable soldiers to endure more fatigue, except when taken after the work of the day is done. But even here, the evidence is not altogether convincing to those who are not professional temperance agitators.

⁵³ Exner. Pflüger's Archiv, 1873, vii., 628.

⁵⁴ Dietl und Von Vintschgau. Pflüger's Archiv, 1878, xvi, 316.

⁵⁵ Kraepelin. Wundt's Philosophische Studien, 1881-83, I, 573.

⁵⁶ As to any special action on nerves and nerve-centres, there may be added the declaration of Dogiel that the irritability of motor and of sensory nerves is, at first, increased and then diminished, and that the reflexes of belched frogs are, at first, quickened and then slowed. On the other hand, Meihuizen (Pflüger's Archiv, 1873, vii, 217) found that these reflexes were much slowed at first, and for a considerable period, being followed by a considerable quickening, but he got these results with what must be considered a large dose, and got less constant ones when the quantity of alcohol was only half as great. Kremer's observation (Pflüger's Archiv, 1884, xxxiii., 288) that

But I am wandering too much from my original purpose, yet I trust that the effort not merely to examine some of the older experimental foundations for an opinion about alcohol, but also to inquire what the most recent work has done to strengthen or to weaken them may not be altogether unwelcome to any reader who may chance to have followed me thus far. I hope that I have made it clear that the statements of Prof. N. S. Davis, so far as they have to do with the physiological action of alcohol, are not in accord with the knowledge available when the tract was printed, and are also not supported by the more recent investigations. The points which I should like to insist upon, in recapitulation, are these:

(1) That alcohol enters the animal body readily, and is there very completely disposed of.

(2) That the oxidation of such a substance may fairly be expected to develop force, and that although we cannot as yet say just how this takes place and just what it accomplishes, we have no right to deny that it does occur.

(3) Our knowledge, such as it is, of the influence of alcohol on the muscular and nervous structures of the body, on the function of digestion and absorption, on the heart and circulation, on the heat-production and regulation, on the tissue changes (the metabolism) of the body, and on the psychic functions, does not warrant us in saying that the really moderate use of alcohol is harmful, not to say dangerous, from the point of view of the physiologist.

But we are told, "Wine is a mocker, and whoso is deceived thereby is not wise." Well, there are a good many "mockers" nowadays. Beef tea is one of them. Various artificial foods and similar preparations belong to the same category. It is an exceedingly unfortunate thing, doubtless, to be deceived by these things, but I cannot help feeling that it is a much worse thing to be a deceiver concerning them. I have an impression that the same "wise man" has also urged men "to buy the truth and sell it not." There are times, perhaps, when it is well not to tell the whole truth, but I have yet to learn how the human race can be benefited, in the long run, by systematic deception and by the wholesale circulation of what is, to say the least, not true. I see no reason why alcohol should be made an exception to this principle.

I am, I trust, fully awake to the dangers of alcohol, to the harm which it has done in the past and continues to do in the present. If any one shall choose to find in this article a warrant for the indiscriminate and heedless use of alcoholic stimulants, the responsibility must rest with him. It is altogether foreign to my purpose to examine the wide field which a consideration of the evil alcohol may do, would open before us. There are some considerations, however, which may find a place here.

We must not forget that although alcoholic beverages may supply the place of food for healthy persons they can ordinarily do so only to a very limited extent. The exceptional cases are far too infrequent to afford the slightest warrant for substituting alcohol for accepted foods or for any portion of them, and such a course is almost absolutely certain to result in harm to the body. In this sense, there is probably rarely or never any necessity for the regular use of alcohol, even in a moderate degree. Therapeutically,

alcohol lowers the sensibility of the skin for points, seems to rest upon one single experiment with sixty grammes of brandy.

there can be no question that many disturbances of function are favorably influenced by a reasonable use of alcohol, but even here, as good results may be frequently obtained by other means, always provided that the habit of taking medicine or considering one's self an invalid be not encouraged, which is for some people a much worse habit than a moderate indulgence in alcohol would be.

The chief reason why men all over the world take alcohol, is that they like its effects, that it makes life pleasanter, that it smooths the rough places. A few take it to drown their sorrows, to forget a trouble or a difficulty which it would doubtless be much better to meet bravely and overcome, if they could, but this is not the reason of its common use. Men like the cerebral stimulation, and the vast majority care for no further action from what they drink, and this majority can attain this effect without going further and without harm to themselves. I am well aware that very many, unfortunately, do not stop at this point. It is but too true that not merely one man's meat, but also one man's drink, is another man's poison, and some men should refrain from alcohol, just as some men should refrain from lobster, or mushrooms, or oysters, or salmon.

The temperance movement of the future, if at some time it shall have become a true temperance movement, as I yet hope it will, the temperance movement of the future will have to recognize that the field for its activity lies not in the dissemination of falsehood about what alcohol is and does, but in the control of its rational use and in the prevention of all abuse. Here is an immense and fruitful field, and were but half the energy consumed in tilling it, which has been spent in reckless denunciation and misrepresentation, the evils of intemperance would have been largely diminished. Intemperance is a terrible weed, but its roots will be found to be entangled amid many social problems of heredity, poor food, over-work, bad cooking and bad homes, all quite as important, if indeed not more important, than the question of alcohol. And as to alcohol itself, finally, there is much to do in the regulation of its quality. It has been demonstrated again and again that the harmfulness of alcoholic beverages is very commonly due to impurities which can be avoided or greatly reduced. The "wise man" in recording the ripe results of his great experience, but anticipated modern research in attributing woe, sorrow, contentions, wounds without cause, and redness of eyes, not merely to "those that tarry long at the wine" but also to "those that go to seek mixed wine."

The admixture of other so-called higher alcohols, besides the ethyl alcohol, which we have been considering in this paper, is a source of much danger. Experiments have shown thoroughly that the evil effects of ethyl alcohol in large quantities, are produced by the higher alcohols in far smaller doses. This is an interesting and very important part of the subject, but even a brief consideration of it would lead us too far.

— A physician writes to the *Medical Press*, "within the last five years, in a district embracing sixty square miles or so by the sea, I have noted the hour and the minute of no less than ninety-three demises in my own immediate practice, and every soul of them all has gone out with the tide, save four who died suddenly by fatal accident."

THE USE OF MEAT AS A REGULAR ARTICLE OF DIET IN THE NURSERY.¹

BY CHARLES P. PUTNAM, M.D.

[This paper does not take into consideration the use of meat as a medicine for sick children, but is wholly confined to its use as an article of diet for children in health.]

Meat is usually given to children as a matter of routine as soon as they are able to eat it without indigestion, and the question whether it is a food suited to childhood has received no very careful consideration. Yet it seems to be generally recognized that meat has peculiar effects on the organism as compared with other kinds of food. The fact that meat has a well-established position in the diet of adults is not alone a convincing argument in favor of giving it to children, since there are other articles, such as tea and coffee which are generally believed to be good for adults, and yet almost as generally believed to be bad for children.

Dr. Clouston, of Edinburgh, says: "My experience is that children who have the most neurotic temperaments and diatheses and who show the greatest tendencies to instability of brain, are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. I have found, also, a large proportion of the adolescent insane had been flesh-eaters, consuming and having a craving for much animal food. My experience, too, is that it is in such boys that the habit of masturbation is most apt to be acquired, and when acquired, seems to produce such a fascination and a craving that it ruins the bodily and mental powers. I have seen a change of diet to milk, fish, and farinaceous food produce a marked improvement in regard to the nervous irritability of such children. And in regard to such children I most thoroughly agree with Dr. Keith, who in Edinburgh for many years has preached an anti flesh crusade in the bringing up of all children up to eight or ten years of age. I believe that by a proper diet and regimen, more than in any other way, we can fight against and counteract inherited neurotic tendencies in children, and tide them safely over the periods of puberty and adolescence."

My experience has not been drawn from any extended observation of such cases as Dr. Clouston describes, yet I can fully believe that his statement is a fair one. I have become convinced that children fed largely on meat are apt to have a capricious appetite, to suffer from indigestion, constipation, and also from diarrhoea, to be subject to catarrhs of the mucous membranes, and have an unstable nervous system and less resistive power in general.

As a rule the more children are allowed to take meat the more they want it, while the appetite for other kinds of food is apt to diminish.

In families where meat eating has been put off or given up for any considerable period, I have found the children to have more freedom from little and great ailments, and to be less inclined to colds and diarrhoea. In 1884 Dr. D. M. Cammann, of New York, wrote an article on "Milk Diet in Childhood."² After advocating milk as a food of great value, and quoting the above passage from Dr. Clouston he says: "During the past twenty-five years, in a large institution in this

city, meat has been omitted from the dietary of children under eight years of age, and it must be admitted that this has been long enough to test fully the value of the diet adopted."

One of the reports of the Board says: "Past records of the institution furnish such ample proof of the value of milk and vegetable food, and the exclusion of meat from the dietary of children under eight years of age, that the medical board sees every reason to adhere for the future to the diet from which such good results have been reached in the past." He gives the dietary for the children under eight years of age, which consists of a great variety of cereals, vegetables, fruits and milk." Also of the number of deaths by years during the twenty-five years up to 1882, he reports that both the death-rate and the number of illnesses was much greater during the year 1865, when meat was added to the dietary. In a letter which he recently wrote to me he says:

"I have no new facts in addition to those mentioned in my article on milk diet, except that I have seen a number of children in private practice brought up on a diet from which meat has been omitted, until they were seven or eight years old, and the results have been favorable. I think the facts in that article speak for themselves very strongly. In the Orphan's Home a milk and vegetable diet has been tried now for twenty-five years. During all those years the death-rate has been remarkably small; gastro-intestinal troubles during the summer months have been rare. We often go through the summer without a single case of diarrhoea. This, in a large city, among 150 children, many of whom have inherited feeble constitutions from their parents, is a noteworthy fact. Then through the winter we never have many cases of bronchitis or other diseases of the lungs, and those that do have such trouble usually recover rapidly. Another fact well worth noticing is that during the year 1865, in which meat was added to the dietary, the death-rate was larger than in any previous or subsequent year, and that disturbances of the digestive organs were extremely prevalent. The literature of the subject is meagre, and I cannot refer you to any articles bearing on it, except those referred to in my paper. . . . A look at the rosy cheeks of the children would convince any one that it was possible, at least for them to be healthy without the use of meat."

But few medical writers have thought it worth while to give any arguments in favor of meat for children. It is taken for granted that meat is the proper food for every one, and that children are to have it as soon as their digestion will bear it, in any form. For example, Starr, in a book lately published on the "Diseases of the Digestive Organs in Infants and Children," simply says: "Children who have got their milk teeth may be fed a twelfthmonth, namely, up to the age of three and a half years, in the following way." His dietary contains a teacupful of beef-tea at eleven, a slice of underdone roast-beef or mutton, or a bit of roast chicken or turkey, minced as fine as possible, and potato moistened with gravy at twelve o'clock.

In this community the giving of meat seems to be on the increase. Nursing babies, whose age is still counted by months, sometimes receive a regular meal of beef-juice. Some children of two years and upwards have meat or meat extracts twice and three times a day. Certainly this is not a universal custom, but it is getting to be more and more common. The

¹ Read at the meeting of the Boston Society for Medical Observation, January 2, 1887.

² New York Medical Journal, March 29, 1884.

result seems to be an increasing craving for meats and other stimulating foods, and a dislike of bland foods. In many nurseries bread and milk is a forgotten mixture. Puddings, such as were the main food of children forty years ago, boiled or baked rice and sago, rennet pudding or slip, simple blanc mange, bird's nest, baked custard, and bread puddings are distasteful to many children of the present day, and often milk will not be taken unless it have a little tea or coffee in it.

Exactly what place meat holds in the nutrition different from milk, eggs, grains, and vegetables is perhaps not thoroughly understood. Certainly physiologists do not absolutely agree. The best authorities, so far as I know, say that its peculiar effects on the system are due to the abundance of the nitrogenous elements and to the presence of extractive matters which are not in themselves nutritious, but which may be called relishes, as they make other foods more tasty, and thereby more digestible. Thus Liebig's beef extract and some others are made from a liquid out of which all albumen has been precipitated. They are, therefore, not nutritious in the ordinary sense. Still they are valuable under certain circumstances, but might fairly be considered as drugs. Whether this theory satisfactorily accounts for the well-known effects of meat on the dog, whether it accounts for the condition of excitement which sometimes is observed when infants first get beef-juice, and for the craving for meat which is found in older children who have become accustomed to it, I am not prepared to say.

On the whole, the view of Roberts as given in his lectures on "Dietetics and Dyspepsia" seems to be a fair one. He classes meat with tea, coffee, and cocoa, and also with alcohol as among the stimulants. He calls those classes and races that use these articles in abundance "high fed," and says: "There are some very subtle and exceedingly curious relations between the quality of the food and the nutrition and vital habits of the body. They are profoundly difficult to understand, and yet are absolutely authentic and highly important. One would think that so long as an animal obtained his due quantity of proteids, carbohydrates, and fats, it did not matter much from what source they were obtained.

"But this is far from being the case. Experience has taught trainers that the vital habits and qualities of horses and dogs are considerably modified by the nature of their food.

"These differences are expressed in popular phrase by saying that the hunter and the coursing greyhound are 'high fed,' and the draught horses and sporting dog are 'low fed.' The same kind of distinction may be drawn in regard to the diet of different members of the human family; some are high fed and some are low fed. Speaking generally, it may be said that high feeding in the case of man, consists mainly in a liberal allowance of meat and in the systematic use of alcoholic beverages, and that low feeding consists in a diet which is mainly vegetarian and non-alcoholic.

"In drawing this contrast between high feeding and low feeding, the distinction has reference solely to the quality and not to the quantity of the food — to its comparative stimulating properties and concentration.

"If we compare, as best we may with our limited information, the general characteristics of the high fed and low fed classes and races, there is, I think, to be perceived a broad distinction between them. In regard to bodily strength and longevity the difference is

inconsiderable, but in regard to mental qualities the distinction is marked. The high-fed classes and races display, on the whole, a richer vitality, more momentum and individuality of character, and a greater brain power, than their low-fed brethren; and they constitute the soil, or breeding ground, out of which eminent men chiefly arise. In calculating what may be termed the 'man value' of individuals, classes, or races, physical qualities count for relatively little. One man may be twice as strong, or twice as big, or possess twice as much muscular endurance, as another; but the difference of value scarcely goes beyond, and rarely even reaches this proportion. But the possible difference between the mental capacity of one man and another is immense, almost incalculable. If you try to assess and to compare the value or capacity of a man of eminence — whether it be eminence in art, literature, science, statesmanship, commercial enterprise, colonizing aptitude, military command, or any other outcome of brain power — with the value and capacity of an average man, you perceive at once that the proportion is not as two to one, but as ten or twenty to one, or even as a hundred or more to one.

"With regard to infants and children, we observed that they are not allowed to partake of the necessary articles of food which form so conspicuous a part of the dietary of their elders. They are allowed neither the use of alcohol nor of tea and coffee, except gradually as they draw towards the adult age, but are fed on simple nutrients, milk, cooked cereals and more or less meat."

I have quoted thus fully from Roberts in order to be sure of making his meaning clear.

Granting the truth of his theory of high and low feeding, it seems to me to be an argument against meat for children rather than in favor of it. Childhood is certainly the age for low rather than high feeding. The breeder who takes his colt from the pasture young, and feeds him with oats, develops his muscles by work at an early age and makes a horse of him as early as possible, generally turns out to have made an inferior horse at last.

While the community is putting off the age of learning to read until eight or nine, and deploring the existence of a large and exciting literature, is it not out of place to endeavor to stimulate them with "high feeding?"

Robert's himself says, "it is important to remark that the main dietetic customs of a country are instituted for the benefit of the robust and healthy, of the sober and temperate, and those of mean or average constitution; in other words, for those who are bearing the burden of the day and fighting the battle of life. These form the great mass and bulk of the adult population, upon whose bodily and mental efficiency national progress and ascendancy depend. A good many individuals, and even entire families, may not find these customs beneficial to their exceptional tendencies or weaknesses; they may even find them destructive to their health and life. Nevertheless, differences of constitution and personal idiosyncrasies have to be reckoned with; and there are frequently good, indeed paramount, reasons why individuals should, in some particular or other, depart from the general dietetic plan." I think this applies also to peculiarities of age, and he says, in speaking of the high-fed races and classes as the "soil or breeding-ground out of which eminent men chiefly arise," "It

is remarkable how often we hear of eminent men being troubled with gout, and gout is usually produced either by personal or ancestral high feeding."

A diet which tends to produce literary and scientific predominance at the cost of gout hardly commends itself as a diet for children.

Were it only claimed that meat contained nourishment in a concentrated and easily digestible form, it would still remain to be proved that this is an advantage. On the contrary, we know that for infants (not on the breast) milk combined with some, at their age, innutritive material, such as starch, is often more easily digested than milk alone. Coarse oatmeals and cracked wheat are taken by older children and adults, partly for the very purpose of giving a non-nutritive diluting material together with the digestible.

Many nations of great physical strength take no meat. We need only look at the Scotch with their oatmeal, the Egyptian sailors and the Japanese with their rice, the latter of whom perform labors that would be impossible to most meat-eating men. The same may be said of the East Indian runner.

ON THE NEUROTIC TREATMENT OF SUMMER DIARRHŒA AND CHOLERA INFANTUM.

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ALL experience teaches, that nations and communities increase, not so much through a preponderance of births, as by a diminished death-rate; in England, where there is, except in certain localities, an almost constant numerical relation between births and deaths and where the prevalence of a high birth-rate is often not inconsistent with an inordinate death-rate, this truth is fully recognized. In this country of large families, it has been truly said that many children appear to die that others may be born, the vacancy in the nursery is very soon supplied; but such results cannot be predicated of American households, where the deaths observe quite a different relation to the births, and where the annual increase is chiefly attributable to immigrants, nor where as in the East Indies, it is frequently found necessary to send children back to Europe in order to secure a certain amount of power and vitality in the constitution.

Although man alone is cosmopolite, yet perfect acclimatization is scarcely attainable; in the constant struggle with the elements, his constitution becomes modified in accordance with the conditions, natural and climatic, which surround him, and, although it might be concluded that the children of European parents, born in a warm climate, would be better able to bear it, than their parent; such, however, is not commonly the fact, for many languish during infancy and die before puberty.

There is also in the habits of the American people, their preference of hotel life as contrasted with the self-contained houses and homes of the British people, their almost nomadic habits, and the prevalent desire among married people to limit the numbers in families, along with the decline of muscular and the increase of nervous development, and diminished reproductive powers, sufficient reason to explain the relative deficiency there, so observable in infant life, with the enhanced value of every child to the family and to the State.

And when, with the annual return of summer, an annual hecatomb of infantile life is the result, the loss almost assumes, under those circumstances the importance of a national calamity; in the manufacturing districts of England and in the great cities of the United States, summer diarrhœa swells the death-rate to an inordinate extreme. A fatal diarrhœa is essentially an infantile disorder, and although great progress has been effected in hygiene and preventive medicine, in both hemispheres, yet so long as we are compelled to admit, with Dr. West, that fully one-half of the children born in this country perish before they reach the fifth year, or with the late Sir James Simpson, that every fourth or fifth grave dug is for a child under twelve months (which statements "*mutatis mutandis*" may fairly apply to the United States, we are not entitled to boast of excessive progress in civilization or sanitary science.

But great as are the resources of sanitation, they are not competent to cope alone with the epidemic causes of diarrhœa, of which an elevated temperature is the most important. With the onset of hot weather, the disease increases in frequency and fatality, and as quickly declines with its departure. Extreme heat operates by lowering and disordering the nervous mechanism of digestion. Under its influence, the systemic circulation is excited to over-activity, the circulation in the vena porta is augmented, the liver, in time, becomes enlarged, and an increased secretion of bile is the result, often followed by diarrhœa.

The cramps and spasms, the great depression of the nervous system and the powers of life, the convulsions of so frequent occurrence, and the stage of collapse which so often terminates the infant's existence, all betray the neurotic origin of the disease, and a lesion of the nervous centres.

According to Claude Bernard, the stage of collapse in cholera is referable to great irritation of the sympathetic nervous system, and, as most authorities regard cholera, choleraic diarrhœa, cholera infantum, cholera nostras, and Asiatic cholera as one in nature, but only differing in degree, if we accept the dictum of the great physiologist in the major, we may fairly apply its teachings to the other divisions of the class. Having for many years been converted to his views on this subject, I have formulated my plan of treatment accordingly, and, knowing that the pneumogastric is the antagonist and controller of the sympathetic nerve in the abdomen, I invoke the action of that spinal nerve by applying over its sheath in the neck a rapidly acting vesicant, the liquor epispasticus of the British Pharmacopœia, with the almost uniform result, that as soon as its powerful irritation is experienced, all vomiting, purging, and cramps immediately cease, natural heat returns to the body, the patient, be he child or adult, generally falls over asleep, and finally awakes, in a few hours, quite free from danger. I apply the fluid with a camel's hair pencil from behind the ear, as far as the angle of the lower jaw, over a space three inches in length and one in breadth; a blister rises in five hours, which I dress with cotton-wool.

In the preliminary stage I enjoin absolute repose, with warmth to the surface and extremities; total abstinence from mother's and cow's milk; order, when available, condensed milk, or as an alternative, arrow-root prepared with water, and the free addition thereto of port wine fairly sweetened; it is wonderful how

much wine thus administered an infant of a few months will both require and consume; and beef tea carefully freed from fat; then counter-irritation over the abdomen by poultices and sinapisms; and failing these remedies, *a small blister over the region of the liver.* This latter procedure will often be found most salutary and successful. As internal remedies, having long since discarded the old-fashioned chalk mixture and astringent tinctures, my chief reliance is placed on dilute sulphuric acid, with or without tincture of opium; if given alone, the acid may be taken after every loose motion; if with laudanum, then in regulated and specific doses; one argument for its use derived from recent speculation may be advanced, namely, that the microbes, to whose influence so much of the choleraic discharges are attributed, cannot live in an acid medium, but perish at once. Of course if milk be persisted in, as an article of food, the acid mixture will be the cause of increased griping and pain.

The simplicity and safety of my plan of treatment has been thoroughly tested by myself and many others, for several years past, and might be expected to commend itself in the cure of a class of diseases, so little amenable to ordinary medication. But personal experience in a profession noted for great caution in the acceptance of new proposals, and even open sometimes to the charge of so-called scientific scepticism is not always sufficient.

I have thought it expedient, therefore, to add to my own experience and an independent testimony to the value of the remedy from places far asunder, and witnesses wholly unknown to the writer. The first I extract from the *Lancet*, October 24, 1885, which occurs in a letter to that Journal, dated "Grantham, October 7, 1885," and signed "Harry Poole Berry, M.B., London," who states that he had read my letter on the subject in the *Lancet*, of August 16, 1884, "that he had no opportunity of trying the remedy (stimulation of the vagus) in Asiatic cholera, but, as to its being remarkably effective in English cholera, in the summer diarrhoea and vomiting, which we so frequently meet, I feel convinced after repeated trials. I have tried this external application in at least twenty cases, which were more or less severe, and occurring in patients ranging from infancy to old age. In all the cases it has been attended with marked and immediate success, the vomiting and diarrhoea being controlled almost at once, and in some of these cases I had previously tried acid and opium, catechu, chalk, and logwood. It is a method of treatment which is attended by no risk and in no way interferes with any other treatment the practitioner may see fit to carry out."

The next witness hails from Buenos Ayres, where, according to the *Lancet* of May 14 and 28, 1887, "Dr. Peacan has for many years pursued with much success the plan introduced by me for the care of Asiatic cholera, namely, the stimulation of the pneumogastric, and thus paralyzing the action of the sympathetic on the abdomen; Dr. Peacan's success in cholera treatment being a striking proof of the soundness of Dr. Harkin's views tested in a different hemisphere."

— Cholera is reported to be spreading rapidly in Tonkin. This circumstance is important, because it was from Tonkin that cholera was first imported into the military port of Toulon, leading to the serious outbreak of 1884-6.

REPORT UPON FOODS, DRUGS, AND THEIR EXAMINATION.

BY DR. B. F. DAVENPORT,
Analyst, Massachusetts State Board of Health.

COCAINE.

THE great instability of cocaine is now well known, simple contact of the free alkaloid with water being sufficient to decompose it. Atropine is found to be similarly decomposed, though not so readily. Cocaine hydrochlorate should be required to be absolutely neutral, volatilize completely, dissolve clear and colorless in water, give a colorless solution with strong sulphuric acid, not reduce potassium permanganate immediately, and when heated with an excess, give off no odor of bitter almonds. Ecgonine, a decomposition product of cocaine, is devoid of anæsthetic properties, but acts as a tetanizing poison.

TEREBENE.

Terebene is the optically inactive product of the action of strong sulphuric acid upon turpentine. Dr. Tidy asserts that only the impure samples exercise any physiological action.

ARTIFICIAL QUININE.¹

The discovery of a method of producing quinine artificially at an extremely low cost has been announced, and if confirmed, would, no doubt, be of great chemical, if not commercial interest. Considerable reticence has, however, been manifested as to the process, and, practically, all that is known is that some samples claimed to have been thus produced present the peculiarity of being contaminated by impurities corresponding in their properties to the alkaloids accompanying quinine in cinchona bark.

PULQUE AND MESCAL.

From the aloe or magney plant, some thirty varieties of which grow wild throughout Mexico, besides pulque or Mexican beer, and mescal, the chief spirit of the country, a distillation resembling a coarse quality of gin, and very intoxicating in its character, there is produced a fine quality of brandy, known as tequila, which is highly valued on account of its purity and strength, the unfermented juice or sap direct from the plant being called hydromel, or honey juice. By the mixing or blending of these products with each other and other fluids, many alcoholic drinks are compounded. After tapping, a single plant will yield, upon an average, over a gallon of juice a day, or about one hundred and twenty gallons during the three following months, before it dies.

PROPRIETARY MEDICINES.²

The medical commission having charge of licensing the sale of proprietary medicines in Russia has recently reported upon a medicinal water which claimed to have effected marvellous cures, that, upon chemical analysis, it proved to be absolutely identical with the water of the Neva River, at St. Petersburg.

TOXIC POWER OF ALCOHOLS.³

The alcohols due to fermentation constitute a natural chemical series, of which the formulæ go on increasing by a CH_2 molecule from ethyl alcohol C_2H_6

¹ The Pharm. Jour. and Trans., January 1, 1887.

² The Pharm. Jour. and Trans., January 8, 1887.

³ Dujardin-Beaumetz and Andigé, Experimental Researches on the Toxic Power of Alcohols, Paris, 1886.

O₁, through propyl and butyl to amyl alcohol C₅H₁₂O₁. Their toxicity increases with their ascent in the series. All the spirits in common use contain variable proportions of these different alcohols. While wine-spirits naturally contain but minute quantities of the higher alcohols, potato and grain spirits contain them in larger quantities. Experiments in chronic alcoholism made upon hogs gave the following medium toxic doses per kilogram of weight for the several alcohols, in their pure state; namely, ethylic, 8.0 grammes; propylic, 2.9; butylic, 2.0; amylic, 1.7.

If impure ferments are used, iso-alcohols are generated, of which the toxicity is greater than that of the pure alcohols. Rice and maize will, with pure ferment, produce ethyl alcohol of almost absolute purity, not even needing rectification, so minute are the higher alcohols.

HORSE-FLESH vs BEEF.⁴

Dr. J. Bell, of the Inland Revenue Laboratory, London, seeking for a practical method for distinguishing between horse-flesh and beef, has shown that the usual physical appearances relied upon by the inspector of slaughter-houses at Paris are not certain. He observed that the adipose tissue of the horse was of a softer and more oily nature than that of beef. Upon experiment, he found that horse-fat at 70° F. formed a clear oil, and the amount of solid fat deposited at lower temperature was comparatively small. The melting point of beef-fat varied between 110° and 116° F. The specific gravity of horse-fat at 100° was 0.9084 to .9088, while, with beef-fat, it was 0.9036 to .9040. This difference affords a positive means for distinguishing horse-flesh from beef.

INSECT-POWDER.⁵

The Dalmatian insect-powder has, for several years, been cultivated on a large scale by Dalmatians settled in certain portions of California. The employment of insect-powder by way of fumigation is exceedingly effective, particularly in closed rooms, where the dense smoke produced by it, which is not at all disagreeable to human beings, soon kills all insects, particularly those having tender or soft bodies. This method is especially valuable for the purpose of killing mosquitoes in rooms.

DRUGS USED AT ST. BARTHOLOMEW'S HOSPITAL.

The paper by Dr. W. S. Church in the Hospital Report upon its pharmacopœia and apothecary shop, has brought out interesting points as to the quantities of the various drugs consumed, and the dates of their introduction. Epsom salts is the drug used in the largest quantities. The last thirty years consumed 120½ hundred-weights against 43½ hundred-weights for the preceding twenty years. Taking the ordinary dose at half-an-ounce, gives 340,480 doses as dispensed in the course of the year of this drug alone. In 1836, there was 8½ tons of linseed meal used, while, during the last ten years, it has averaged 15½ tons. In 1837, leeches to the number of 96,300 were used, while, since 1870, they have averaged only 1,770. Bark first appeared in the pharmacopœia of 1739, although probably already used for fifty years. The average yearly consumption of quassia rose from 6 pounds in 1844, to 506 pounds between 1866 and 1875. Quinine averaged 143 ounces yearly between 1836 and 1845,

while for the last ten years it has been 1,123 ounces. Potass. bromide, averaged 146 pounds between 1866 and 1875; since then, 347 pounds yearly. Potass. iodide, averaged 105 pounds between 1836 and 1845, and 463 pounds between 1876 and 1885. During the year following 1846, when Dr. Hughes Bennett wrote upon cod-liver oil, 17 gallons of it were used, while between 1876 and 1885 it has averaged 1,368 gallons. In 1842, a quarter-pound of ergot was ordered, but since 1870 it has averaged 146 pounds. In 1848, of chloroform, 17 pounds were used, but during the last ten years, 286 pounds upon the average. Of glycerine, 32 pounds were used in 1852, but now it averages 2,303 pounds a year. In December, 1875, two ounces of iodoform were ordered, and in 1884 there were 115 pounds used. In 1878, of vaseline, 20 pounds were used, but in 1885 it was 3,257 pounds, with no corresponding decrease in lard. Of this last, 1½ tons are used annually in zinc, sulphur, and white precipitate ointments.

PEPPERETTE.⁶

This material consisting of ground olive stones is much used for adulterating pepper. The microscopical appearance of its cells is not unlike the sclerogenous cells found in true pepper.

OIL OF WINTERGREEN.⁷

Since the artificial production of salicylate of methyl of good uniform quality at a cost below that of natural oil of wintergreen or birch, the supply of the natural oil may soon cease to be of any commercial importance.

STROPHANTHUS.⁸

From the seeds of *strophanthus kombe*, Prof. Fraser has isolated a glucoside, which he named strophanthin, while for the *strophanthus hispidus*, Hardy and Gallois have obtained a crystalline bitter principle possessing like toxic properties which they have called strophantine. Probably other species of the plant also contain the like principle.

ANTITHERMIN.⁹

This new synthetically prepared compound recently added to the list of antipyretics has the systematic chemical name of phenylhydraginlevulinic acid, and bears a near chemical relationship to antipyrin. Antithermin has been proposed for its commercial name, and it is said to be obtained by dissolving phenylhydragin in dilute acetic acid, and adding to it a solution of levulinic acid, which gives rise to a yellow precipitate. It is obtained in well-formed crystals upon recrystallization from alcohol.

EUCALYPTUS OIL.¹⁰

M. Noel states that he has often found this oil to be largely adulterated with oil of turpentine.

CHINESE ANÆSTHETIC.¹¹

Dr. W. Zambuth in the annual report of the Soochow Hospital mentions a substance resembling wax, but harder, and semi-transparent, which when digested in water together with a small woody excrescence made a mixture possessing well-marked anæsthetic proper-

⁴ The Chemical News, January 14, 1887.

⁵ Die Tropische Agrikultur, von H. Semler, San Francisco, 1886.

⁶ Analyst, February, 1887.

⁷ American Druggist.

⁸ The subject is extensively treated upon in the Pharm. Jour. and Trans., March 12 and 19, 1887.

⁹ Nouv. Rémèdes, March, 1887.

¹⁰ L'Union Pharmaceutique, p. 103, 1887.

¹¹ Nouv. Rémèdes, April, 1887.

ties. The finger held in it for some minutes did not then feel the prick of a needle. A Chinese physician described it as being the juice of the eyes of a frog. It was probably obtained by placing a frog in a jar containing flour, and irritating the animal, when it exudes a fluid which forms a paste with the flour.

JÁMBUL SEEDS.¹²

The bark and seeds of the indian plant jámbul or jámnu, have been lately represented as arresting the formation of sugar in diabetes. Experiment has shown that while a certain quantity of diastatic matter converted 44.8 per cent. of the starch employed into sugar in fifty minutes, normally, with the same materials and in the same time, but 19.6 per cent. was converted when fifteen grains of jámbul powder was also present, and only 12.6 per cent. when twenty-five grains of the seeds were present.

CORROSIVE SUBLIMATE SOLUTION.¹³

For dissolving corrosive sublimate distilled water only should be used, as by natural hard water the oxychloride is precipitated out, and in making the ordinary solution of 1 part in 1000, over 80 per cent. of the sublimate may thus be lost, and the solution contain but 1 in 5000 parts in reality. If, however, the natural carbonates of the hard water be decomposed by some acid, as say by one fluid ounce of good white wine vinegar to the gallon of water, this precipitation can be prevented.

FUSEL OIL PREVENTED.¹⁴

M. Gayon and Dupetit at a recent sitting of the French Academy, presented a method for preventing the secondary fermentation in the production of alcohol, to which the formation of the higher alcohols are due. It was the addition of bismuth salts to the fermenting fluid, they claimed, that thereby only the pure ethylic alcohol was generated.

ARTIFICIAL BORNEOL.

A German house have lately announced that they had succeeded in producing artificially borneol, the camphor so highly prized by the Asiatics for its odor. It would form a valuable material for perfumers, who could thus realize some novel effects, as really new odors which can be made available commercially are rarely discovered.

NATIVE WINES AND BRANDIES.¹⁵

An examination of native white and red wines and brandies, to ascertain how far they conformed to the requirements of the "United States Pharmacopœia," and were adapted to medical and pharmacopœial purposes has shown that they answered all the requirements except in a few instances.

INTESTINAL GASES.

Of special interest in connection with the proposed treatment of phthisis by the injection per rectum of hydrogen sulphide gas diluted with carbonic anhydride are the analyses which have been made by Prof. Planer, E. Ruge, and C. B. Hofman, of the gases naturally to be found within the intestines, and which have been published in the *Sitzungsbericht d. Wien Akad. de Wiss.*, Bd. 42 and 44, and in *Wien Med.*

Wochenschrift, 1872, No. 24. They analyzed the gases resulting from flesh, vegetable, and bean diets in men, dogs and rabbits. Stated briefly, the natural gas was found to be an admixture in quite various proportions, of carbonic anhydride with hydrogen, marsh-gas, oxygen, nitrogen and hydrogen sulphide. This last was found to be usually a decomposition product formed within the large intestines, and not to be present in a larger proportion than from 1 to 2 per cent. Planer found that the presence of 10 per cent. in an injected gas, being quickly absorbed, developed symptoms of poisoning in dogs. He could not detect it in the breath, which W. Kühne claims that he himself easily did.

Hospital Practice and Clinical Memorandum.

CLINICAL NOTES ON DR. BERGEON'S TREATMENT OF CHRONIC DISEASE OF THE LUNG AND AIR PASSAGES BY MEDICATED GASEOUS ENEMATA.

BY FRANCIS P. KINNICUTT,

Physician to the St. Luke's Hospital, New York, and the New York Cancer Hospitals.

DURING the past three months, Dr. Bergeon's method of treatment of chronic disease of the lung and air passages by means of gaseous enemata, has been employed in the author's wards in St. Luke's Hospital and in his private practice, and the results carefully observed. With one exception, all of the patients thus treated, had been under observation for considerable periods of time, during which their weight, the daily amount of sputa, the temperature curves and the physical signs had been accurately noted.¹ The apparatus employed was Dr. Morel's, of Paris; either the Richfield Springs or the Sharon water, preferably the former, was used to charge the carbonic acid gas (which was freshly prepared for each enema) with sulphuretted hydrogen.

Five litres of the gas, as a rule, were injected once daily; occasionally a similar amount was injected, a second time, in the twenty-four hours. The following tables illustrates the results obtained in the individual cases in which this treatment was employed.

At the present time, the author's experience with this method of treatment has been far too limited to prevent of more than a corroboration of some of the statements which have been made by Dr. Bergeon and others, in regard to it. That it is capable of lowering the pulse, reducing the temperature, diminishing the severity and frequency of the sweats, of markedly diminishing the amount of the expectoration, of improving the appetite, in other words of greatly *ameliorating* many of the distressing symptoms of advanced phthisical disease, does not seem to admit of doubt. That it is capable of "rapidly arresting early cases of phthisis," cannot yet be affirmed from the comparatively limited experience of American physicians. From their published reports, up to the present date, it would seem that Dr. Bergeon's method had been employed by them chiefly in cases of *advanced* disease, which may justly be considered as incurable by any method of treatment. "To cure phthisis, treatment must be instituted before extensive destructive disin-

¹ In all of the cases of phthisis, tubercle bacilli in large numbers had been found in the sputa.

¹² British and Colonial Druggist.

¹³ Pharm. Centralhalle, August 19, 1886.

¹⁴ Compt. Rend., ciii, 883.

¹⁵ Contrib. Dep. Pharm. Univ. Wisconsin, No. 1, 1885.

Cases.	Physical Signs on Admission.	Results after enemata for	Temperature	Weight	Appetite	Amount of sputa	Sweats	Physical signs
1 Male 33 years	General tubercular infiltration of both lungs, with cavities at both apices. Evening temperature quite constantly 102°, before treatment.	26 days	Evening range from 98.5°-100°	Gain of 4 lbs.	Improved	Reduced from 2 oz. to ½ oz.	Ceased	No appreciable change. Marked improvement in general condition
2 Female 33 years	General tubercular infiltration of both lungs, with cavities at both apices. Evening temperature before treatment, 102°+	19 days	Slightly lower range until death	No effect	Improved	Reduced in 24 hours from 5 oz. to ½ oz. without further change	Improved	Not affected Death on 23d day
3 Male 25 years	Laryngeal phthisis; extensive consolidation of upper lobe, left lung, areas of softening and cavity. Evening ranges of temperature, 101.5°-102.5.	30 days	No effect	No effect	Improved	Slightly diminished	Improved	Not affected
4 Male 18 years	Small cavity at left apex, with extensive consolidation of upper lobe of same lung. Beginning trouble at right apex. Evening ranges of temperature 101°-102°.	39 days	Normal	Gain of 8½ lbs.	Improved	Reduced from 10 oz. to 2 oz.	Ceased	Signs at right apex disappeared, with exception of slightly wavy inspiration
5 Male 39 years	Cavity at right apex, with areas of consolidation and softening throughout upper lobe, same lung. Evening range of temperature, 101°-103°.	22 days	Evening range 100°-101°	Gain of 3 lbs.	Improved	Slightly diminished.	Markedly diminished in frequency and severity	No appreciable change
6 Female 45 years	General bronchitis (chronic) emphysema and asthma.	3 days Asthmatic attack relieved completely by enema.				Markedly diminished		Disappearance of moist râles, signs of emphysema. Unaffected
7 Female 15 years	Large abscess of lower lobe of left lung. 12-16 oz. of foetid pus by mouth daily. Little or no elevation of temperature.	20 days		Gain both before and during treatment	Always good	No effect Fætor unaffected	Not present before treatment	Unaffected
8 Male 55 years	General bronchitis (chronic) apyretic.	18 days		No effect	Marked improvement	Markedly diminished	Not present before treatment	
9 Female 35 years	General tubercular infiltration of both lungs. Cavity at left apex. Softening at right apex. Evening range of temperature, 102°-104°.	25 days	Slightly lower range	Loss of 6½ lbs.	Improved	Reduced from 15 oz. to 10 oz	Ceased	Unaffected

tegration of lung tissues has occurred." The subjection of the diseased tissues to aseptic and anti-septic influences is the basis of the modern treatment of pulmonary tuberculosis, and rests both upon a sound pathology and upon clinical experiences. The removal to comparatively aseptic climates, is quite impossible in the case of the majority of sufferers from phthisis, and it is to these patients and in the early stage of the disease, that Dr. Bergeon's method would seem to offer possibilities, which cannot be disregarded. It will be seen from a study of the above tabulated report, that in all the cases of phthisis, the disease was far advanced. In cases 1 and 9, the last stages had been reached. In cases 4 and 5, the patients were confined to their beds before the treatment was instituted, and were rapidly failing. They are at present able to be up and out of doors, and the improvement in their general condition is most striking.

In case 5, the patient had been in the wards for six months, and although under as thorough antiseptic medication as possible, his condition has steadily grown worse.

Only a single opportunity presented itself for a trial of the efficiency of the treatment in paroxysmal asthma. The results were such as to warrant its repetition in similar cases. By a careful attention to the details of his method, as insisted upon by Dr. Bergeon, absolutely no disturbance was caused in any of the cases, with the exception of occasionally an uncomfortable feeling of abdominal distension, by the administration of the enemata.

— Dr. Pawlik, Docent in obstetrics and gynecology at Vienna, has been named an ordinary professor at the Tscheck medical faculty of Prague.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

MEETING, January 3, 1887. DR. E. J. FORSTER in the chair.

DR. C. P. PUTNAM read a paper upon

THE USE OF MEAT AS A REGULAR ARTICLE OF DIET IN THE NURSERY.¹

DR. FOLSOM stated that while his ideas were similar to those of the reader to a certain degree, still he felt that many cases of pale and anæmic children were better treated by a meat-diet than by medicinal tonics.

DR. E. G. CUTLER said that the dietary of a large asylum, which was the home of children of all ages, from a few months to puberty, had not been modified for a great many years, as the health-rate had been so good. Meat was given bi-weekly only.

DR. H. C. HAVEN stated that the same results were found following either too high or too low a diet, and that much of the evil that was attributed to some special diet really was due to the improper digestion of the albuminoids ingested.

DR. REYNOLDS thought it was not advisable to adopt a uniform method of feeding for all children of the age under consideration. If the members of one family profit by the food advised by the reader, the condition of their neighbors may distinctly call for tonic feeding or even for stimulants. Age is only one factor in the question. The paper records that dysentery prevailed in the New York Dispensary

¹ See page 30 of the Journal.

when animal food was added to the diet, yet how valuable a remedy has uncooked meat been in many a case of diarrhœa?

DR. C. M. GREEN said that, although he had seen the injurious effects in children of eating too much meat, he had often been puzzled to know what food to advise in certain cases in which, as often happens, the child does not take kindly to the old-time simple puddings and farinaceous preparations mentioned by the reader. A plain diet of bread and butter, and milk, becomes monotonous to many children, and some variety must be given them, or the appetite will flag. Eggs he had found to be less easily digestible by children than meat, and some children do not care for potato and other vegetables. He thought that fish was a suitable article of food not sufficiently appreciated: being much less rich in stimulating extractive matters, it was peculiarly well suited to children. He believed, however, that even beef and mutton could be given in moderation two or three times a week without ill effects, and the other days could be provided for with fish and poultry. With this variety, bread, butter, and milk, together with fresh fruit, would make up an ample diet. Some children do not care for meat, and thrive on an exclusively vegetable and farinaceous diet: he did not believe in urging such children to take meat. Each child's proper diet should be arrived at by individual experiment and observation.

DR. ROTCH remarked that so far as the ideas of Clouston and others might lead to a more careful supervision of children's diet, in avoiding excess in the proportion of meat to vegetables and milk, they were of great value, but that he was not as yet prepared to subscribe to the entire withdrawal of meat from the dietary of children who have attained their third or fourth year, as, according to his observations, not only were the children in this community not especially meat-eaters, but the very nervous disturbances which were described in the paper, were also represented in children who eat but little meat in proportion to vegetables; he also said that he had met with quite as much if not more trouble from chronic local digestive disturbance arising from excess of vegetable diet, as he had from nervous disorders arising from too much meat: he would, therefore, while allowing that children have grown up strong and vigorous where meat had been withheld, advise for the average child of three or four years, according to its development, a carefully arranged mixed diet of soups, meats, bread and butter, milk, vegetables, and at times eggs, fish and fruits, taking care to strike out from this dietary, especial articles only where the marked idiosyncrasy of the individual seemed to indicate it, and also that this variety of food should not be used so much for especial meals and days, as for different days and weeks.

DR. C. P. STRONG presented a paper upon
THE USE OF PERMANGANATE OF POTASSIUM IN
AMENORRHŒA, CLINICALLY CONSIDERED.²

DR. SAWIN exhibited a specimen of
RUPTURED HEART AND THROMBOSIS OF THE CORO-
NARY ARTERY,

with the following report:

A few days ago, at about 1 P. M., I was suddenly

² Publication deferred.

summoned to see a gentleman, sixty years of age, who had been found by his assistant sitting in an arm-chair with his arms hanging limp at his sides. He was extremely pale and almost pulseless. When I examined him he had been removed from his place of business to his home, which was in the same building, and was sitting upright in bed. The pallor of his face was marked, lips cyanotic, and he was suffering intense pain in the præcordial region. Respiration, not unusual. Pulse, 44, and very weak. Upon auscultation of chest no abnormal cardiac sounds were detected. Brandy, aromatic spirits of ammonia, and the hypodermic administration of a quarter of a grain of morphia had a favorable effect in increasing the strength and rapidity of the pulse, though the distressing pain continued unabated. It was learned from the patient, who had been conscious from the outset, that he had been subject to asthmatic attacks for eight years, and that during the past month he had experienced occasional twinges of pain in the left chest. Deodorized tincture of opium with Hoffman's anodyne internally and hot fomentations to chest, afforded no relief, although at about 4, P. M., the pulse had increased to 70 per minute, and was apparently normal in strength. The character of the pain necessitated a frequent change of position. At about 9 o'clock, after consultation with two other physicians, another hypodermic injection of morphia was administered. At 9.30 P. M., pulse showed an intermittent character and increased to 90 beats per minute. Patient very drowsy and quite comfortable. Became suddenly pulseless during an act of vomiting, and died at 11.40 P. M. Autopsy thirty-six hours after death.

DR. R. H. FITZ described the appearances of the specimen, stating that some eight ounces of clotted blood were found in the pericardial cavity. The heart was not especially altered in size or shape, but the left ventricle was somewhat dilated and the muscle was of a paler color than normal. A rent, a half-inch long, extended obliquely across the anterior wall of the left ventricle in the middle third and ended within a half-inch of the left coronary artery. The ventricular wall in this region was less than one-quarter of an inch thick and was infiltrated with blood. A flat, reddish-gray thrombus several lines in thickness was adherent to the endocardium in the lower third of the ventricle.

The left coronary artery was thickened and calcified. About a half-inch from its origin it was filled with a soft, adherent, reddish-gray thrombus a half-inch long. Beyond the place of obstruction the artery contained liquid blood. The right half of the interventricular septum, throughout its length, was dry, opaque, grayish-yellow, presenting the appearances of an ischemic necrosis. In general, the heart gave but little evidence, on microscopical examination, of fatty degeneration. Other abnormal appearances of the specimen than those described were not seen.

— Discussing the subject of the doctor's income, Dr. Paget Thurston says that the trouble is not in want of patients, but in the low rates of fees, for Dr. Thurston says that in England ten per cent. of patients pay five shillings (\$1.25), ten per cent. pay 60 cents to \$1.25, while eighty per cent. pay such fees as no doctor or educated gentleman can possibly live on, the average for union, club, and dispensary patients being ten to fifteen cents.

NEW HAMPSHIRE MEDICAL SOCIETY.

NINETY-SEVENTH ANNUAL MEETING, JUNE 21, 1887.

PRESIDENT'S ADDRESS. — THE GERM THEORY.

PROFESSOR FROST traced the history of the growth of the germ theory of disease, and especially the investigations of Pasteur, of whom he said: "With a naturally bright and active mind, he came to the study of fermentation after a vigorous and long-continued training in the solution of various scientific problems by careful experimentation. Many observers have worked in this field before him. Many valuable facts had been made known, but their relations to each other were not appreciated. Trodden fields are often fertile to the fresh investigator. Oftentimes, previous and distinguished laborers have but turned the soil for future investigators." The speaker gave a long account of the investigations of Pasteur and his co-laborers, and he noted their present state of advancement. He said: Many bacteria — I use the word as including the three general classes of microbes capable of causing disease: micrococci, bacilli, and spirilla — have been discovered, and their life history carefully investigated. They are studied with reference to their physical appearance, their peculiarities of growth under varying conditions, their physiological action on animals, and their relation to fermentative fluids, when placed in suitable conditions. It is reasonably certain that the micrococcus of gonorrhœa has been found. In pus, several micrococci have been identified, one of which closely resembles that of erysipelas, a disease whose parasitic origin is now clearly settled. We have, also, the bacillus anthracis, and undoubtedly that of typhoid fever. The bacillus of pneumonia, described first by Friedländer, is still under observation; more facts may be required to establish its positive agency in the causation of this disease. The bacilli of glanders, of syphilis, and of leprosy are also probably known. The causative agency of the bacillus of tuberculosis, as discovered by Koch, may well be considered as established, as may that of cholera, and perhaps that of yellow fever.

In regard to the exanthemata, there can hardly be a doubt that for each there exists a microbe as the agent of causation, although its complete identification in any case is probably lacking. Without prolonging this enumeration, I can say that there seem to be sound reasons for the belief that our knowledge in this direction will be greatly increased in the near future.

In some cases, it may be true that much larger claims have been made than are justified by the facts. It is possible that in some instances the bacteria may be present, because the conditions under which they are found are favorable to their development, and that their presence should be reckoned as a consequence, rather than as a cause of disease.

By some, who do not yet accept the germ theory of disease, the position is taken that these microbes simply add to the dangers of the malady, and do not at all act as original etiological factors. This is a claim made, especially in regard to the coccus of pneumonia.

Our knowledge of the relation of putrefaction to the administration of microorganisms has led to very surprising results, especially in surgery. Many of the dangers

— Dr. Pauperations can now be avoided by strict observation at Vienna, means which shall prevent the admission of the Tscheck

of putrefaction bacilli to the wounded tissue, or destroy them if they have already found entrance.

In obstetrics, the use of the so-called antiseptic precautions has shown surprisingly favorable results.

Until quite recently, there has been much doubt whether many of the good results claimed for the antiseptic method were not really due to the greater care in the treatment of the patients which it required, and to the increased cleanliness included in the process.

A more thorough study of the various agents claimed as antiseptics shows that some of the former failures in the antiseptic treatment were rather due to agents used than to the theory on which they were employed, as they were experimentally found not to be true germicides.

The relationship of conditions of filth to these organisms is an important study. Certain diseases, such as typhoid fever and diphtheria, are quite generally regarded among us as due almost entirely or solely to conditions of uncleanness, that is, if we consider the replies made to the questions of the Board of Health of our State as indicative of the general opinion. There is no doubt that, particularly as respects the bacilli of these diseases, states of filth are favorable to their development outside the human body. Very likely, also, so-called unsanitary conditions tend to produce in the human body a favorable soil for the reproduction of these organisms, but their presence is certainly one of the essential factors in the causation of the disease.

Increasing knowledge of these organisms is continually extending the field of preventive medicine, and is thus leading to a more intelligent use of the agencies which it employs.

The question arises whether the methods of treatment by therapeutic agencies have as yet advanced to meet the requirements of enlarged views as respects the pathology of these diseases. We feel sure that they have not, but the progress will come sooner or later. The eager avidity with which any new plan of treatment, professedly based on these more recent views in pathology, is seized upon by the profession, is evidenced by the great demand for, and the extensive use of, the apparatus and medicaments required in the employment of gaseous enemata in cases of consumption, which almost amounts to a craze.

While it is best to have minds ready to be convinced on sufficient evidence, it is well not to be carried too far by the statements of early and enthusiastic explorers in these fields.

ADDRESS IN OBSTETRICS. — BREECH-PRESENTATIONS.

DR. CHILDS. Have the patient on left side, near edge of bed, with back to operator. Have thighs of patient flexed upon body moderately, and with firm bedding beneath. Have right supported by knee, as far as may be above its mate. Now, immediately on escape of body, shoulders, and arms, grasping feet with right hand, carry child around between legs, upon and parallel to abdomen of mother, making gentle, but increasing traction. The head will be delivered instantly generally, always under the conditions under consideration. There should not be an instant's delay between the delivery of body and the manœuvre, and the movement should be performed with boldness and considerable traction.

Why does this plan succeed, and why does the opposite fail? First, why does the opposite fail? When the head descends upon the lower outlet, we

have, practically, a slit in a firm, resisting texture. This opening has a diameter of four-and-one-half inches. To be drawn through this, we have the head with an ovoid form, the short diameter being three-and-one-half-inches, the long diameter being five-and-one-fourth inches. Now the whole matter of delivering the head rests upon bringing this short diameter into the canal of four-and-one-half inches. Now the head is a cylindroid, with its long diameter across the outlet. To its middle is attached a swivel, the neck uniting thereto the body. Now by traction, as directed, on the child's foot, we draw the head along in a line nearly parallel with its long axis, and thus draw the one end of the cylindroid over and above the pubic bone, allowing the other end to drop into and through the slit, and the whole head, by its lesser diameter, escapes with the utmost facility, as would a well-lubricated egg.

Judging from my own experience this situation is not sufficiently comprehended; and the manipulation is not performed with sufficient promptness and positiveness.

Remark the ovoid form of the fœtus and of all its successfully presenting parts; delivery is facilitated by having the curvatures of the fœtus correspond to the curvatures of the canal. These principles are practically recognized everywhere, in all the reproductive efforts of nature, both initial or terminal.

THE FORCEPS

is an instrument first for the mother, second for child. It is the remedy for exhaustive labor cases, and for those that could not be completed by natural or manual efforts. It never should be employed to abridge the average labor. The time, limit and occasion for the use of forceps cannot always be readily determined. But there is such a time, limit and occasion, and they should be diligently, carefully and conscientiously sought. There is a tendency to abuse the use of the forceps. The doctor said he had employed forceps for one in every sixty-six cases.

The rest of the paper was occupied in the consideration of hæmorrhage and puerperal convulsions.

The paper excited lively discussion, particularly in regard to the use of the forceps.

DR. PARSONS said that he should take more liberty in their use than the paper recommended; that he does not believe that they will produce laceration if used properly; that women could be delivered with less injury to the soft parts by the use of forceps than to let them take the natural course; that he has used forceps for the purpose of expediting labor for his own convenience.

DR. HILL suggested that there was less objection to the use of forceps if traction was made only during pains. The perineum should not be supported. Let the parts accommodate themselves to the pressure coming upon them; make the curve at the proper time; and do not pull straight forward with violence, but slowly and gently.

DR. STACKPOLE said that in skilful hands the use of forceps was attended with little danger but great advantage. In unskilful hands they are very dangerous.

DR. DOUGLAS, of New York, said he was surprised that forceps are not used in the country more generally than was indicated by the writer of the paper. Much can be done by gently and firmly helping nature

dilate the parts; and at the proper time when instruments can properly be used with safety and can help the work, they should be used. In his practice he used them in about a third of his cases.

DR. NICHOLS said that when in the intelligent judgment of the physician there have been a sufficient number of pains and sufficient expenditure of force to have delivered the child, and it is not delivered, it is his duty to apply the forceps. There is not so much danger of rupturing the perineum with forceps, intelligently applied, as there is by waiting until the perineum is completely exhausted.

DR. WHITTIER said that where the curvature of the pelvis was not sufficient, the sooner forceps are applied the better. Another point: If, when we deliver the head with the forceps, the handles lie upon the abdomen, we shall have less trouble about rupturing the perineum.

There was also considerable discussion about retained placenta in abortion, several speakers suggesting that in cases of only two or three months it should not be extracted. In convulsions, Dr. Hill approved of chloral. Give your chloral either by mouth, rectal injection, or subcutaneous injection, until you have controlled the cutaneous sensibility, which is best shown by the resistance the patient offers. He gave one patient two drams of chloral by subcutaneous injection.

DR. GROSS said he did not think the stomach was an absorbing organ during convulsions, and medicines swallowed are not absorbed, but generally thrown up.

DR. WHITTIER condemned bleeding in convulsions. The patient needs the blood to help her recovery. If the pulse runs up to 140 or 150, give veratrum viride in doses of ten, fifteen, or twenty drops, until the pulse comes down to 80 or 95.

DIPHTHERIA.

DR. MORSE gave the history of the epidemic at New Market, in 1885 and 1886.

DR. CONN. In the time of epidemics of diphtheria and those of a kindred nature we shall be obliged to rely upon prevention rather than cure. Wherever epidemics occur of a contagious, infectious, malignant nature, there will always be mortality attending a certain number of cases. We must rely on prevention. Stop the disease before it commences.

DR. DOUGLAS. In the treatment of diphtheria let your medicines be given very often.

DR. WHITTIER. I do not make any direct local applications. I use tincture chloride of iron in large doses and frequently; practically saturate the system with it. I believe that, either combined or alternated with aromatic spirits of ammonia, being a very pleasant preparation of ammonia, is the best treatment you can adopt. In one year, out of thirty-six cases of diphtheria in which the throat was covered by the parchment patch, I lost none. Local applications are good to clear the throat for the time being of accumulated matter. Subsulphide of iron puckers the patches and causes them to fall off.

DR. HILL. Too much importance should not be attached to the contagiousness of diphtheria. I do not think it is as contagious as most people do. The common opinion occasions a great deal of alarm and sometimes causes neighbors to stay away when the family are suffering from want of assistance.

LACERATION OF THE PERINEUM.

DR. PERKINS gave a summary of the views of eminent authorities as to the causes and prevention of laceration.

DR. WHITTIER described in detail the operation for closing a laceration of the perineum as practised by Dr. Goodell, of Philadelphia and Dr. T. Addis Emmet of New York. He disapproved of the one, two or three stitch operation.

DR. PATTEE gave a report on therapeutics, and then spoke of

THE FUTURE OF MEDICINE

as follows: It seems to me that only two methods offer us much encouragement in a search for real remedies. First, the old experimental one by trial of drugs which is altogether too slow and uncertain for the present age. Second, by investigating more thoroughly the initial vital and chemical changes, which, in all probability always precede the grosser tissue changes. Much doubtless may be learned by studying disease in the lower animals and plants, but whence the remedy shall come is altogether too problematic at present. But it seems to me that experience renders it likely that a search among vegetable infusions and tinctures is a vain one. Possibly some of the various vegetable as well as animal ferments, generally known under the name of micrococci and bacteria, most of which, however, are merely the embryonic stages of protozoa and protophyta, injected into the cellular tissue, into the blood, or even into the cavities and viscera themselves may be followed by results little thought of. These organisms usually show great repugnance to associating with other forms, thus resembling the infectious diseases, and I know of no more effectual means of arresting the development of certain forms without radically changing the menstruum than by adding some other. Moreover, in their modes of development and general behavior as well as physical characteristics they closely resemble those found in the infectious diseases, it not being an unusual occurrence to find the counterpart to all these latter, including the noted comma bacillus, in vegetable infusions, thus indicating that they may, like the entozoa, have other hosts than the human body. From thousands of careful observations on the different parasitic forms, I think there can be no doubt that their non-microscopic products are just as effectual in including their peculiar vital activities, as the individual bacilli themselves. And although we individually may never witness its realization, the hope is not an unreasonable one, that this Society before celebrating its second centennial, may see the time when all acute inflammatory as well as contagious and epidemic diseases, shall be as effectually stripped of their terror as are anthrax and variola at the present day.

CALOMEL, SALICIN, ANTIPYRIN, ANTIFEBRIN AND SILICATE OF BISMUTH,

were discussed by DR. NICHOLS.

DR. CUTLER reported several operations of ovariectomy, and a number of cases of hernia. DR. SMITH gave a history of ovariectomy. DR. LEONARD read a paper on "The Confidence of the Public in Non-professional Prescriptions. Dr. Sanborn read one on "Homœopathy."

June 22d. Officers elected for the ensuing year:

Dr. S. W. Roberts, President; Dr. S. C. Whittier, Vice-President; Dr. G. P. Conn, Secretary; Dr. Daniel S. Adams, Treasurer; Executive Committee: Drs. C. R. Walker, George D. Towne, John R. Kimball.

SIXTEENTH CONGRESS OF GERMAN SURGEONS.¹

THE Sixteenth Congress of German Surgeons met in Berlin during the Easter vacation under the presidency of Prof. v. Langenbeck, of Halle. Prof. Billroth, of Vienna, and Sir Spencer Wells, of London, were elected honorary members. Prof. v. Bergmann, of Berlin, was elected president for the next year. Among the numerous papers read which were worthy of notice was one by Dr. Lange, of New York.

THE ACTION OF IODOFORM

was the subject of an article by DR. DE REUYTER, of Berlin. It has been claimed that iodoform has no antiseptic power. The author could even at the last Congress have reported that iodoform solution has a strong antiseptic action. It, however, as he himself has seen, acts but slightly on bacteria outside of the body, and for this object alone he uses none at all. For such purposes any other covering powder would serve the same purpose. The use of iodoform in the treatment of wounds had given him the following experience. When we make open wounds in animals by cutting out a piece of skin, inoculate the place with pathogenic organisms, and then strew the wound with iodoform powder, some bacilli, for instance that of anthrax and the desquamative septic matter will not be influenced thereby. All these animals die in a few days after the inoculation and the fact is plain that no secretion has taken place and that the iodoform has laid a long time undecomposed on the wound.

If one conducts his observations with wounds which are pocket-shaped, he finds that those animals which were inoculated with pathogenic microorganisms and were strewed with iodoform, live longer than those which have been subject to the same inoculation without the application of iodoform. In the first class of cases one could see that the iodoform had in the greatest part disappeared. This would lead to the decision that the activity of iodoform does not begin till the decomposition has commenced. We must now by analogy reason how this iodoform would act in the practice from its action here related. He had poured a large amount of pus into a dialysator and protected it from further infection. A quantity of iodoform was put in this vessel and the same placed in a cupboard, kept at the temperature of the body, to brew. On the first day no production of decomposition of the iodoform showed themselves; on the third day, however, it was determined that the decomposition of the iodoform had commenced. In the dialysator could be found a noticeably iodoform combination.

The question was, what had decomposed the iodoform, the pus or substances produced from it.

To prove this, sterilized blood serum was put in the dialysator and iodoform added in excess. For weeks no decomposition of the iodoform showed itself. After the staphylococcus pyogenes aureus and the streptococcus were put into the blood serum decomposition took place in two days. Then the microör-

¹ Specially reported for the JOURNAL.

ganisms themselves first begin the decomposition of iodoform. The bad odor by which the pus culture is usually accompanied was absent.

The fact presented itself that the ptomaine which, as is well known, determine the odor of the pus, brought the iodoform product out of the iodoform, that is, decomposed it. The author brought by distillation after the method of Brieger to obtain the ptomaine. If a few drops of ptomaine were placed to iodoform, iodoform combinations took place, which could be freed by nitric acid. If one brings a solution of iodoform in alcohol, in contact with culture fluids, it shows no influence on the bacteria. The author had sought further to bring alcoholic ether into the body to determine whether the transfer of iodoform was only superficial. He found that if one placed an alcoholic ether solution of iodoform on one side of the diaphragm of a rabbit, a decided iodine reaction is to be noticed. This, however, is not the case where simple ether solution of iodoform is used.

These investigations go to prove that iodoform makes the bacteria and ptomaines harmless, and prevents a general infection, when it cannot always prevent or control completely the local infection. Iodoform in solution of alcohol and water when added to the culture fluid inhibits the growth of the parasites at once or at least in a few days. For solutions of iodoform ether is the most convenient vehicle, to obtain a superficial action, and ether and alcohol solutions also disinfect the region, thereabout. As the most active the author had found a very fine granular powder. He showed two tubercular culture fluids to which iodoform solution had been added, 1-400, and no farther development of the bacilli took place. The use of iodoform in tamponades of the rectum, or in mouth wounds shows its greatest activity, which goes to strengthen the opinion that ptomaines which are most richly deposited in these protected places, are combined directly with iodoform. He now showed some interesting experiments. He took iodoform powder and poured a few drops of a ptomaine to it. On adding a few drops of hyponitrous acid an evident iodoform reaction showed itself, a proof of the decomposition of the iodoform. When, however, he took common water and placed iodoform powder and hyponitrous acid to it the iodoform remained undecomposed. He considers iodoform a good antiseptic and believes that the more the chemical peculiarities of this substance are studied the greater number of advantages it will be found to possess.

DR. V. TISCHENDORF, of Leipsic, reported a case of ENTEROSTOMY FOR CONGENITAL ATRESIA OF THE ILIUM.

He presented the specimen which had been brought to him on the sixth day of life for treatment. The doctor thought he had a case of atresia of the colon to treat, as this is sometimes congenital. Laparotomy showed an atresia of the ilium 25 cm. above the cæcum. The child only lived fourteen days after the operation. He did not vomit any more but died from general weakness.

— A recent estimate shows that about one-fourth of the population of New York, Boston, and London receive free treatment at the medical clinics; in Philadelphia one-fifth, and in Liverpool over one-half the population.

Recent Literature.

A Treatise on Diseases of the Skin, etc. By T. McCALL ANDERSON, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

The qualifications of Dr. Anderson from experience and training, to write a treatise upon diseases of the skin are well known, and the result is a textbook of more than average excellence. The framework of the book is represented by the teachings of Hebra and the Vienna school as supplemented and modified by the personal experience of the author, and many prescriptions and tables of differential diagnosis are given, rendering the work a useful guide to both student and practitioner.

G. H. T.

Practical Lessons in Nursing. Maternity, Infancy, Childhood; Hygiene of Pregnancy; Nursing and Weaning of Infants; The Care of Children in Health and Disease. Adapted especially to the use of Mothers or those intrusted with the bringing up of Infants and Children, and Training-Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By JOHN M. KEATING, M.D. Philadelphia: J. B. Lippincott Co. 1887.

This is one of a series of small volumes on practical lessons in nursing. The title describes the contents, and it only remains to say that the subjects are treated intelligently, judiciously and clearly.

Cancer Massif du Foie. Par M. LE DR. A. GILBERT. 8vo. pp. 85. Paris: 1886.

This is the title of a treatise, just received, wherein is exhaustively discussed a form of cancer of the liver, which the author maintains, apparently with success, is entitled to the name he gives it, not only on account of the great size attained by the diseased organ, but for other peculiarities worthy of special consideration. It is, he declares, not a secondary affection but a primitive disease, consisting of a uniform neoplastic mass not to be confounded with secondary forms that are made up of separate nodules or other irregularities.

Large as the organ becomes it always retains its natural shape, its smooth surface, with little or no change in color. Its whole substance appears to be converted into a uniformly homogenous, softened or lardaceous mass.

In its evolution massive cancer is generally rapidly progressive, becoming immense in a very short time. Without its interfering greatly with the stomach or other digestive organs, emaciation and debility come on with great rapidity. In general the disease lasts but a few months only; and may, if very severe, terminate in a few weeks. It usually ends in exhaustion and prolonged coma.

Space forbid a more particular enumeration of the peculiarities of this form of disease as set forth by Dr. Gilbert. Therein he has made a valuable contribution to science, and it is gratifying to learn, from the preface, that he will ere long, in connection with an able elder associate, publish an extended work on the general subject of diseases of the liver.

We may add, however, that any one interested in these matters may find it worth while to examine the record of a case reported to the Boston Society for Medical Improvement and published, with illustration and discussion thereon, in this JOURNAL, August 12, 1869, p. 19. That case corresponds most wonderfully, in symptoms, progress, and pathological details, with those described by Dr. Gilbert.

C.

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STATE PROPHYLAXIS OF SYPHILIS.

THE French Academy has recently listened to a report on the public prophylaxis of syphilis from a Committee, of which the venerable Ricord was the President, and Bergeron, Le Roy de Mericourt, Leon Lefort, Leon Colin, and Alfred Fournier the other members. The "notorious insufficiency" of the present measures to protect against syphilis led the Academy to appoint the Committee to inquire what reforms or innovations it is necessary to introduce for public protection, and to prepare a draft of a report upon the subject, to be presented to the civil authorities. The Committee reported through Fournier, and its recommendations are not only interesting, as showing the condition of affairs and the growth of public sentiment in Paris and France, but are instructive for the people of other countries.

This Committee enumerates certain propositions which constitute a basis for public prophylaxis:

(1) That prostitution creates a public danger by the venereal contagion that it disseminates among the population.

(2) That it is indispensable that prostitution should be regulated, and, if possible, repressed by public authority, in the double point of view of hygiene and morality.

(3) That the system of free, that is to say, unregulated, prostitution is disastrous to the public health.

(4) That *public provocation*, which is the only form of exterior manifestation by which prostitution can be legally attacked, ought to be combatted and repressed under its divers forms.

Provocation upon the streets has greatly increased of late years in Paris, as have also the shops which nominally sell perfumery, men's gloves, photographs, etc., but which are but shields of prostitution. Other less known, but equally dangerous, forms of provocation are those which radiate about the schools and colleges, where veritable bureaux of females are organized, and recruit a special *clientèle* among the students; the breweries with female waiters, which are simply

disguised houses of prostitution, and the wine-shops, worse than the last, which attack, particularly, the working class and the army. The Committee desire that public provocation, as the fertile source of contagion, shall be considered a crime; that provocation by means just mentioned, wine-shops, etc., shall also be regarded as a crime to be legally suppressed. The punishment appropriate to the crime the medical commission does not undertake to specify, but only to suggest that public safety demands the periodical medical inspection of females found guilty of public provocation, and the confinement of those diseased in a special sanitary asylum. This proposition differs from the present system in two particulars: it substitutes for the present arbitrary police system one which has respect for individual rights for a basis, and must be carried out with due legal formalities; for confinement in prison it substitutes treatment in a special hospital.

Under the present system, the police directs everything with a high hand. It establishes the crime by the report of its agents, and nothing more; it judges the crime by its chief of the *bureau des mœurs*, and this, too, without chance for defence; it "inscribes" the girl considered guilty; it punishes all infractions of its own regulations; physicians chosen by the police establish the fact of disease, and have charge of the diseased in prison. Here is an exorbitant discretionary power like to nothing else, contrary to justice and modern ideas. While expressing the opinion that the police officials have always acted for the public good, the Committee did not hesitate to say that the system does not meet the public approval.

For such arbitrary procedure the Committee proposes to substitute a regulation like the following: The inscription of any girl guilty of provocation upon the public streets can never be made, except by a court of justice after cross-examination and opportunity for defence. Certain changes in details in regard to the medical examination of the inscribed prostitutes are suggested which it is unnecessary to repeat here, but certain reforms in the hospital treatment are of more immediate interest. The number of beds devoted to the treatment of venereal maladies is at present notoriously insufficient. The commission desire that hospital accommodations shall be increased by the creation of new special hospitals. The most useful thing to diminish the number of syphilitic contaminations is to send to the hospital every patient affected with contagious lesions, thus removing even the possibility of transmitting the disease. To confine syphilis in its contagious forms in hospitals, is to render it inoffensive. It is then necessary that the number of beds allotted to the treatment of syphilis shall be equal to or even greater than the requests for admission. The great expense attendant upon such a scheme, should not stand in the way of carrying it out, for the present expense would constitute an economy for the future, in diminishing the number of contaminated subjects. The drugs proper for the treatment of venereal diseases, should be dispensed

gratuitously at all hospitals, special and general. Gratuitous consultations with the free distribution of medicine, should be given at the special sanitary asylum intended for the treatment of diseased prostitutes.

One of the best means of combatting syphilis is to teach the rising generation of medical students better than is done to-day, to recognize the great malady under its divers forms, to treat and cure it. The greater number of students take up practice with only the most superficial and rudimentary knowledge of venereal affections and of syphilis in particular, and as a consequence errors in practice are numerous; the chance is confounded with this or that, the mucous patch or other specific manifestation is unrecognized, syphilitic children are confided to healthy nurses, or inversely, syphilis is considered cured after some weeks of treatment, patients are permitted to marry too early while still capable of infection, errors which tend to spread the disease and which might have been avoided by a more complete education. The Commission therefore devoted much study to the means necessary to develop proper knowledge among the younger generation of medical men. The measures advised are the opening of all venereal services to students of proper advancement; to demand of every aspirant for a degree, before the deposit of his thesis, evidence of three months' study in a venereal service; to determine by the *concours* the appointment of all the medical staff destined to treat syphilitics and to carry out the sanitary regulations previously mentioned.

In the army, especially, syphilitic contaminations are lamentably frequent, and the committee recommended a series of measures as follows:

(1) To institute in the army a series of *conferences* with the object of enlightening soldiers upon venereal affections in general, and upon the dangers of syphilis in particular, upon the benefit of a scientific treatment and the necessity of prolonged treatment.

The lectures should be given by the military surgeons of each corps; they should be annual and should by preference take place soon after the enrollment of the young recruits. A like conference should be given to the reserves the day following their assembling, and in support of the need of such care of the reserve it is stated that it is impossible to count the number of reservists who contract syphilis during the twenty-eight days that they pass away from home.

The committee believe firmly that these lectures can have the best results in enlightening an immense number of young men who take their places with the colors in a state of ignorance, almost absolute, concerning venereal affections and their consequences. Little by little can be extended through the regiments sanitary notions which will do more in the way of prophylaxis than the most strenuous regulations. And as the great majority of Frenchmen are subject to military duty, it follows that at the end of some years healthy notions will have penetrated through the community.

(2) To obtain from a soldier who has recently contracted syphilis, the name of the woman from whom he has contracted the disease. These names should be addressed to the Prefect of Police, who should return to the military authorities the result of the examination. Such a course would reveal many centres of contamination. It is frequent in the army to see many men of the same corps, contaminated from the same source. One military surgeon communicated three cases in which eight, ten and twenty-two men had been infected by the same female.

(3) To formally forbid the presence of soldiers in the wine and liquor shops.

(4) To remove everything like punishment from the military prophylaxis of syphilis.

(5) To suppress the custom of consulting the surgeon in public and make the consultation and examination strictly private. At present the military surgeon sees his patients in the presence of others of the same corps, and the publicity induces many men to conceal their malady as long as possible.

(6) To institute a special service of police about the great camps.

(7) To maintain a system of externe service, by which soldiers shall have continuous treatment for their disease after the severe symptoms which sent them to the hospital have passed.

As a last point of prophylaxis, it is proposed to make an attempt to do something for the protection of nurses from infection from nurslings. At present, when for any reason the mother does not nurse her own infant, and hires a wet-nurse, it is customary to require the nurse to submit to a medical examination, to establish chiefly her freedom from syphilis. The nurse is equally liable to be infected from the nursling, but no nurse is in a position to demand guarantees from her employers of their health and that of their child. If it is a possible thing to accomplish, society ought to afford the nurse the protection she cannot demand for herself. It is scarcely to be hoped that such reciprocal guarantees can be generally demanded, since most contracts between nurse and family are strictly private in their nature, and, for the most part, the nurse is content without any guarantee. But many of the wet-nurses of Paris are obtained through intelligence-offices, which are strictly under police control. For nurses obtained through the medium of these offices, it is possible to obtain a certain protection by the enactment of such a regulation as the following: No one is permitted to take a wet-nurse from any intelligence-office, except upon the presentation of a medical certificate guaranteeing the nurse against infection, which can be transmitted by the nursling, and the certificate should read somewhat as follows: "I, the undersigned, doctor of medicine, etc., certify that to the best of my knowledge and belief, the parents of the infant, X., who have been under my medical care since —, are not infected with any inheritable malady which can be transmitted to the nurse suckling the said infant."

The Commission do not believe that any physician would falsely sign such a certificate. Syphilitic families would then be obliged to seek nurses outside of the intelligence-offices, and some would be deterred from such search, and there is room to hope that the greater number of nurses would be attracted by the protection given by the medical certificate, and perhaps, after a time, other nurses outside the offices would be led to demand similar guarantees. The effect of such a regulation would not entirely abolish the infection of nurses by nurslings, but it would diminish the number of such unfortunate infections, and is preferable to leaving the matter without any attempt at regulation.

TREATMENT OF INFANTILE DYSPEPSIA BY LACTIC ACID. THE CAUSATION OF THE GREENISH DISCHARGES WHICH CHARACTERIZE THIS AFFECTION.

HAYEM, in charge of the Children's Department of St. Antoine Hospital, in a communication recently made to the Academy of Medicine,¹ claims signal success in the treatment of gastro-intestinal irritations of infants, especially such as are attended with green discharges, by lactic acid. He employs a two per cent. solution, of which a teaspoonful is given to the infant a quarter-of-an-hour after nursing. From five to eight such doses, representing about half-a-gramme (or seven-and-a-half grains) of pure lactic acid are administered during the twenty-four hours. The effects of this treatment, it is said, rapidly show themselves. The vomiting (where vomiting exists) ceases almost immediately, the diarrhoea lessens in frequency and amount, and the discharges soon take on their natural yellowish hue.

Hayem was led to adopt an acid treatment in these cases from having frequently tested the vomited and faecal matters, and found them neutral or alkaline. In these discharges, moreover, he detected the constant presence of a strange microbe, clustering in masses. This microbe he has been able to isolate and cultivate in gelatine-peptone, and, by experimental researches undertaken with his interne, Lesage, he thinks that he has conclusively shown that these masses of bacteria produce the greenish matter by a sort of excretion. This microbe, moreover, can only live and multiply in an alkaline medium, and the etiological conditions which bring about the gastro-intestinal dyspepsia of infants, by modifying the secretions of the alimentary canal, make it a fit habitat for the microbe, which now becomes the principal factor in the graver accidents which characterize the disease. These micro-organisms, it has been found, soon perish in an acid medium.

Hayem first tried dilute hydrochloric acid with some success, but soon found that lactic gives the best results. This acid, he says, acts in two ways: it combats the dyspeptic condition by giving the stomach

the degree of acidity required for healthy digestion, and it sterilizes the germs of the bacillus, thus effectually antidoting the pernicious effects of the latter on the digestive tube. Lactic acid is, moreover, pleasant and easy of administration.

The contagiousness of this gastro-intestinal affection with green discharges is a natural corollary from the fact, real or assumed, of its bacillary origin. This contagiousness, Hayem affirms, is proved beyond the possibility of a doubt by clinical experience, and when once a case of the kind enters the wards of the children's hospitals, an epidemic of the disease is sure to follow.

Recently, at a meeting of the Academy (May 31st)² Damaschino claimed priority over Hayem in the discovery of the microbe supposed to be the causal agent in the diarrhoea with green discharges in young children, and produced micro-photographs which he presented three years ago to the Society of Biology, and which he affirmed to be representations of the same microbe described by Hayem as causative of the disease in question. These bacilli are of characteristic forms and dimensions, and constitute an important morphological element of the stools of young diarrhoeic patients. They are the more numerous, the more severe the affection, and in three grave cases of green diarrhoea, they presented the appearance of pure cultures in the microscopic preparations. In the fresh state, they are animated by rapid movements. These bacilli disappear as the disease diminishes in intensity, and the discharges take on their natural yellowish hue.

Hayem, in replying to the communication of Damaschino, did not deny the value of the discovery of the latter investigator, of which he (Hayem) was ignorant at the time of the presentation of his paper, only Damaschino had not proved any causal relation between the masses of rod-like forms which he had found in the green discharges of infantile diarrhoea and the disease. This proof, Hayem claimed, had been furnished by his interne, Lesage, who had isolated and cultivated the specific microbe, and, by introducing the pure products of his cultures into the digestive canal of animals, had reproduced the disease, with the identical green discharges. The report of these interesting experiments Hayem has promised to give at an early day.

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

THE JOURNAL always takes pleasure in referring to the Medical Library, as it regards it as one of the chief powers at work in Boston for the elevation of the profession. The last report of its enterprising librarian shows that the remarkable growth of the library continues and that its capacity for usefulness has greatly increased. In the last two years the total number of volumes has increased to 17,124, and the pamphlets from 12,289 to 14,832. The library is

¹ Bull. Gen. de Théor., May 30, 1887.

² Semaine Médicale, June 2, 1887.

evidently to maintain its fulness in periodicals as several hundred volumes which will serve to complete some of the most valuable series, have been obtained by the librarian in England and France and will be received during the coming year. The value of the principal periodicals of the world is increasing each year as the War Department publishes its annual volume of the Index Catalogue. While the Boston Library is very far indeed from containing all the periodicals indexed by that wonderful catalogue, it is a constant surprise to see the very large files of journals it places at the command of the student.

The library, books, pamphlets and periodicals, has been catalogued and the catalogue is to be kept even with the occasions. It is a matter of surprise that the library has never received any gifts of money as such, but notwithstanding, it owns its building, and has a small fund, which generous donors might well increase.

There is one drawback to the usefulness of the library. It is hardly possible to find a quiet spot for reading where one is not liable to be disturbed by the inevitable noise inseparable from so busy a place. The directory for nurses which is located in the same building, and of which the assistant librarian is the registrar, introduces many non-medical persons into the building, and somewhat destroys the quiet which ought to reign in a library. A larger building and one better adapted to the present and prospective wants of the library association, is a necessity that must soon be supplied. It would be a graceful act for some one to show appreciation of the profession by enabling the library to acquire a proper building in the near future.

MEDICAL NOTES.

— There have been several new cases of yellow fever at Key West recently, and two deaths. Up to July 10th the record shows, total cases, 83; deaths, 27; sick, 33; discharged well, 23.

A temporary refuge station is being established by the Marine-Hospital Service at Egmont Key, where ten days' detention will be required; also disinfection of baggage. The health officer of Philadelphia has ordered all vessels from infected ports, including at present Key West, to report at the United States Quarantine Station at Delaware Breakwater before coming into the Philadelphia Quarantine Station on the Delaware River. The health officer at Camden, N. J., has issued a similar order.

— The Medico-Legal Society of New York, at its May Session, upon the recommendation of its Executive Committee, unanimously authorized two prizes to be announced. First, of \$100.00; second, of \$50.00, for the best paper on any Medico-Legal subject, to be awarded by a committee to be selected by the President of that body.

— Professor Esmarch, of Kiel, who years ago married the aunt of the Crown Prince of Germany, and who is said not to have had the warmest of welcomes

by the august family into which he married, has at last been knighted. Gossips further affirm that the love-match between the Princess Henrietta and the young professor has been productive of far more domestic happiness than has fallen to the lot of most of the other Hohenzollerns.

— The following passage occurs in a very pretentious paper on the "Progress of Science from 1836 to 1886," by Grant Allen, in the *June Fortnightly*: "Anæsthetics are almost entirely a growth of our half-century: chloroform was first employed in operations by Simpson, in 1847, and the use of other similar agents is still more recent." One is at first inclined to think that surely such a misstatement must be intentional, but a little reflection shows that it would be absurd to make such a blunder on purpose, so we must ascribe it to ignorance, and offer the editor of the *Fortnightly* our sympathy. If he has not yet paid for the article, we think he would be justified in making a deduction.

— The *Detroit Tribune* recently published a highly picturesque account of the way in which a female physician fathomed the fraud of a young man who had been simulating hæmorrhage from the lungs, in order to secure sympathy from his associates at a fashionable boarding-house, and cash from his relatives. In one of these pretended attacks, a female physician resident in the house was quickly called. "Her practised eye," says the account, "quickly took in the situation of things. As she approached him, she saw the red stains on the handkerchief and the linen of the young man, and she also saw that the blood-corpuscles, although generically allied to the prostrate patient, were distinctively different, inasmuch as they belonged to the species with four legs, instead of two. She astonished the self-imposed nurses by asking the patient where he got the lamb's blood which he had just spit out of his mouth?" If the "practised eye" can do all this without a microscope, what cannot its owner accomplish with the aid of a good lens?

NEW YORK.

— The effect of the recent hot weather was quickly shown in the mortality lists of the city. The reports of the Bureau of Vital Statistics show that during the week ending July 2d. there were 1,024 deaths, against 788, the week before. The greatest increase was, of course, among children under five years of age; from diarrhœal diseases; and a considerable number of deaths were also due to direct insolation. During the week there were very few cases of contagious diseases reported, excepting as regards diphtheria, of which there were 132 cases.

— During the same week there were 520 deaths reported in Brooklyn, a higher mortality than that city has known for years. More than half of the entire number were in young children, 352, and 190 of these were due to diarrhœal diseases. Ten physicians have recently been appointed to inspect the tenement districts of Brooklyn.

— During the six months ending June 30th, there were reported in the city of New York 19,312 deaths, and 15,442 births; an increase of 1,731 deaths and 439 births as compared with the figures of the first six months of 1886. Since the first of January, 1887, there have been reported over 1,000 deaths from diphtheria, an average of 43 per week. One great cause of the prevalence of this disease is no doubt the almost complete disregard of the section of the Sanitary Code, which requires that the bodies of persons dying from contagious diseases shall be buried within twenty-four hours after death, and that the funeral must be private, and instances were known to the health authorities in which wakes were held over children who died of diphtheria. One of these was in a large apartment-house, and is said to have been attended by the servants of many of the families living in it.

— Mayor Hewitt has appointed Dr. Joseph D. Bryant, Professor of Anatomy and Associate Professor of Orthopædic Surgery, at Bellevue Hospital Medical College, Health Commissioner to succeed the late Dr. Woolsey Johnson. He was formerly a sanitary inspector in the health department, and is at present surgeon-general of the State; having been appointed to that position by Governor Cleveland, and re-appointed by Governor Hill.

— At a meeting of the Board of Education, held July 5th, the committee on course of study and school books, presented a report in favor of the introduction of manual training into the public schools, the consideration of which, however, was deferred until September. The Committee says that "it is a matter of deep regret, and even of apprehension, that a large proportion of our young people are growing up with a positive distaste for manual labor. On the other hand, the introduction of manual training into many of the schools and higher educational institutions of the country, has already begun to exert an influence toward bringing about a better state of things." It is estimated that the expense of introducing and maintaining manual training, in accordance with the plans recommended by the committee, will be \$128,500 for the first year, and \$89,500 for each year afterward.

— Twenty-one families were made ill, though none of the cases of sickness seem to have been very serious, on the 4th of July, by ice cream procured from a well-known and reliable confectioner on Sixth Avenue. It was ascertained that all these families were supplied from a particular freezing, and Dr. Cyrus Edson, of the Board of Health was requested to make a thorough examination of the matter and also of the confectioner's establishment and processes of making ice-cream. Dr. Edson is of the opinion that the cases of sickness were due to tyrotoxicon generated in the milk by decomposition after the cream was made, and has given a sample of the cream to Mr. E. N. Martin, of the School of Mines, Columbia College, for analysis.

— A decision just handed down by the Court of Appeals, in the case of the people against Charles Kibler,

of Buffalo, is regarded as of considerable importance. The defendant was indicted for selling milk adulterated with water, and at the trial it was proved that the milk sold did not reach the standard required by the statute. The defence was that the seller had bought the milk from a wholesale dealer, and that as he supposed it to be pure and acted in good faith, he could not be convicted. The question before the Court of Appeals was, whether a person could be convicted of a criminal charge when he believed he was doing nothing wrong, and by the affirmation of the judgment of the General Term of the Supreme Court, the higher court has established the law of the State to be that the question of knowledge and intent is no defence to a charge of violation of a statute, and that a person who sells milk or butter must know just what he is selling.

— Keepers James McHugh and Patrick Cleary, of City Insane Asylum on Ward's Island, who were recently charged by a coroner's jury with the responsibility of the death of one of the inmates, by the name of Farrish, have been indicted by the Grand Jury for manslaughter in the first degree.

Miscellany.

CORROSIVE SUBLIMATE IN TYPHOID FEVER.

DR. GLÄSER, of Hamburgh, after a communication by Gruffenberger in the *Berliner klinische Wochenschrift* for 1885, setting forth the beneficial results of corrosive sublimate in typhoid fever, resolved to make a trial of it. According to his experience, corrosive sublimate does not possess the virtues ascribed to it, such as immediately lowering the temperature, causing the tongue to become soft, etc. Dr. Gläser carried out a comparison of similar cases: the one series without corrosive sublimate, the other series treated with it. By studying the curves of the cases, twenty-three in all, in which the pulse and temperature are given, one can observe at a glance that the administration of corrosive sublimate never reduced the temperature and rate of pulse immediately. This failure was deemed more striking when two similar cases were examined presenting precisely similar courses, the one with and the other without corrosive sublimate. According to Dr. Gläser, the drug does not in the least diminish the mortality. Another point of note in this paper is the estimation of the percentage of corrosive sublimate in the blood, which is infinitely too small for it to exert any influence whatever on any micro-organism that might be present and cause the disease. Its beneficial influence, therefore, if any, cannot be attributed to this particular effect.— *Practitioner*, June, 1887.

OPERATIONS ON THE BRAIN.

ACCORDING to the London correspondent of the *Philadelphia Medical Times*, Mr. Victor Horsley has published statistics of the first ten cases in which he has operated on the brain. The first operation was

performed in May 25, 1886, the last on December 17, 1886. Two of the patients have died; one six months after operation, from recurrence of the tumor; the other nineteen hours after the operation, which was performed as a last resort in a hopeless case of widespread paralysis due to cerebellar tumor. As to the wound, immediate union took place in every case, excepting of course the patient who died in nineteen hours. Mr. Horsley is thus fully justified in claiming that the operation of exposing and removing considerable portions of the brain is not to be ranked among the "dangerous" procedures of surgery. Before operating, morphine is administered, and it is found necessary to use very great care in the subsequent inhalation of chloroform, as dangerously deep narcosis may easily be induced, especially in children; the object in giving the morphine is to

produce contraction of the cerebral arterioles in order to diminish hæmorrhage. Special care is taken to fashion the scalp flap (for the old crucial incision is abandoned) so as to preserve either the temporal or the occipital arteries, and the periosteum is reflected along with the cutaneous structures. The bone is first of all attacked with the trephine, and the aperture in it is enlarged with a circular saw driven by a "surgical engine" (dentist's). After excising the tumor, cyst or cicatrix the flap is replaced and completely sewn up, except for one inch at the most dependent part, where excess of fluid can drain away, but a drainage-tube is not used. "I am more than ever convinced," says Mr. Horsley, "that the arachnoid, like the peritoneal cavity, may be trusted to absorb excess of fluid." Strict Listerism is observed for the first four or five days, or until the wound is healed.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 2, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	1024	644	38.88	8.46	.45	6.21	29.70
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	520	183	43.52	6.27	1.52	4.37	36.10
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	219	152	44.62	9.20	.46	1.38	40.94
Boston	400,000	173	64	12.88	16.24	4.48	1.12	3.36
New Orleans	242,750	111	44	19.80	15.30	.09	.18	10.80
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	117	70	39.95	8.55	.85	.85	30.60
Pittsburgh	210,000	130	88	43.89	.77	3.08	2.31	30.80
Montreal	186,257	64	31	15.63	11.92	—	1.56	8.80
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	15	2	26.64	26.64	—	—	13.32
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	15	3	26.64	26.64	—	6.66	6.66
Worcester	68,383	29	17	34.48	3.45	—	—	34.48
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	—	—	34.48	3.45	—	—	34.48
Fall River	56,863	26	15	24.96	12.48	4.16	4.16	16.64
Lynn	45,861	16	3	6.25	18.75	—	—	6.25
Lawrence	38,825	19	5	15.78	5.26	—	—	5.26
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	4	12.50	—	—	12.50	—
Somerville	29,992	10	4	40.00	10.00	—	—	10.00
Salem	28,084	17	8	—	5.88	—	—	—
Holyoke	27,894	13	—	38.45	7.69	—	7.69	30.76
Chelsea	25,709	6	2	—	33.33	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	9	1	16.66	—	—	—	16.66
Brockton	20,783	5	1	20.00	—	—	—	20.00
Newton	19,759	6	3	33.33	—	—	—	33.33
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	5	0	20.00	20.00	20.00	—	—
Waltham	14,609	2	0	—	50.00	—	—	—
Newburyport	13,716	8	1	—	12.50	—	—	—
Northampton	12,896	4	0	50.00	—	—	—	—

Deaths reported 2,622; under five years of age 1372; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,467, consumption 241, lung diseases 123, diarrhœal diseases 738, diphtheria and croup 109, measles 29, scarlet fever 21, typhoid fever 18, malarial fever 18, cerebro-spinal meningitis 11, whooping-cough 11, erysipelas eight, puerperal fever four. From scarlet fever New York 12, Brooklyn five, Somerville two, Boston and Pittsburgh one each. From typhoid fever, District of Columbia and Pittsburgh four each, New York three, Brooklyn two, Boston, New Orleans, Milwaukee, Nashville and Lawrence one each. From malarial fever, New York six, New Orleans four, Baltimore and District of Columbia three each, Richmond two. From cerebro-spinal meningitis, New Orleans and Milwaukee two each, New York, Boston, District of Columbia, Nashville and Salem one each. From whooping-cough, Boston

four, New York and Pittsburgh two each, Brooklyn, Richmond, and Lawrence one each. From erysipelas, New York four, Brooklyn two, District of Columbia and Milwaukee one each. From puerperal fever, Pittsburgh three, Baltimore one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 18th, the death-rate was 18.4. Deaths reported 3,252: infants under one year of age 772; acute diseases of the respiratory organs (London) 213, measles 226, whooping-cough 132, diarrhœa 49, scarlet fever 41, diphtheria 26.

The death-rates ranged from 12.2 in Derby to 28.5 in Manchester; Birmingham 13.4; Hull 19.6; Leeds 18.9; Leicester 14.6; Liverpool 20.7; London 17.2; Nottingham 16.1; Sheffield 21.1; Sunderland 19.7.

In Edinburgh 18.4; Glasgow 21.6; Dublin 26.7.

The meteorological record for the week ending July 2, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, July 2, 1887.																			
Sunday, ... 26	30.23	66.0	75.0	59.0	65.0	60.0	61.0	62.0	N.W.	E.	N.	4	6	5	F.	F.	C.		
Monday, ... 27	30.26	66.0	73.0	58.0	63.0	51.0	73.0	62.0	N.	S.E.	W.	12	6	9	F.	O.	C.		
Tuesday, ... 28	30.23	70.0	79.0	59.0	65.0	52.0	72.0	63.0	N.W.	S.E.	S.W.	2	4	10	F.	C.	C.		
Wednesday, ... 29	30.17	76.0	89.0	64.0	64.0	50.0	67.0	60.0	W.	S.E.	W.	6	6	12	C.	C.	C.		
Thursday, ... 30	30.11	79.0	87.0	68.0	67.0	41.0	55.0	54.0	W.	E.	W.	8	6	8	C.	C.	C.		
Friday, ... 1	30.04	82.0	93.0	71.0	59.0	42.0	73.0	58.0	W.	W.	S.	12	6	12	C.	O.	C.		
Saturday, ... 2	30.00	83.0	95.0	72.0	71.0	46.0	73.0	63.0	W.	W.	W.	8	1½	13	C.	F.	C.		
Mean, the Week.	30.148	74.5	84.0	75.0				60.3											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 25, 1887, TO JULY 8, 1887.

SUTHERLAND, CHARLES, colonel and surgeon. Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Will be relieved from duty at West Point, N. Y., on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

McKEE, J. C., major and surgeon. Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

ALDEN, C. H., major and surgeon. Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

TREMAINE, WM. S., major and surgeon. Ordered for examination by Army Retiring Board, at Governors' Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

SKINNER, J. O., captain and assistant surgeon. Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Will be relieved from duty at Fort Ringgold, Tex., upon the return of Assistant Surgeon W. T. Carter, and will then report to commanding officer at Fort McIntosh, Tex., for duty. S. O. 73, Department of Texas, June 27, 1887.

BEALL, GEORGE T., captain and medical storekeeper. Granted four months leave of absence. S. O. 150, A. G. O., June 30, 1887.

CHEBBOURNIER, A. V., captain and medical storekeeper. Directed to take charge of office and perform duties of acting assistant medical purveyor, in St. Louis, Mo., during absence on leave of Captain George T. Beall, medical storekeeper, now performing those duties. S. O. 150, A. G. O., June 20, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING JULY 9, 1887.

DEANE, C. W., passed assistant surgeon. Ordered to the Naval Rendezvous, San Francisco, Cal.

HARRIS, H. N. T., assistant surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

GORGAS, A. C., medical director. Remain on present duty until December 31, 1887.

CLERHORN, C. J., medical inspector. Remain on present duty until December 31, 1887.

MACKEY, BENJ. F., surgeon. Remain on present duty until December 31, 1887.

BROWNE, J. MILLS, medical director. Will remain on present duty as Member of Retiring Board until June 30, 1888.

DEAN, RICHARD C., medical director. Will remain on present duty as Member of Retiring Board, until June 30, 1888.

HUDSON, A., medical inspector. Detached from the "Trenton," and wait orders.

SCOFIELD, W. K., medical inspector. Ordered to relieve Medical Inspector Hudson on the "Trenton."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 2, 1887.

ARMSTRONG, S. T., passed assistant surgeon. Relieved from duty at Marine Hospital, Memphis, Tenn.; ordered to Marine Hospital, New York, N. Y., June 27, 1887.

PECKHAM, C. T., passed assistant surgeon. Relieved from duty at Marine Hospital, Wilmington, N. C.; ordered to Marine Hospital, Memphis, Tenn., June 27, 1887.

GLENNAN, A. H., passed assistant surgeon. Ordered to Revenue Cutter "Crawford," for temporary duty, June 30, 1887.

BROOKS, S. D., assistant surgeon. Ordered to examination for promotion, June 27, 1887. Relieved from duty at Evansville, Ind.; ordered to Marine Hospital at Wilmington, N. C., June 27, 1887.

CORRECTION OF CAMBRIDGE COMMENCEMENT PROGRAMME.

We are requested by the Secretary of the Medical Faculty of Harvard University to insert the following:

By mistake the name of Wm. H. Prescott was sent instead of William Abbott Phillips, Ph. B., for honorable mention on the Commencement Programme at Cambridge, for a thesis entitled "Fracture of the Patella."

BOOKS AND PAMPHLETS RECEIVED.

Announcement of Gross Medical College of Denver. Session 1887-88.

Twenty-Third Annual Report of the Overseers of the Poor of the City of Boston, for the Financial Year 1886-87.

On the Treatment of Diphtheria and Dyspepsia, by "Papoid." Being a *résumé* of our present knowledge of the drug. Johnson & Johnson. New York.

Leçons de Cliniques Chirurgicales par Jerrillon. Agrégé de la Faculté de Médecine, etc. Rédigées par M. le Dr. Routier. Paris. Publications du Progrès Médical. 1887.

Medicine and Medicine-Men. Anniversary Address delivered at the Banquet of the Louisville Medical Society, May 26, 1887. By John Godfrey, Surgeon, M. H. S. Louisville, Ky., 1887.

A Case of Incomplete Abortion in Twin Pregnancy. One Fetus lost at Third Month, but its Placenta retained to Delivery at Term of the other Twin. By Stanley P. Warren, M.D., Portland, Me. 1887. (Reprint.)

Transactions of the New York State Medical Association for the Year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M.D., of Richmond Co. Concord, N. H.: Republican Press Association. 1887.

Speech of Señor Don Matias Romero, Mexican Minister at Washington. Read on the Sixty-fifth Anniversary of the Birth of General Ulysses S. Grant, Celebrated at the Metropolitan Methodist Episcopal Church, of the City of Washington, on the 25th of April, 1887.

Manuel Pratique de la Garde-Malade et de L'Infirmière publié par le Dr. Bourneville, avec la Collaboration de MM. Blondeau, De Boyer, Ed. Brissaud, Budin, H. Duret, etc. Tome I. Anatomie et Physiologie. Third Edition, Revue et Augmentée. Tome II. Pansements. Tome III. Femmes et Couches—Médicaments. Petit Dictionnaire. Publications du Progrès Médical. 1887.

Original Articles.

ANALYSIS OF ONE HUNDRED AND FORTY-ONE CASES OF PREGNANCY WITH REFERENCE TO THE DIAGNOSTIC VALUE OF THE BLUE COLOR OF THE VAGINA.¹

BY JOHN W. FARLOW, M.D.

IN looking over the varied opinions of medical authorities on this subject, it has seemed to me that there must be some good reason for this diversity of opinion. To me, a very possible explanation is that the vulva and vagina are not sufficiently examined. In the ordinary bimanual examination to determine the existence of pregnancy, the color of the vagina is not inquired into, and, particularly where the patient is examined on the side, it is easy to see how the color of the vagina might escape observation entirely. If a sufficient number of cases are carefully examined, we shall soon be in a position to make up our minds as to the value of the blue color of the vagina, especially when found on the anterior wall.

I have looked over my records, and tabulated one hundred and forty-one cases of pregnancy, which I examined with regard to this point. In this table, I have not included a number of cases where the diagnosis was doubtful, but only those where a birth or miscarriage subsequently took place, or where the future history left no doubt in the matter.

The inspection of the vulva and vagina was made in all cases before determining the increased size of the uterus. I divided the cases into three classes: (1) Those where there was no blue color of the vaginal orifice or urethra. (2) Those where the blue color was slightly marked, and not limited to the anterior vaginal wall or around the urethra. (3) Those where the color was markedly blue or violet, or where even a less marked blue was limited to the anterior vaginal wall or the urethra.

The following table shows in how large a proportion of cases, even in the early months, a blue color, at least, suggestive, if not characteristic, was present. In half the number, it was regarded as characteristic, and of the remaining seventy-one, one-half were suggestive. Thirty-six cases are regarded as showing no blue tinge.

TABLE OF 141 CASES OF PREGNANCY.

How Long Pregnant.	No Blue Color.	Suggestive.	Characteristic.	Total.
6 weeks	1	1	..	2
2 months	11	10	1	22
2½ "	5	3	..	8
3 "	12	5	11	28
3½ "	1	1	1	3
4 "	1	8	10	19
4½ "	3	4	7	14
5 " . . . . .	..	1	15	16
5½ " . . . . .	..	1	4	5
6 "	1	..	11	12
6½ " . . . . .	..	..	1	1
7 "	1	..	3	4
8 " . . . . .	..	1	6	7
	36	35	70	141

Let us now examine a little in detail the column marked "no blue color," and see if we can make out any reason for its non-appearance. The case where

the color was absent at seven months was a patient with chronic eczema of the vulva, and the entrance of the vagina, as well as the whole vulva, was intensely red, and the skin was glazed and cracked. The case where there was no blueness at six months was one of secondary syphilis, and was soon followed by a miscarriage. At four-and-one half months are three cases, where there is no blue color. One was a case of eczema, where the vulva and vaginal orifice were much excoriated and pigmented. The prevailing color was quite red. Another case had previously had three miscarriages, and two months before I saw her, that is, when she was two-and-one-half months pregnant, she had a hæmorrhage from the uterus. The third patient had had gonorrhœa a few months before. At four months, is one case of absence of blue color. The introitus was red, and the cervix and body were harder than is usually the case, and at first I was inclined to think it might not be pregnancy, but a possible fibroid.

The patient who had no blue color at three-and-one-half months was apparently about to miscarry, as she was having pains, the os was dilating, and there was some hæmorrhage.

At three months there are twelve cases. In one, there was a slight hæmorrhage two weeks before. One had gonorrhœa. One became pregnant while nursing a baby thirteen months old. The pelvis, particularly Douglas's pouch, was tender. In another, the perineum was torn into the rectum, and the introitus was a firm cicatrix. The broad ligaments were very hard. In the other eight cases, nothing unusual is noted.

Of the five cases at two-and-one-half months, two had flowed several times before I saw them.

At two months, we have eleven cases. In four the uterus was retroverted. In one the clitoris and labia were large, wrinkled, and pigmented, suggesting masturbation. In two, an eczema caused a red and excoriated vulva and introitus. In another, the labia minora were bluish, but not the vagina. In still another, an erosion of the cervix existed, with marked leucorrhœa and a red vagina. I have no details as to a possible cause in the other two cases.

The case of absence at six weeks was a patient who had weaned her baby the week before.

Let us now turn to the column marked "suggestive." The one case at eight months was suffering from secondary syphilis. At five-and-one-half months is a case without special history. The one at five months became pregnant when her baby was six months old. One at four-and-one-half months became pregnant when her baby was three months old. One at four months had syphilis, and had had several miscarriages. Among the suggestive cases of a still earlier period, I find one case of bloody leucorrhœa and one of cervical polyp. The rest were apparently normal.

If we now return to the "no blue color" column, and sum up what has been noted, we shall find four cases of eczema, one of syphilis, four of recent hæmorrhage, two of gonorrhœa, two pregnant while nursing young babies, four retroverted uteri, one extensive cicatrix of perineum, one possible masturbation, with resulting pigmentation, one eroded cervix — eighteen cases in all, or one-half the cases in this column.

In the "suggestive" column, we find two cases of syphilis, one of recent hæmorrhage, two nursing young

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, March 16, 1887.

babies, one cervical polyp, recently removed — six in all. In the two columns together, are three cases of syphilis, five of recent hæmorrhage, and four of nursing young babies.

Can these conditions be considered as influencing in any way the color of the vagina? The blueness is due to hypertrophy of the venous plexuses of the vagina, and is not a pigmentation. It seems reasonable to infer that whatever affects the blood-supply of the vagina, or changes the character of its mucous membrane, might have a marked influence on the color of these bloodvessels, as seen through the vaginal mucous membrane. A uterine hæmorrhage, polyp, or threatened miscarriage might cause a decided change in the amount of blood in the pelvic bloodvessels. I have certainly seen a well-marked blue color disappear after a threatened miscarriage, where there was considerable hæmorrhage, to reappear later. For the same reason, we should not expect the color in cases of bleeding fibroid in an unimpregnated uterus, and, in case of pregnancy, might not the color appear later than usual?

In regard to syphilis, it is so common a disease that I do not know whether it has any causative effect in this instance or not. It certainly modifies the color of all eruptions on skin or mucous membrane, and it may have had a similar effect in my cases.

Eczema existed in four cases, and I think it very conceivable that the eczematous color should so predominate as to mask the blue color. In the same way, a gonorrhœa or vaginitis might obscure the color.

Whether retroversion has any effect, I do not feel that I can draw any conclusion from four cases. The circulation in a displaced uterus is certainly disturbed, but whether this extends to the veins of the vagina I have never seen stated.

In regard to those who nursed young babes, I do not think it is of importance, for I have seen the blue color well marked in a number of such cases.

The conditions in the other cases noted I shall not have anything further to say about.

Now the question arises: does a marked or so-called characteristic blue color exist where there is no pregnancy, and how often? I have notes of three cases where the color was almost characteristic, and one where I deemed it *quite* so. The first had a blue color universally distributed over the introitus. The second had a blue tinge near the urethra. This was a case of fistula in ano. The next had a blue sheen over the whole introitus, and the last case showed a marked blue color on and at the side of the urethra. This patient had a long, hard cervix, and suffered from dysmenorrhœa. I dilated her cervix a month ago, with great relief to the menstrual pain. I saw her yesterday, and found that the blue color had extended up the urethra and anterior vaginal wall. The uterus was perceptibly enlarged, and she has had some nausea in the morning. Menstruation is expected in a day or two, and possibly she is pregnant. I shall watch for the blue color with interest.²

These notes are taken from the records of about two thousand gynecological cases, and when we compare the table of cases of pregnancy with the facts as I have stated them in regard to the non-pregnant cases,

² I have seen this patient since the above was written. She menstruated without pain three days after I saw her before. The blue is not quite as marked as it was just before menstruation.

to my mind it leaves no doubt of the value of this diagnostic sign. Among these cases, there have been, of course, fibroids, ovarian tumors, large ovaries, uterine displacements of all kinds; in fact, the cases that are usually found among so large a number of cases, but in only the four which I have detailed was the color in the least characteristic.

I have also had occasion to notice its absence in many cases of women who supposed themselves pregnant, but who were not so. Where I have used the word blue or markedly blue in this paper, wine-color or violet, would, in some cases, be more appropriate. I have examined for it with the patient on her back, and with my fingers I have separated the folds of vagina, so as to get a good view, particularly of the anterior wall of the vagina, and in some cases I have used the speculum. In private practice, and under many circumstances, it is a mode of observation that cannot be undertaken. My attention was first particularly directed to this point by Dr. J. R. Chadwick, seven years ago. I have endeavored, in my gynecological clinic, to see if my cases threw any light on the subject.

SUPPLEMENTARY OVARIES.¹

BY JOHN HOMANS, 2d, M.D.

THE short paper which I am about to read this evening does not contain much original work or present any very startling matter for your consideration, but it is written to call the attention of the section to a few facts which it seems have not received the consideration that they merit.

These facts may seem rather small and insignificant, but my excuse for presenting them to you is, that attention to minuteness and carefulness of detail is thought of more and more importance as medical science advances.

In the Richmond and Louisville *Medical Journal* for 1875, Dr. Goodman collected and published 27 cases of double ovariectomy by various native and foreign operators, in 10 of which the operation had no influence whatsoever on menstruation; in one the flow was increased and in one the function was irregularly performed.

Nearly forty per cent., therefore, of these cases, were not much affected by the removal of both ovaries. Since the publication of this paper, however, this high proportion of non-affected cases has not been maintained. As there have been 117 other cases collected, of which only 8 still menstruated after the operation, this makes a total of 144 accessible cases of double ovariectomy, of which 18 or nearly twelve per cent. were uninfluenced by the operation. The explanation of this apparent anomaly, may, I think, be found in the fact that many of these patients had supplementary ovaries.

Winkels' work on the "Pathology of the Female Sexual organs," gives a good figure, but no description of a supplementary ovary, and Waldeyer in his classical work on the "*Eierstock u. Ei*," refers, it is true, to small bodies occurring in the neighborhood of the ovary, which he calls "supra-ovarian bodies," but Dr. Hermann Beigel was the first to give an accurate description of the supplementary ovary in an article in

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, March 16, 1887.

the *Wiener Med. Wochens.*, for 1877. In a series of 350 autopsies on persons of all ages, but chiefly adults, Beigel found eight cases of supplementary ovaries. In number they varied from one to three, but as many as six have been noted by another observer. They were either pediculated or were found lying free in the broad ligament. When pediculated they invariably are situated at the line of reflection of the peritonæum. The true ovary really lying more than half outside the peritoneal cavity. The pedicle is a true one, that is, it is composed of a coarse network of connective tissue without any follicular structure, and there is a sharp line of demarkation between the pedicle and the tissue, both of the normal and supplementary ovary. Microscopical examination of the latter shows normal ovarian tissue, in fact, gives a complete likeness in miniature of an ovary. They vary in size from the traditional millet seed up to that of a pea.

The fact that when pediculated they always are found attached to the line of reflection of the peritonæum, offers an explanation for their occurrence. Just at this point, according to the biologists, ciliated epithelium is found in all mammalia, and here also, Waldeyer says, the limits of the germinal epithelium (the Keim-epithel of the German embryologists) are not clearly defined and this epithelium is of variable dimensions. During the development of the ovary a pocket in the irregular outline of the germinal epithelium becomes occluded and is cut off from what might be called the parent organ and thus, the anatomical requirements being all met, becomes the seat of a supplementary ovary.

Now in the majority of the before mentioned cases, in which spaying did not produce the menopause, the menses were only temporarily arrested, gradually returning more or less nearly to the condition existing before operation. These cases it seems to me may be fairly explained by the existence of supplementary ovaries which have slowly enlarged under the benign influence of the reparative forces of nature, and gradually taken on more and more of the functions of the normal organs. It is then, I think, evident that the surgeon who is about to operate for a bleeding fibroid or for the relief of "ovarian neuralgia" or of mental or moral symptoms, cannot be sure that he has extirpated *all* the primal cause of the distressing or alarming symptoms he is seeking to alleviate, when he has simply removed both ovaries. I do not intend to discuss the advisability of Battey's or Tait's operation, or the relation between ovulation and menstruation, but granting the two premises that, first, the former are proper and justifiable surgical procedures, and second, that the ovaries are active factors in menstruation.

I would in closing call attention to the fact that of the cases operated upon in accordance with these premises, from four to six per cent. cannot be in the least benefited because of a distinct anatomical reason.

ABNORMALITIES, ETC., OF THE OVARY.

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A REPORT OF TEN CASES OF PHTHISIS TREATED WITH GASEOUS ENEMATA.

BY A. GASTON ROETH, M.D., BOSTON.

A VAST field for clinical investigation and research was opened to us when Claude Bernard showed in 1857¹ the action of toxic and medicinal agents when administered per rectum.

•When this great teacher demonstrated the fact that hydrogen sulphide, H_2S , could be safely injected into the veins and rectum, afterwards to be eliminated by the lungs, he was followed by Bergeon and Cornil whose practical experiments, covering a number of years, were reported to the French Academy of Medicine in 1886.

The reports of these gentlemen well established the fact that hydrogen sulphide, when carried into the economy by means of carbon dioxide CO_2 , played a most important rôle in its effects upon pulmonary disease of acute and chronic character, and especially under conditions where pulmonary suppuration and co-existing septicæmia were prominent and alarming symptoms.

These latter experiments were but the forerunners of many others calculated to place the treatment of pulmonary diseases, and especially of tubercular phthisis, by the gaseous enemata upon a sound and practical basis. How far they have succeeded I shall endeavor to show from the following ten cases, and as few statistics have as yet been offered the profession, although the system has been in use for some time at the Hospital of the University of Philadelphia, German Hospital and Home for Consumptives, I feel at liberty to give here the result of my observations in such shape that you may formulate your own conclusions.

The cases now under consideration were taken from the Boston Dispensary, where a careful diagnosis was primarily made by Dr. John Dixwell, their local lesions well defined, each patient carefully weighed and his general condition recorded. Their sputa were stained and examined, the number of bacilli found classified in accordance with Gaffky's scale, now accepted by bacteriologists as a standard of measurement for this bacillus. The same ground was gone over at the end of one month's treatment. I desire here to express my grateful thanks to Dr. E. W. Cushing, whose kindness in re-examining the specimens of sputa, both at the beginning and end of the treatment, leaves no shadow of doubt as to the correctness of each particular case classified.

It will be noticed that in spite of the bad hygienic surroundings in which these patients lived, every one apparently without exception destitute, yet, notwithstanding the unfavorable atmospheric conditions, the prevailing winds, easterly and cold, and all orthodox advice and medication having been suspended, and a steady and perceptible amelioration has been ob-

¹ Leçons sur les substances toxiques et médicamenteuses.

served in each and every instance. So far as the practical administration of the gas, its mode of preparation or quantity used is concerned, I have little to add to what has already appeared in the many articles heretofore published, both in the secular and medical journals, with the exception that my preference in natural sulphur waters is for the Ypsilanti spring of Michigan, as this water contains 21.0786 cubic inches per gallon of sulphuretted hydrogen, both liquid and free, more than any other that I know of; my next choice being the Blue Lick of Virginia, which contains 10 per cent. No bad effects have been noted, an overdose of the gas seems impossible, and no intestinal colic was produced when the quantity used was slowly injected. The time most favorable for the two daily enemata was found to be before meals, morning and afternoon.

CASE I. Julia N., aged thirty-one. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 110 lbs.	Weight 114½ lbs.
Temp. 100°.	Temp. normal.
Pulse 120.	Pulse 78.
Respiration ratio .26.	Respiration ratio normal.
Expectoration copious, and mucopurulent.	Expectoration, none.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavity right infra clavicular space and right apex.	Bronchio vesicular respiration decreased.

She states that she does not cough once during the night, spits but once in a while, is feeling splendid, better than for years. Sleeps all night; eats well.

CASE II. James P., aged forty-two. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 116½ lbs.	Weight 118½ lbs.
Temp. 98°.	Temp. 98°.
Pulse 86.	Pulse 86.
Respiration ratio 19.	Respiration ratio normal.
Expectoration copious, yellow and white.	Expectoration normal.
No night sweats.	No night sweats.
Appetite fair only.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No. 1.
Cavity left apex front and back.	Small area of sibilant râles over left apex on expiration.

First stage phthisis.

He states that he has improved daily. His appetite is good; sometimes spits but once a day. Feels a great deal stronger and better; sleeps well; cough less distressing, and does not keep him awake now. Is able to work at his trade of carpenter again.

CASE III. Arthur M., aged thirty-six. Hereditary.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 114 lbs.	Weight 114 lbs.
Temp. 99°.	Temp. 99°.
Pulse 93.	Pulse 93.
Respiration ratio 15.	Respiration ratio normal.
Expectoration copious, hæmoptysis.	No hæmoptysis and expectoration decreased.
	No night sweats.
	Appetite good.
	Bacilli, Gaffky's scale No. 10.
	Cavity right apex and middle lobe.

After eight days' treatment he stated that he was much better. Sleeps better and never coughed less since he has been sick. He feels quite encouraged. Feels no more pain under his right nipple. At this period he ceased coming for treatment.

CASE IV. Richard M., aged thirty-seven. Hereditary.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 94½ lbs.	Weight 94½ lbs.
Temp. 99°.	Temp. 99°.
Pulse 72.	Pulse 72.
Respiration ratio 24.	Respiration ratio normal.
Expectoration copious and hæmoptysis.	No hæmoptysis and expectoration decreased.
Night sweats.	No night sweats.
Appetite bad.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavities both apices, third stage.	Physical signs not much changed.

He tells me that he feels like a different man altogether. Does not feel so sore through his chest and has no steady pains as formerly. Is not spitting nearly so much, and has no night sweats now. He sleeps better. He does not cough at all during the night.

CASE V. John M., aged forty-six. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 130½ lbs.	Weight 132½ lbs.
Temp. 99°.	Temp. normal.
Pulse 103.	Pulse 74.
Respiration ratio 29.	Respiration ratio normal.
Expectoration copious, brown and green, no hæmoptysis.	Expectoration normal.
Night sweats and chills.	No night sweats.
Appetite fair.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No. 1.
Recurrent pneumonia, right apex crumples, left solidified.	Right apex does not crumple, left respiration partially restored.
Anæmia and debility.	No râles, general condition improved.

He states that he feels better every time he comes. Does not spit at all. No night sweats; appetite good. Is a great deal stronger and can do many things now which he could not do a month ago. He now feels as if he could work at his trade of marble polisher. His breathing is as good as it was twenty years ago.

CASE VI. James R., aged twenty-six. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 125 lbs.	Weight 125½ lbs.
Temp. 99.1°.	Temp. 99°.
Pulse 130.	Pulse 96.
Respiration ratio 21.	Respiration ratio normal.
Expectoration copious, yellow.	Expectoration slight.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavities both lungs, moist râles, bronchophony, wasting.	Small improvement in condition of lungs.

He states that his appetite is much improved. Feels considerably better; spits and coughs less. Sleeps all night; has no night sweats at all. Thinks he is improving under the treatment.

CASE VII. Louis S., aged forty-seven. Hereditary.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 134 lbs.	Weight 132 lbs.
Temp. 99°.	Temp. 98°.
Pulse 70.	Pulse 72.
Respiration ratio 20.	Respiration ratio normal.
Expectoration copious and hæmoptysis.	Expectoration decreased.
No night sweats.	No night sweats.
Appetite fair.	Appetite good.
Bacilli, Gaffky's scale No. 3.	Bacilli, Gaffky's scale No.—
Cavity left apex back.	Improvement.

He says that he feels altogether better and stronger. Does not cough or spit so much; says that if it were not for the bad winds, that he would gain flesh, as his appetite is improved.

CASE VIII. Daniel S., aged twenty-five. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 102½ lbs.	Weight 102½ lbs.
Temp. 99.2°.	Temp. normal.
Pulse 122.	Pulse 96.
Respiration ratio 27.	Respiration ratio normal.
Expectoration copious.	Expectoration decreased.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No.—
Cavity right apex.	Condition of lung improved.

He states that the night sweats have entirely ceased, that he coughs only in the morning. Sleeps a great deal better; spits only in the morning, and much less, and that his appetite is better. Feels stronger.

CASE IX. Michael M., aged twenty-one. No family history.

At Beginning of Treatment.
Weight 131 lbs.
Temp. 99.1°.
Pulse 114.
Respiration ratio 21.
Expectoration copious, yellow.

No night sweats.
Appetite fair only.
Bacilli, Gaffky's scale No. 1.
Cavity right apex and right base, has had phthisis six years. His breath is most offensive, and suggestive of gangrene of the lungs.

He says that he feels better and that his friends say that he is looking much better. Sleeps well and coughs less.

CASE X. Patrick McG., aged thirty-seven. No family history.

At Beginning of Treatment.
Weight 136 lbs.
Temp. 98.3°.
Pulse 84.
Respiration ratio 40.
Expectoration copious, thick, bloody.
Night sweats none, sweats during day.
Appetite poor.
Bacilli, Gaffky's scale No. 1.
Cavity left base front and back.

He tells me that he does not spit so much at the present time in one month as what he spat in a day before beginning the treatment; does not spit blood now. Appetite is very good, would not wish it to be better. Strength is much improved, and can work as well as ever he could; is a mechanic.

In an article dated May 14, 1887, which appeared in the *Journal of the American Medical Association*, a captious criticism is made, not upon the "Bergeon's Method of treating Phthisis," as it is headed, but dwelling mainly upon the American method of preparing the gases. Nothing is said as to the manner in which results good, bad or indifferent were obtained, but much ado is made as to the quantity of gases $C O_2$ and $H_2 S$ used. As I have given over 600 injections I believe that I am privileged to say with a certain amount of positiveness, that it is not of the slightest consequence as to the mode of preparation of the $C O_2$, enough should be given to carry sufficient $H_2 S$ into the economy to show the reaction within five to fifteen minutes from the time of administration. If the quantity is gauged in accordance with the capacity of the patient's bowels, no colic will ensue; when colic occurs it is due to mechanical distension of the bowels. The rules for the application of this system have been plainly laid down by Bergeon and Morel, and when faithfully followed, as described by them,² equal satisfactory results may confidently be anticipated, but not so when the apparatus, quality, etc., of gases have been garbled. In conclusion, let me say that this being but a preliminary series of observations, it might be going too far to agree with Bergeon, that this system alone is curative, but on the other hand, what the possibilities of its value are as an adjunct to the usual treatment of phthisis, may be seen from the beneficial results obtained, as shown in the above cases.

—The "celebrated" Dr. Schweningen has contracted to reduce the corpulence of the Czar. Terms, £1200 if successful, £500 and travelling expenses if not successful.

² Nouveau traitement des affections des Voies Respiratoires et des Intoxications du Sang par les injections gazeuses d'après la Méthode du Dr. L. Bergeon. Paris, 1886.

End of One Month's Treatment.
Weight 72½ lbs.
Temp. normal.
Pulse 104.
Respiration ratio normal.
Expectoration less and lighter color.

No night sweats.
Appetite good.
Bacilli, Gaffky's scale No. —.
Left lung good, right about as before, but nothing more. General condition better. The fetor of his breath has materially decreased.

End of One Month's Treatment.
Weight 139 lbs.
Temp. normal.
Pulse 72.
Respiration ratio normal.
Expectoration decreased and no hemoptysis.
No sweats.

Appetite good.
Bacilli Gaffky's scale No.—
Improved condition of lung.

REPORT ON THE PROGRESS OF LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D., BOSTON.

THE ILLNESS OF THE CROWN PRINCE OF GERMANY. THE PRESENT POSITION OF COMPLETE AND PARTIAL LARYNGECTOMY. RESULTS OF 327 CASES OF TRACHEOTOMY FOR CROUP. BLOODLETTING IN CROUP. MILK AND THROAT DISEASE IN CANTERBURY, ENGLAND. OCULAR TROUBLES OF NASAL ORIGIN. TIP-TILTED NOSES.

THE ILLNESS OF THE CROWN PRINCE OF GERMANY.

ACCORDING to a recent number of the *Medical News*:

"The Crown Prince began to suffer from catarrh and hoarseness last January, and was treated at that time by his physician-in-ordinary, Dr. Wegner, Director-General of Hospitals. A morbid growth on the left vocal cord was discovered by Prof. Gerhardt in the beginning of March, and he applied the electro-cautery, with but slight improvement resulting. On the occasion of the Emperor's birthday at the end of March, the Crown Prince was obliged to use his voice much. In the middle of April he was ordered to Ems, where he took the waters for a month, and then returned to Berlin no better. The growth was at this time found to have increased in size. Prof. von Bergman was called in consultation, and subsequently Prof. Tobold, of Berlin, and Dr. von Lauer, the Emperor's physician-in-ordinary and Chief of the Army Medical Department. They all agreed that the growth was cancer, but before doing an external operation they advised that Dr. Morell Mackenzie, of London, be summoned. Accordingly the Crown Prince telegraphed Queen Victoria requesting that Dr. Mackenzie be immediately dispatched to Berlin, and he arrived there on the afternoon of May 19th. He found that all necessary arrangements had been made to do an external operation.

"At 7.30 o'clock of the next morning Dr. Mackenzie, upon examination, found a small sessile growth of the size of a split bean, and he recommended that a portion of the tumor be removed by intralaryngeal operation for microscopic examination. Prof. Gerhardt and Prof. Tobold thought that this was impossible, but agreed that Dr. Mackenzie should attempt the operation the next morning. With the aid of forceps Dr. Mackenzie succeeded in removing a portion of the growth, which, after microscopic examination, Prof. Virchow reported consisted of inflammatory products. Dr. Mackenzie then left Berlin, but returned on June 7th, and performed a second intralaryngeal operation."

The following is the text of Prof. Virchow's report on the portions of the growth removed, as published in the *British Medical Journal* of June 18th.

"The two objects brought to me yesterday by General-Aerzt Dr. Wegner, displayed, when examined microscopically, the appearances of a coarse granular papillary outgrowths. Their rounded surfaces had a conglomerate, bluish-white, transparent, shining appearance, so far as they were in their natural state, but certain portions which had been exposed to the influence of catechu, exhibited a dull, brownish, somewhat crumbling appearance. The portions removed at the operation were somewhat retracted and hidden by the rolling inward of their edges. They consisted of a soft, fibrous tissue, from which shorter and longer shreds projected. The larger of the two pieces was 3 millimetres long and 2.5 millimetres thick; the smaller was about 2 millimetres broad and thick. But

these measurements probably do not accurately represent the natural dimensions, as the particles have diminished in size, owing to the retraction and to the folding of the sections after their extirpation.

"Microscopic investigations confirmed the diagnosis arrived at from the naked-eye examination:

"(1) The surface consisted everywhere of a very thick and dense membrane, with stratified epithelium cells. In many of the cells, gelatinous granules of large size were visible. Here and there lay a nest of cells lying in concentric layers. Toward the interior there was a similarly stratified layer of cylindrical cells (without cilia) implanted directly on the connective tissue.

"(2) The surface of the mucous membrane was covered with long papillary excrescences, which, besides the elements of the connective tissue, contained rather large vascular loops. Each nodule visible to the naked eye, on the surface, was formed by a papilla of this kind. As for the rest, the mucous membrane exhibited scarcely any modifications; larger granular and cell growths were only noticed in scanty quantities; the bloodvessels were only moderately dilated. Both portions removed included not only the mucous membrane, but extended through it into the submucous membrane. Hence, besides connective tissue with numerous fine elastic fibres, there was a large number of nerve bundles (with from four to six fibres) and their branches, and of small arteries and veins; at some points there were masses of the lobules of the mucous glands. Although it is proved by this that the incision reached parts situated deep below the mucous membrane, not a single spot that had undergone any appreciable change was discovered, despite the most careful examinations of these more deeply situated parts, especially on the extirpated side. All the essential changes affected the surface only. They prove that the tumor is an epithelial growth associated with papillary excrescences (wrongly described as papilloma) an affection termed 'pachyderma verrucosa.' At no point was the mucous membrane found to be invaded by the epithelial formations. The specimens now before me are of considerably greater scientific value than that laid before me on May 21st; in the particle then examined only scanty lesions of an irritative kind were seen; lesions only distantly to be compared with those found in the particles now examined; in all, probably, the irritative changes affected the periphery of the seat of the disease. It is evident that on the present occasion a more central spot was reached. Although this spot has become affected in a very marked manner, the healthy quality of the tissue on the extirpated portions, gives grounds for a very favorable prognosis. Whether such a prognosis be justifiable for the malady considered as a whole, cannot be concluded with certainty from the two pieces that were removed. However this may be, there is nothing in them calculated to awaken a suspicion of a further and more serious affection of those parts."

After the second operation, the Crown Prince proceeded to London to be under the care of Dr. Mackenzie. The progress of the case has been most favorable, and the growth, it is stated, has now been very nearly removed. Prof. Virchow has again made a thoroughly satisfactory report of portions sent to him to Berlin, for microscopic examination.

Laryngologists, perhaps, will best appreciate the

difficulties of this important case, but all will recognize the masterly and scientific manner with which Dr. Mackenzie has conducted the treatment of his Imperial patient.

THE PRESENT POSITION OF COMPLETE AND PARTIAL LARYNGECTOMY.

During the past twenty years total extirpation of the larynx has been performed about one hundred times. In the majority of cases the operation was for carcinoma, secondly, for sarcoma, and thirdly, for stenosis due to other affections.

Dr. J. Solis Cohen, of Philadelphia, in 1883, in a paper entitled, "Does Excision of the Larynx tend to the Prolongation of Life?" expressed the opinion that excision of the larynx for carcinoma was unjustifiable, and that the greatest good to the greatest number, would be better secured by dependence on the palliative operation of tracheotomy. There is nothing in more recent statistics of this operation to induce any one to take exception to Dr. Cohen's estimate of this procedure. The immediate mortality of the operation is about forty-four per cent., and the disease recurs in forty-six per cent. of the recoveries. The mean duration of life of the living and well cases is less than seventeen months. The danger during the first few days is chiefly from septic broncho-pneumonia. According to Cohen it may be that the reduction of temperature to which the pneumogastric nerve is subjected, leads to pneumonia, and that the manipulations within the wound render it especially sensitive. When we reflect, he continues, that the majority of these operations of laryngectomy consume from one to three hours in their performance, we can fairly presume that the pneumogastric nerve is subjected to sufficient ordeal to excite an early pneumonia, quite independently of access of foreign matter to the lungs.

M. Léon Labbé, who described three cases of excision of the larynx at the last French Congress of Surgery, related that in one case, on the larynx being isolated, the patient turned pale and death-like, probably from contusion of the pneumogastric nerve. Artificial respiration was carried on for twenty-six minutes. The operation was then recommenced, and the patient recovered and lived for four months and a half.

Although the statistical results of excision of the larynx do not, as yet, warrant its performance, some important points have been learned about the technical details of the operation, and the after-treatment of the patient. By a careful selection of cases in the future, better results may be obtained. Mr. Batlin, of London, suggests that extirpation of the larynx for carcinoma, should be practised only for intrinsic carcinoma which is still limited to the interior of the larynx. He also says that if a surgeon is consulted by a patient suffering from laryngeal epithelioma, and there is nothing for it but excision of the larynx, he is bound to tell the patient (1) that it was a dangerous operation, with a mortality of from forty to forty-five per cent.; (2) that recurrence would probably soon take place; (3) that he would not even get much relief from distressing symptoms, for his difficulty in swallowing and breathing would be as great after as before the operation. It is evident that complete extirpation of the larynx for carcinoma should only be practised in very rare instances, if at all. In a patient, however, in good general health, where the disease is lim-

ited to a small portion of the interior of the organ, and with no involvement of the lymphatic glands, favorable results may be expected from partial extirpation.

Dr. Eugene Hahn, and other German surgeons advise this lesser operation for the reason that it is attended with a greatly reduced mortality, and followed by fewer recurrences and a larger number of permanent successes. The reported cases, however, are as yet few in number, and sufficient time has not yet elapsed to show that recurrence will not take place. But the results of three recent cases in England, so far as immediate recovery is concerned, are most encouraging. At a meeting of the Clinical Society of London, last November, Dr. F. Semon and Mr. Butlin reported two cases in which the operation of partial excision was undertaken for malignant disease, and both ended in rapid recovery. Five months had elapsed in one case since the operation, and three months in the other. The condition of both patients was then satisfactory.

Mr. Lennox Browne, in the *British Medical Journal*, February 5, 1887, reports an interesting and successful case. He states that he publishes the case at a period long prior to the time at which the real issue, that of immunity from recurrence, can be settled, because he believes that the difficulties of the operation, and also its immediate dangers, have been largely exaggerated.

He emphasizes the following points :

(1) Use of the respiratory for removing the tissues external to the cartilage, as the surest safeguard against hæmorrhage, as lessening the chance of septicæmia, and ensuring speedy recovery of the power of swallowing, etc. (2) The use of Hahn's tampon canula. (3) The use of perchloride of mercury in solution, and of corrosive sublimate gauze in preference to iodoform, as dressings for the wound. (4) The not too quick closing of the external wound, with the view of prolonging functional rest of the larynx without the irritation of a tracheotomy tube.

Mr. Browne concludes by saying: It is earnestly to be hoped that care will be taken in the selection of subjects for this operation, as otherwise discouragement will be given to its performance where other circumstances would be favorable. It is indicated in unilateral and intra-laryngeal epithelioma, and in recent non-infiltrating sarcoma. It is useless in pharyngo-laryngeal epithelioma, in which the larynx is invaded from the pharynx, and whenever there is implication of the cervical glands and structures adjoining the larynx. It is always possible, if on division of the thyroid cartilage the disease is seen to have extended beyond the limits suspected by prior examination, for the surgeon to desist from removal and to be content with having performed tracheotomy.

RESULTS IN 327 CASES OF TRACHEOTOMY FOR CROUP.

Dr. Robert W. Lovett and Dr. John C. Munro, formerly House-Surgeons at the Boston City Hospital, give, in a valuable article in *The American Journal of the Medical Sciences*, July, 1887, the results of the operation of tracheotomy performed for croup at that hospital, from the time of its foundation, in 1864, to January, 1887. Three hundred and twenty-seven cases are analyzed. Up to the year 1880, only 30 tracheotomies had been done, so that the greater part

of the operations have been performed in the last six years. Our attention is called to the fact that a bad class of cases naturally come to a city hospital for operation, and in most instances, long after it has become advisable. The children are brought hurriedly for operation, often in a hopelessly bad condition. Of the 327 cases, 232 died, and 95 (29.05 per cent.) recovered.

Our space will only permit us to give the general results of this carefully-prepared report. The results of operation are above the average, in spite of the predominance of bad cases. They show that young children are especially liable to have extension of the diphtheritic process to the bronchi and lungs; in fact, that the chances are three to one that if they die, they will die of suffocation; that, in Boston, tracheotomy at the City Hospital is most fatal at those times when diphtheria is most fatal in the whole city, and incidentally, that the mortality per cent. from croup and diphtheria vary by the month in unison. That cases with membrane in the pharynx at the time of the operation are more likely to die than those where it is not present. That the mortality per cent. after tracheotomy rises steadily as the operation is done on the first, second, third, or fourth day of the difficult breathing. That nasal discharge, albuminuria, and enlargement of the cervical glands are symptoms of less moment than the character of the discharge from the trachea-tube, which is the most important index of the progress of a case, and that the recovery-rate varies nearly fifty per cent. between cases where the discharge is loose throughout, and those where it is gummy at any time.

The following table of all available reported cases of tracheotomy arranged by countries, is given for purposes of comparison :

	Total.	Recovered.	Died.	Per cent. Recovered
German authors,	5,795	1,851	3,944	31
German hospitals,	3,063	939	2,124	30
British authors,	433	138	295	31
French authors,	9,242	2,242	6,834	24
Various countries,	1,908	657	1,336	32
American authors,	1,327	308	1,019	23
	21,853	6,135	15,552	28

BLOOD-LETTING IN CROUP.

In a very interesting and suggestive paper "On the Remedial Value of Blood-letting,"¹ by J. A. MacDougall, M.D., F.R.C.S., Ed., we find the following few lines regarding its efficacy in croup:

"Before proceeding to allude to those conditions in which the benefit attending blood-letting is conspicuous and undoubted, I would make mention of the advantage which attends its employment in certain cases of simple croup. I am not likely now ever to forget, for the early writings on the folds of memory are the most indelible, the relief which I, when a little lad, suffering from croup, obtained by venesection. Emetics, hot fomentations, and the warm bath had all been employed, but with no benefit. The dreadful feeling of suffocation was still unrelieved, while following immediately the withdrawal of several ounces of blood from the arm, I was easy and comfortable. It would be a marvel, then, that if thus taught, it seemed the

¹ The American Journal of the Medical Sciences, July, 1887.

lesson of a *life* in its fullest sense, I should have denied the same relief to others, and thus it is that, in late childhood and early youth, when other means have failed, and when, in vigorous adolescents, cyananche laryngea is marked by the symptoms noted by Cullen: 'respiratio difficilis, inspiratio strephens, vox rauca, tussis clangosa,' then my trust and my expectation lie in a moderate phlebotomy."

MILK AND THROAT DISEASE IN CANTERBURY, ENGLAND.²

The medical officer of health of Canterbury has reported a sudden outbreak of throat disease, which, in eight days, attacked no less than 231 persons, without fatal effects in any instance. So far as can be judged, the epidemic was due to milk, for of 160 houses served from the dairy which is in suspicion, no less than 94 were affected, and, so far as can be gathered, out of 36 houses partly supplied from the same dairy, and partly by other milkmen, 21 were affected. In the other instances of houses affected, the persons in question seem almost exclusively to have been those who were either attacked late during the outbreak, and under circumstances which admitted of their having derived the infection from antecedent cases, or else persons who may easily have partaken of the suspected milk elsewhere than in their own homes. So far, says the *Lancet*, the reports on the case are, we trust, incomplete, for by far the most interesting feature of the case is the implied sickness of animals in connection with the outbreak, and the history as to this is as yet very imperfect. Indeed, we only learn of a lamb in the suspected dairy premises having suffered from "sore throat," and of cows having had "diarrhoea." The connection now established between disease in the human subject and affections of a specific character in lower animals, and especially in cows, is of far too great importance to admit of such a case being passed over by such vague accounts in so far as these animals are concerned. It is to be hoped that skilled veterinary and pathological aid was secured, either through the Local Government Board or otherwise, and that a more complete report will be issued.

OCULAR TROUBLES OF NASAL ORIGIN.

Dr. Gruening, of New York, Dr. Boerne Bettman, of Chicago, and Dr. Gordon, of Springfield, Ill., have called attention to the importance of recognizing abnormal changes in the nose as the starting point of certain pathological conditions of the eyes and lids.

The connection between the nose and the eye is intimate, and the relations of the two are reciprocal. Thus, irritation of the nasal mucous membrane frequently produces lachrymation and other eye symptoms, and in the case of certain irritable eyes, exposure of the organ to a strong light brings on attacks of sneezing. Disease from one organ to the other may spread by direct continuity of tissue, and also through the medium of the circulatory and nervous systems.

The lachrymal passage is the connecting link between nose and eye. The mucous lining of the lids and eyeballs is but a continuation of that covering the inner surface of the nose and tear-ducts. This fact alone, Dr. Bettman thinks, ought to suggest the rationality of seeking in the nose the cause of epiphora, redness of the lids, and other abnormal conditions, provided the disturbances could not be traced to local

causes. He then points out that it is only since the publication of Hack's monograph on the operative radical cure of migraine, asthma, hay fever, etc., that the nose has been regarded as the source of certain ocular complaints which have baffled the efforts of oculists. The nasal trouble will generally be found to consist of a swelling of the anterior end of the inferior turbinated body. The mucous membrane may show a perfectly normal appearance, indicating that the cause of the swelling is due to changes underneath it, in the cavernous spaces, which become filled with blood, bulging the mucous membrane outwards, until it at times reaches the septum. This swelling, and also swellings of other portions of the nasal cavities, can give rise to reflex neuroses in various organs, which can, furthermore, be allayed by destroying the seat of irritation by operative measures. Thus Hack accounts for certain forms of migraine, asthma, hay fever, supra-orbital neuralgia, vaso-motor reflexes of the skin of the face, epiphora, redness of the lids, turgescence of the conjunctival bloodvessels, and photophobia.

Dr. Bettman cites cases that did not yield to the ordinary treatment directed to the eyes, but improved immediately after eradicating the abnormal conditions in the nose.

Dr. Gruening states that in simple cases, the instillation of cocaine into the nostrils often affords a satisfactory test as to whether the ocular trouble is dependent on nasal irritation or not, for if it affords relief to the eye symptoms, we may conclude that the latter are to be attributed to the condition present in the nose. He relates several cases of his own, as examples in which the eyes were affected for many years, in consequence of comparatively mild affections of the nasal mucous membrane, and in spite of the most persevering and skilful treatment directed to the ocular condition, but in which the eye trouble promptly disappeared as soon as the nasal affection was removed by appropriate treatment.

All the cases, however, were not of this simple class, and he speaks of several in which the reflex eye symptoms were due to more serious pathological conditions of the nasal cavities. In them, also, the eye trouble disappeared as soon as the source of irritation in the nose was removed. In one instance, where the patient had suffered for many years, the eyes were permanently cured on the very day that a large mass of hypertrophied tissue was removed from the nose. During the past two years, he says, he has met with some two hundred cases in which he could refer the ocular symptoms to nasal trouble; but the treatment, which varied according to the circumstances of the case, was not always successful. In most of the unsuccessful cases, however, the patients had disappeared before the treatment was completed, or, perhaps, was fairly commenced. Still, in about one hundred and fifty of the two hundred cases, complete relief had been afforded by the removal of abnormal conditions of the nasal passages.

Among the symptoms mentioned as most frequent in these cases of reflex eye trouble, are: Burning and smarting sensations in the eyes, more pronounced in the morning; inability to fix an object in ordinary daylight; irritation and gluing together of the lids; extreme sensitiveness to cold and wind; lachrymation. Other characteristics were: inefficiency of ocular treatment, and efficiency of nasal treatment, even in spite of the absence of nasal symptoms.

² Medical News, October 9, 1886.

Dr. Gordon describes a form of conjunctivitis dependent upon disease of the intra-nasal tissues. This conjunctival disease, he says, is chronic inflammation of the conjunctiva and the connecting tissues, accompanied by increased thickness of the membrane, especially of the palpebral portion, which is very slightly roughened, giving it somewhat the appearance of trachoma in a mild form. The tarsal cartilages, tarsal glands, and ciliary follicles are more or less involved, with marked lachrymation and photophobia; pain is sometimes intermittent, more severe in the afternoon. The disease in the nose is usually a chronic rhinitis, of the hypertrophic character; mucous membrane exquisitely sensitive, with an abundant flow of thin, watery mucus.

A marked and important character of the conjunctivitis is its chronicity; it is not limited by weeks or months, but years. It yields slowly and only temporarily to the orthodox method of treatment of chronic conjunctivitis.

Dr. Gordon believes that the successful management of this form of conjunctivitis depends upon the proper treatment directed to the nasal passages.

TIP-TILTED NOSES.³

The influence of the shape of a man's nose in determining the good or evil fortune of his life has not escaped the attention of physiognomists. That eminent social philosopher, Mr. Shandy, whose lucubrations have attained so wide a currency, thanks to the filial admiration of his son, Tristram, truly observed that "no family, however high, could stand against a succession of short noses"; by "short noses," probably to be understood that form in which the organ is not only curtailed in length, but so distorted in form that it is "tip-tilted, like the petal of a rose." This poetical simile but imperfectly expresses the true state of the matter. For a short time, while the *beauté du diable* lasts, the tip-tilted nose may be forgiven in a woman, but for the greater part of existence it is a continual social agony to its unfortunate possessor. Such sufferers will rejoice to hear that their sad case is not beyond the reach of plastic surgery. Dr. John O. Roe, of Rochester, N. Y., has devised an operation for "the correction of the deformity," which is easily performed. He most philosophically remarks that "the nose does not appear ugly by reason of the fact that its size is disproportionate to that of the face (for noses vary greatly in this respect), but by reason of the disproportionate relations to one another of the different parts of the nose itself." Accordingly, having deadened the sensibility of the interior of the nose with cocaine, he pulls up the end of the nose, reflects the mucous membrane, cuts away the superfluous tissue which causes the organ to be tip-tilted, and then, if necessary, moulds a splint—a saddle, as it were—to the top of the nose, so as to make it, while healing, assume the desired aquiline shape. In other cases, where the large end is due to the cartilages of the nose being bulged outwards too much, he cuts them through with a thin-bladed knife, and then applies his splint or saddle. In neither case is the operation at all serious. There is no scar, for the skin is not cut through, and the results, if we may judge by the drawings made from photography taken before and after, leave nothing to be desired.

³ British Medical Journal, June 18, 1887.

New Instruments.

DESCRIPTION OF A SIMPLIFIED CLOCK-WORK APPARATUS FOR GRAPHIC EXPERIMENTS.

BY F. W. ELLIS, M.D., SPRINGFIELD, MASS.

THREE kinds of apparatus are required in graphic experiments: first, a contrivance for imparting a uniform motion to the recording surface; secondly, an arrangement for writing upon the moving surface; and thirdly, a driver for transmitting the movement to be recorded to the second form of apparatus. These three forms of apparatus are all required in ordinary physiological and clinical experiments in which the graphic method is employed, and together form the complete recording apparatus.

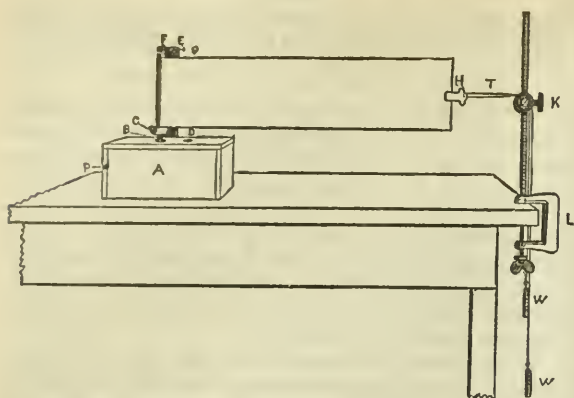
We have no good name for the first class of instruments—perhaps graphic-motor would be as good as any. The word kymograph, or kymographion, is sometimes employed to designate this species of apparatus, but, as the word is also used to denote instruments belonging to the second class, as the original kymograph of Ludwig, Fick's spring kymograph, etc., it only tends to confusion to employ it in this connection.

In the ordinary forms of graphic motors some kind of clock-work is usually employed. In large laboratories, gas-engines, electric, hot-air, and water motors have been used to impart the required motion to the apparatus, but, ordinarily, clock-work driven by a weight or spring is resorted to for this purpose. Experience has taught the writer that even large laboratories are apt to be inadequately supplied with instruments of this kind. The cost of the instruments constructed after the models of Ludwig and Marey is so great that well-equipped laboratories cannot afford more than one or two of them. Several experimenters, working together, are liable to be embarrassed for want of a sufficient number of recording instruments. To many clinical investigators these instruments are inaccessible. There are also enthusiasts, carrying on experimental researches in private, who are indisposed to make the large outlay required to procure the complicated Ludwig or Marey apparatus. There are, moreover, certain requirements for particular purposes which the instruments mentioned do not possess; these are portability, compactness, and easy adaptability to special conditions.

Reichert¹ described two ingenious arrangements of simple construction to take the place of the complicated graphic motors. The apparatus was, however, bulky and could not be conveniently transported. The apparatus to be described is exceedingly simple, is easy to construct, costs very little, and is quite efficient. It is amply sufficient for most graphic purposes, and is particularly well adapted for clinical work. It can be easily modified for special purposes, and very long tracing can be taken with it when required.

The figure gives an outline sketch of the apparatus. The clock-work is enclosed in a small covered box A. The axle for the minute-hand projects through a small hole in the cover, and is represented at B. A wooden spool C, about 12 centimetres long, and having a hole in the centre of its lower end, is fitted to the axle, and is retained in a perpendicular position by means of the

¹ Two new Kymographions and a Time-Recorder, Philadelphia Medical Times, Vol. XII, p. 267.



wooden upright D having a projection E at right angles to it. A pin F in the centre of the upper end of the spool is held in a notch in the piece E by a pin G. A clamp L, to which is fastened a brass rod, can be fastened to one end of a table. A short piece of brass K has a hole in its centre through which the rod passes and upon which it can be clamped at any height by means of a binding-screw. Two small pulleys are affixed to the ends of this piece. Two strings pass over these pulleys. One end of each string is fastened to a garter-clamp H, and the other to a small weight W. The clamps are fastened to each end of the paper for the tracing. One end of the paper is passed around the wooden roller, and the strings are placed upon the pulleys. The paper is then retained in its position by the traction of the weights. The clock-work is an ordinary eight-day movement. The pendulum and escapement are removed. A piece of sheet brass is fastened to the axle of the scape-wheel to serve as a regulator. A steel spring, one end of which, P, projects through the front of the box, is fastened inside the case in such a way that it serves as a lever which can be pressed against one of the wheels and so stop the apparatus. By employing spools of different diameters the rate of movement of the paper can be varied as desired. When a very slow rate is required, as is necessary in some protracted experiments, extending over hours, or even days, a marine clock-work can be substituted for the ordinary pendulum movement.

It is evident that tracings of great length can be taken with this apparatus. By turning the box upon its back, horizontal tracing can be obtained.

A very efficient method for smoking the strips of paper is the following: A circular piece of wood, an inch or more in thickness, is sawn from a board. A short brass or iron rod is driven through the centre of the wooden disc. The paper is made to envelop the disc and is fastened with a tack. By revolving the wheel over the naked flame of an oil lamp the paper can be very evenly covered with a coating of carbon.

Ordinarily very light weights are sufficient to keep the paper smooth. When larger weights are used, it will be necessary to fasten the box to the table by means of a clamp or some other simple device.

— Professor Braune, of Leipzig, after a thorough investigation of the mechanism of the hand, is said to have constructed a new sword-handle on anatomical principles, which exactly fits the hand, and can be held with absolute security.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

MARCH 16, 1887. DR. JAMES R. CHADWICK, in the chair.

DR. JOHN HOMANS, 2d, read a paper entitled

SUPPLEMENTARY OVARIES.¹

DR. CHADWICK. While I do not regard the question settled as to the dependence of menstruation upon functional activity of the ovaries, the preponderance of evidence seems to me to be adverse to that theory. In his paper "Sur la menstruation après l'ovariotomie et l'hystérectomie," Paris, 1880, Ormieres published brief extracts of forty-five cases of double ovariectomy in which the patients subsequently menstruated with reasonable regularity, and forty-eight cases in which, after the same operation, they failed to menstruate persistently. Dr. Reeves Jackson,² in his article on the "Ovulation theory of Menstruation" reproduces a table by Dr. John Goodman, of double ovariectomies, containing twenty-seven cases in which fourteen patients menstruated subsequently with more or less regularity. From these two tables it is apparent that menstruation persists after the removal of both ovaries in about half the cases. Until these figures shall have been controverted, we cannot accept the theory that menstruation is dependent upon the presence of the ovaries or adduce the occasional existence (in four per cent. of the cases), of supplementary ovaries in explanation of the persistence of menstruation when two ovaries have been removed. Furthermore, if, as stated in the paper to which we have listened, the supplementary ovary is generally nourished from one of the ordinary ovaries, how can it be supposed to be nourished and continue to functionate after the removal of the other two ovaries.

DR. FITZ said, I do not remember to have ever found what was unquestionably a supplementary ovary, and I had the impression that the number of well authenticated cases was very small, perhaps three, and less than a half a dozen. As the existence of supplementary ovaries has been conspicuously brought to the attention only within a few years, many cases may have been overlooked. It is, therefore, not unlikely that this condition will be found in the future to a greater extent than in the past.

DR. J. W. FARLOW read a paper entitled

THE VALUE OF THE BLUE DISCOLORATION OF THE VAGINA AS A DIAGNOSTIC SIGN OF PREGNANCY.³

DR. HOMANS asked Dr. Farlow why he used the word "blue" if the color is of a wine-red or claret color.

DR. FARLOW replied that the usual way of referring to the color is to call it blue. It is blue at first, and later assumes a marked violet or port-wine color.

DR. VICKERY asked if the color was found in extra-uterine pregnancy.

DR. FARLOW said he had seen but few such cases, and in those the color was not noted. In conclusion, he spoke of a blue color which is not infrequent about the posterior commissure of the vagina, but which seems

¹ See page 50 of the Journal.

² American Journal of Obstetrics, Vol. 9, p. 550, 1876.

³ See page 49 of the Journal.

to be connected with the vessels of the rectum and not with those of the uterus.

DR. CHADWICK. As I have been taking notes on the "Value of the Bluish Coloration of the Vaginal Entrance as a Sign of Pregnancy," for ten years, and read a paper on the subject at the last meeting of the American Gynecological Society, I venture to give my conclusions. The number of cases in which my data were complete included 281 pregnant and 56 non-pregnant women.

Of the 281 pregnant women, the color was practically absent —

At the end of 2 months in	51	per cent. of the cases.
" 2½ "	31	" "
" 3 "	17	" "
" 3½ "	8	" "
" 4 "	8	" "
" 4½ "	9	" "
" 5 "	4	" "

The color was *suggestive* of pregnancy —

At the end of 2 months in	34	per cent. of the cases.
" 2½ "	41	" "
" 3 "	27	" "
" 3½ "	45	" "
" 4 "	30	" "
" 4½ "	4	" "
" 5 "	20	" "
" 5½ "	30	" "

The color was *diagnostic* —

At the end of 2 months in	13	per cent. of the cases.
" 2½ "	28	" "
" 3 "	46	" "
" 3½ "	38	" "
" 4 "	63	" "
" 4½ "	86	" "
" 5 "	72	" "
" 5½ "	70	" "

After (and including) the end of the sixth month, the color was *diagnostic* in all but one case, in which it was *suggestive*, and one in which it was *doubtful*.

The analyses on the positive side are supplemented, and the general conclusions strengthened, by the evidence of the following table, compiled from the records of patients who, for more or less good reasons supposed themselves to be pregnant.

TABLE OF 56 WOMEN WHO PROVED NOT TO BE PREGNANT.

Period after menstruation.	Valueless.		Suggestive color	Diagnostic.		Total
	No color	Doubtful color		Characteristic color	General deep color	
1 week	1	..	1	..	..	2
2 weeks	2	..	..	..	..	2
3 "	2	..	..	..	..	2
4 "	5	3	..	..	1	9
5 "	3	2	1	..	..	6
6 "	12	1	..	..	..	13
7 "	1	..	..	..	..	1
2 months	6	..	..	..	..	6
2½ "	2	1	..	..	..	3
3 "	4	..	..	..	..	4
4 "	1	2	..	..	..	3
5 "	3	..	1	..	..	4
6 "	1	..	..	..	..	1
Total	43	9	3	..	1	56

My conclusions with regard to the blue color were: (1) That its absence is not to be accepted as evidence that pregnancy does not exist, especially in the first three months, where satisfactory evidence is most needed."

(2) That from (and including) the second month, this color is generally present, and often of such character as to be diagnostic.

I have found the color of great assistance in making a diagnosis in the early months of uncomplicated preg-

nancy, and in the later months in cases of *retroversion of the pregnant uterus*; *extra-uterine pregnancy*; *in pregnancy complicated with fibroid tumors of the uterus or with ovarian tumors*; *in pregnancy occurring in women with very fat or tense abdominal walls*; *when the existence of pregnancy was unknown or concealed*; *when menstruation persisted after conception*; and *when conception has occurred during lactation without the intervention of menstruation*.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., RECORDING SECRETARY.

JUNE 7, 1887, the tenth annual meeting was called to order in the rooms of the Boston Medical Library Association, at 11.20 A.M., by PRESIDENT WINSOR. Twenty members were present. Records of the last meeting were read and approved.

MEDICAL EXAMINER HOLT of the committee to prepare a blank form to be used in reporting autopsies made his report, recommending a printed form which he presented, and also advising the purchase by each medical examiner of Virchow's Post-mortem Examinations.

The report was accepted, and MEDICAL EXAMINER HOLMES moved adoption of the printed form. Considerable discussion ensued, and it was finally voted to reconsider the vote accepting the report of the committee, and to refer the blank form to it again with request to report at the next meeting of the society.

Voted, on motion of MEDICAL EXAMINER WRIGHT that a copy of the blank form be sent to each member with the request that he examine it and suggest to the committee any changes that seem desirable.

The following officers were elected for the ensuing year: President, F. Winsor, M.D.; Vice-president, J. G. Pinkham, M.D.; Treasurer, C. C. Tower, M.D.; Corresponding Secretary, B. H. Hartwell, M.D.; Recording Secretary, W. H. Taylor, M.D.; Standing Committee, F. W. Draper, M.D., S. D. Presbrey, M.D., A. F. Holt, M.D.

PRESIDENT WINSOR announced the death of G. P. Pratt, M.D., of Cohasset, a member of this society.

MEDICAL EXAMINER TOWER briefly referred to the life and character of Dr. Pratt.

On recommendation of the Executive Board the following gentlemen were elected to active membership: Medical Examiners, Drs. J. W. Spooner, of Hingham, J. Alban Kite, of Nantucket, T. M. Durell, of Somerville, Wm. Holbrook, of Palmer, W. F. Stevens, of Stoneham, G. M. Morse, of Clinton, J. G. Hayes, of Ipswich.

Charles Harrington, M.D., of Boston; and Hosea Kingman, Esq., District Attorney for the southeastern district were elected associate members.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, May 16, 1887.

DR. IRA B. READ read a paper on

TUBERCULOSIS OF THE JOINTS.

Although this was a strumous disease, and attended with the strumous diathesis, he said, it did not necessarily follow that the sufferer must have always been

a victim of such a diathesis, any more than it followed that he who died of pulmonary phthisis must have inherited it. Nor, on the other hand, did it necessarily follow that some injury must have been sustained. Dr. Read held, therefore, that each of these causes might claim its victims, but that to neither belonged the sole claim. Either, he believed, might act without the other, or both might act in conjunction. As regards prognosis, he thought that if the trouble was recognized early, the patient could be given reasonable assurance of a cure; but if this occurred at the second or third stage of the disease recovery would take place if at all, only after a long and tedious confinement.

The treatment was both constitutional and local. In the first stage we had an ordinary inflammation to treat, locally, but instead of depleting the patient, as might otherwise be done, it would be necessary to nourish and sustain him with nutritious food and tonic remedies. One thing must be peremptorily insisted on, namely, complete rest. There is already an overtaxed system, and nature must have an opportunity for recuperation. The indications were to soothe pain, quiet spasmodic action, give rest to the part, and build up the constitution. Should there be a detached fragment of necrosed bone, it should be removed. The sinuses should be kept as free as possible, and frequent injections of antiseptic solutions were required. Anchylosis must be guarded against, as in any other condition threatening it. Whatever would give rest and comfort to the affected part, bandages, splints, extension, should be employed; but it was to be constantly borne in mind that behind the swollen, or open and discharging joint, there was the patient, emaciated, weak, weary and nervous, who was to be unceasingly watched and sustained.

While the disease was peculiar to childhood, as a rule, there were exceptions, and Dr. Read then went on to describe a case which had been under his charge for several months, in which the patient was sixty-two years of age. He had always enjoyed good health up to the autumn of 1882, when the left shoulder-joint became affected. There was afterwards prolonged suppuration, with open abscesses, which subsequently healed, and in the winter of 1884 both ankles became affected, though without suppuration, and his general health was much impaired. In the winter of 1885, abscesses formed in both and there was a discharge of pus and blood. In the summer of 1885, an abscess formed on the great toe which discharged for some weeks. The right ankle healed in about six months, with the exception of two small openings, through which there is up to the present time occasionally a discharge of thin purulent fluid. The left ankle is still open and discharging pus, although not very freely. In the autumn of 1886, the knee began to swell and become painful, so that he could not walk. Up to this time he had been able to attend to his business daily, with but few interruptions.

In February last, Dr. Read was asked to take charge of the case, and he described in detail the conditions existing at that time. Up to this date the patient had been sitting up every day, but Dr. Read insisted on his going to bed and remaining there. Absolute rest was secured for the affected joints, gentle pressure was made by means of a woollen roller, and the opening in the ankle dressed with iodoform and a covering of oakum. Stimulants and the most nutri-

tious diet was resorted to, but the patient was unable to take cod liver oil. Under this treatment there has been very marked improvement in the constitutional condition and the local symptoms.

DR. LAURENCE J. McNAMARA read a paper on

RESPIRATORY THERAPEUTICS IN THE TREATMENT OF PHTHISIS PULMONALIS.

He would limit his remarks, he said, to one division of the subject, namely, the local treatment of phthisis by medicinal agents applied to the interior of the respiratory tract in finely divided particles. He did not propose to discuss the constitutional remedies supposed to act locally by elimination, or the treatment of pulmonary disease by the use of means to increase or diminish the air pressure, either in the air respired, or on the body surface.

The contention of different theorists, he went on to say, as to whether pulmonary phthisis was of a primary tuberculous nature, or whether the tuberculous element was of secondary importance, had kept alive the spirit of scientific research, even though the death-rate did not visibly diminish. To the followers of Laennec, however, the praise of success was due. The fierce antagonism that met his statement of the primary nature of the tuberculous element was the beginning of many experiments by late observers; and it was the sincere belief of the author that to his final insistence on the tuberculous nature of this disease the discovery of its specific nature was to be ascribed. The brilliant discovery of Koch in successfully isolating by his peculiar method of staining the bacillus tuberculosis seemed to him but the logical conclusion of such reasoning.

The importance of the bacillus and the infectious nature of the disease admitted, the necessity of using means to retard the further development of the organism, or of destroying it, and the placing of the exposed person in an atmosphere devoid of its presence, at once became apparent. The acceptance of this idea of infection by the profession in general, would be the dawning of a new day in the treatment of consumption. The possibilities of relief and cure became bright with the expectation of success, and the idea of prophylaxis assumed prominence. The changing of an infectious pulmonary discharge to one devoid of dangerous elements was the logical sequence of putting the theory into practice. He did not, however, wish it to be understood that he considered the antiseptic treatment of phthisis the only form of treatment worthy of application to the diseased lung. He believed that it was at present a necessary and most important means of modifying the course of the disease; but the physical conditions caused by the extension of the inflammatory irritant would call, of course, for other methods of treatment.

The number of mechanical appliances devised and in use, to reduce fluid of a medicinal nature to the finest spray, during the last few years, had been very great; but the majority of these were, unfortunately, of no use. That we could, however, produce a spray of sufficient fineness to pass the larynx and penetrate beyond the larger bronchi could not be denied. The use of compressed air and the employment of tubes with very minute openings had been of late years generally used by those interested in this branch of therapeutics. About four years ago Dr. McNamara said his attention was attracted to an in-

halation apparatus consisting of a funnel-shaped glass globe with two openings; one for the attachment of the metallic disc holding in its centre the spray-tubes, and the other, immediately opposite, terminating in a long mouth-piece. The fluid to be atomized was placed in the globe, and a tube of rubber connected the fluid with one of the spray-tips; while the other tip had a connection with a cylinder of compressed air. The globe rested on a bracket capable of being raised or lowered as required. The patient, standing with head elevated, placed the mouth-piece in his mouth and inspired; allowing the expired air to escape through the nostrils.

His first impression was that this apparatus was of similar nature to many others tried before and found wanting, but experience in its use had convinced him of its practical utility. The spray produced in the globe consisted of a central stream of very great attenuation, the larger particles of the atomized fluid being projected against the sloping sides of the globe, beyond the opening. These larger particles becoming condensed, fell as drops into the original solution, and did not escape through the opening. The mist that passed through the mouth-piece had no such momentum as to cause its entire condensation, and would not wet the hand when held before it. Ordinary inspiratory efforts would carry the spray into the lower respiratory passages. The compressed air he obtained from a large cylinder, allowing it to escape into a smaller one before reaching the spray-tubes, and, by this method, keeping the valves partly opened, he obtained constant, steady pressure in the smaller cylinder, and consequently, the same character of spray. The pressure used varied from fifteen to twenty pounds, and never exceeded this limit. He has been using this apparatus for nearly eighteen months.

When he began this form of treatment, it was with the idea that he could relieve, in many instances, many of the distressing symptoms in his phthisical patients; but, noticing the marked amelioration of the condition in the majority of instances, he determined, some months ago, to keep more exact records of temperature, pulse, respiration, and expectoration, noting especially the presence or absence of the bacilli, and the effect of the treatment upon them. The whole number of cases treated was between fifty and sixty, but as nearly one-half used the treatment but a few times, and at irregular periods, they were excluded from the account. The cases worthy of mention embraced almost all the forms of phthisis, except the stage of excavation, and the patients remained under treatment from one week to nearly eight.

Under this method of treatment, the cough and expectoration diminished, and in those treated the longest, the cough quite disappeared. The bacillus was found in every one of these cases, and was always present, even to the termination of the treatment, with the exception of one instance, although the number of bacilli was visibly diminished. When the treatment was discontinued, however, the symptoms had in most cases disappeared. One illustrative case Dr. McNamara described in detail. Having described the physical signs, and stated that the temperature varied between 98.8° and 101°, he said that the sputum contained bacilli. He placed the patient, who was a female, twenty-three years of age, on iron, quinine, and strychnine, and gave her daily inhalations of the following solution:

R Sodii bicarb :
Sodii bicorat : aa ʒj.
Acid. carbolic : gtt. xx.
Glycerinæ : f ʒj.
Listerine : f ʒij.
Aque destillat : f ʒxvj.

M.

When this treatment had been continued for nearly two weeks, the expectoration was found to have increased, but its purulent character had changed to one more mucoid. The small, white specks, used to determine the presence of the bacillus, became less numerous in the sputum, though still present. The severity of the cough was lessened, and the general health had begun to improve. He then placed her upon an inhalation of the dark extract of *pinus canadensis*, Lugol's solution (one to five drops to the drachm), carbolic acid, and distilled water. She remained under treatment regularly for almost three weeks longer, and then refused to continue the daily treatment, although consenting to come to the office two or three times a week.

When she abandoned the daily inhalations, he examined the slight discharge raised during the day (about three ounces), and, notwithstanding repeated examinations, he failed to find any evidence of the presence of the tubercle bacilli. About three months afterwards, he again examined the sputum for bacilli, and found none. The other cases were subjected to the same rigid tests, and bacilli were found in every one of them, even when the distressing symptoms had disappeared.

Dr. McNamara said, in conclusion, that there was no claim on his part to any originality in the method of treatment described. He again called attention to the fact that, although the cases were relieved of their symptoms, and the evidence in many instances pointed to a cure of the process, the scanty expectoration still contained bacilli, except in the case of the young woman referred to. In her case the vesicular murmur returned, and the râles disappeared, and, in addition, the bacillus also disappeared. On account of the difficulties attending the systematic use of such a method of treatment in private practice, he thought that it should be carried out in some special institute, where it could be combined with the pneumatic method, when the physical condition of the patient called for the employment of the latter.

DR. E. G. JANEWAY said that it was difficult, in the first place, to carry out any plan of antiseptic treatment that would fully reach the affected parts, and difficult, in the second place, to appreciate the amount of disease present in many instances. By inhalation methods, we might be able to benefit a certain proportion of cases, but the conditions present were often such that the application would be carried to the sound tissues of the lung, rather than to the affected parts. It was well known how much difficulty there was in favorably affecting a case of tuberculosis when the parts involved could be readily reached, as, for instance, in tuberculous ulcers of the mouth, gums, tongue, or leg, and the difficulty must necessarily be much greater when the diseased part was as inaccessible as the lung. He thought inhalations might act favorably, however, in arresting the process by affecting the neighboring sound tissue. Again, it was a fact that in cases of chronic phthisis, attacks of capillary bronchitis and broncho-pneumonia sometimes occur, making them appear like acute tuberculosis, and, under these circumstances, the violent symptoms

usually subsided in a short time. There were, therefore, many cases in which one might be led to suppose that the tuberculous process was much more advanced in the lungs than was usually the case, and he believed that some of the cases reported as being so much benefited by the Bergeon treatment were of this character.

DR. H. M. BIGGS said that such applications as those referred to in the paper no doubt had a soothing effect upon the mucous membrane. They had no effect upon the bacilli, however, even when applied directly to them, and if we did use solutions which were strong enough to destroy them, we would produce an amount of irritation which could not be borne by the patient. Inhalations in the form of spray were unquestionably useful in aiding expectoration and the resolving of the products of inflammation, as well as for their disinfectant action in the upper air-passages; but, as a rule, he thought our main reliance in the treatment of phthisis at the present time must be placed on constitutional measures, including the selection of a suitable climate, wherever this was practicable.

In closing the discussion, DR. McNAMARA said that he had not claimed that the inhalations would kill these germs. As a matter of experience, however, he had found that many of his patients improved so greatly under their use that all symptoms disappeared, although, as he had stated in the paper, the bacilli, with the exception of but a single case, persisted after the symptoms were gone.

PENNSYLVANIA STATE MEDICAL SOCIETY.

A VERY interesting meeting, the thirty-eighth annual session, of the Medical Society of the State of Pennsylvania has just been held at Bedford Springs, a health resort whose reputation was great in former days, and whose healing waters still preserve their virtue. Dr. S. H. Gump, of Bedford, was the Chairman of the Committee of Arrangements, and delivered an eloquent address of welcome on the morning of the first day, June 29th. The Committee on the organization of a State Board of Medical Examiners, reported that the bill which had been so carefully framed by the Committee to establish such a board, had failed to pass the Legislature. A resolution was submitted, requesting each County Society to consider the subject of a State Examining Board and to appoint a special committee to co-operate with the committee of the State Society. The resolution was adopted.

"The Address in Surgery" was read by Dr. J. S. Murdoch, of Pittsburgh, who considered the recent advances in surgery, especially connected with the adoption of the antiseptic method of dressing wounds. He devoted considerable time to discussing the advantages of the Chopart amputation, and exhibited casts showing admirable results. The "Address in Ophthalmology" was delivered by Dr. Charles S. Turnbull, of Philadelphia. "A Report on Hydrophobia in 1886" was read by Dr. Charles W. Dulles, in which the uncertainty of the pathology was insisted upon, as well as the unsatisfactory character of the testimony which had been urged in favor of the so-called Pasteur treatment.

Dr. John V. Shoemaker described a method of treatment of diseases of the skin by medicated plasters, a number of useful combinations were exhibited. A

banquet given by the Bedford County Medical Society very pleasantly terminated the first day's proceedings.

On the second day, the first scientific paper read was the "Address in Medicine," by Dr. Frank Woodbury, of Philadelphia. He claimed that more exact conceptions of disease, based upon observation, both *intra-vitam*, and *post-mortem*, distinguish the medicine of to-day, and necessarily are working a revolution in therapeutics. Sutton's investigations into the genesis of the bacillus tuberculosis, apparently prove that it has been evolved from some harmless form by passing repeatedly through the intestinal canal of grain-eating fowls, thus acquiring the habit of growth at an elevated temperature. The probability of the bacilli, of cholera, dysentery, or typhoid fever, having their origin in this, or a similar manner, was referred to. Since some bacilli excrete poisonous chemical compounds (ptomaines), it was believed that immunity from future attacks is purchased by a sort of acclimatization, the system becoming accustomed to them just as it sometimes does in the case of morphine, alcohol, or tobacco. It was suggested that immunity from contagious disease might be attained by chemical agents, that is, quinine or arsenic prevents malarial infection; sulphuric acid or alcohol protects from cholera, etc. This is preferable to inoculation because more under control. Vital resistance can also be increased by gymnastics, and by massage. The employment of the blind in the practice of massage, as in Japan, was urged for adoption in this country, in order to popularize this useful method. Since artificial alimentation of infants is a great source of enfeebled vitality, the use of electricity as a stimulant to the mammary gland after parturition, was recommended. Even the breasts of virgins might be made to functionate and be utilized in this way, as suggested by Pierron. Thus an unlimited supply of wet-nurses could be obtained, with a reduction in the demand for baby-foods, and a corresponding falling off in infant mortality.

Dr. Traill Greene, of Easton, read a brief communication on "Palatable Therapeutics," in which he contrasted modern medical practice with that of the days of crude drugs. He claimed that it is unnecessary to administer a medicine in a form that will be unacceptable to the most fastidious palate, and denounced the practice of giving nauseating or unpleasant remedies.

Dr. George Stubbs, of Philadelphia, read a communication favoring the use of "Iodoform in Surgery," and Dr. Wm. F. Waugh condemned "the New Methods of the Treatment of Phthisis," by rectal enemata of gas, and defended the old methods. In the afternoon, Dr. S. Wolfe, of Skippack, Pa., read the "Address in Obstetrics," principally discussing the use of antiseptics during and after labor. Dr. John H. Packard read the "Report of a Case of Right Inguinal Colotomy," for strictures of the rectum and descending colon, with very satisfactory results. Dr. Wm. C. Bane reported two cases of Nystagmus, one with myopic astigmatism, the other hypermetropic astigmatism. Both were relieved at once by appropriate glasses. Dr. S. S. Cohen considered modern methods in the Treatment of Pulmonary Consumption. "The Salient Points in the treatment of Pulmonary Consumption" was read by Dr. J. T. Mays, of Philadelphia, and Dr. Edward Jackson followed with a paper on "When and How to Use Mydriatics in the Eye."

A number of interesting topics were suggested in the papers that were read only by title.

Dr. R. Davis, of Wilkes-Barre, President of the Society, read a very interesting annual address defending the profession from the charge of therapeutic nihilism, and reciting some triumphs of modern medicine.

The third day was opened with the "Address in Hygiene," by Dr. J. D. Thomas, of Pittsburgh, which elicited considerable discussion on sewerage, and the best means of utilizing or destroying human excrement and sewage.

At the business session the sum of \$1,000 was appropriated for a contribution to the International Medical Congress, and about \$200 was added by individual subscriptions. Five hundred dollars was appropriated towards the erection of a monument to Dr. Rush at Washington, D. C. R. J. Levis, M.D., of Philadelphia, was elected President for the ensuing year, O. N. Allis, M.D., Treasurer; Wm. B. Atkinson, M.D., Secretary; John H. Packard, M.D., Chairman of Committee of Arrangements. Dr. E. R. Sayer was appointed to deliver the Address in Medicine; J. S. McCann, M.D., the Address in Surgery; Theophilus Parvin, M.D., Obstetrics; H. C. Wood, M.D., Nervous Diseases; J. Randall, M.D., Ophthalmology. The next place of meeting will be Philadelphia, time the second Tuesday in June, 1888, the Society to continue in session for four days.

Recent Literature.

Transactions of the Eighth Annual Meeting of the American Laryngological Association. New York: D. APPLETON & Co. 1887.

This volume contains the papers read at the annual meeting of this active and flourishing association, held in Philadelphia, in May, 1886. There are twenty-five papers in all, of scientific or practical value, and they cover nearly the whole domain of the upper-air tract. The volume is well printed and neatly bound. It reflects credit upon the publishers, and upon the literary skill of the Secretary of the Association.

A Treatise on Diphtheria Historically and Practically considered, including Croup, Tracheotomy and Intubation. By A. SANNÉ, Docteur en Médecine, etc., Paris. Translated, Annotated, and the Surgical Anatomy added. Illustrated. By Henry Z. Gill, A.M., M.D., LL.D., Late Professor of Operative and Clinical Surgery in the Medical Department of the University of Wooster, at Cleveland, Ohio. St. Louis, Mo.: J. H. Chambers & Co. 1887.

The scope of this work is sufficiently clear from its title. It is a thick volume of 656 pages, and leaves but little unsaid on the subject of diphtheria. The tables giving the mortality from croup and diphtheria in different countries, will prove very valuable. This work will be of use as a book of reference.

Elements of Botany, including Organography, Vegetable Histology, Vegetable Physiology, and Vegetable Taxonomy, and a Glossary of Botanical Terms. By EDSON S. BASTIN. Chicago: G. P. Engelhardt & Co. 8vo. pp. 282. Figures, 459.

The number of text-books on botany published in this country has become so large, that one wonders who buy them. Practically, they are all much alike

in quality, but vary considerably in quantity. The present work is well printed, and, in general, well illustrated, and the author has included nearly all subjects of general botanical interest, which he has reduced to a convenient book-form. The parts which treat of organography, histology, and physiology are good presentations of the subject, well written, easy to read, and more accurate in statement than is generally the case in text-books covering so wide a field. A defect in the book is that the author has attempted to cover too wide a field in too few pages. This is seen in that part of the book relating to the classification of plants, which includes only about fifty pages, and is not so well illustrated as the rest of the book. It seems to us that the reader would hardly get a clear impression of the different divisions of the vegetable kingdom from the condensed account here given, and it would have been better to omit this part of the work, unless the subject could have been treated more *in extenso*. The yeast-plant and its allies may be classed under *protophytes*, but they certainly do not belong to the *schizomycetes*. The statements about the locomotion of *desmids* and *diatoms* are likely to mislead the reader, and the accounts of *myxomycetes* and *ascomycetes* could not be understood by those who are not already well read in the subject. In short, the present "Elements," if we except the part on classification, afford a good text-book for persons who have advanced beyond the stage of beginners.

The introduction of practical exercises at the end of some of the chapters, as is the custom of a good many writers of text-books at the present day, does not seem to us to be worthy of commendation. In the present work, the practical exercises come nearer to being practical than in some works which might be named, but, even here, the practical is not always to be distinguished from what, on the one hand, is so simple as to be superfluous, or, on the other hand, is too complicated to be undertaken without an instructor.

Outlines of the Pathology and Treatment of Syphilis and Allied Venereal Diseases. By HERMANN VON TEISEL, M.D., and MAXIMILIAN VON TEISEL, M. D., translated by H. RAPHAEL, M.D. New York: D. Appleton & Co. 1886.

This is a translation of the well-known work of the Teisels, father and son, upon syphilis, in which the chapters upon syphilitic affections of the eye and of the larynx and trachea are contributed by Professors Mauthner and Schrötter respectively. The book is a valuable one, being the outcome of a large and well used experience, although the views of the author upon the treatment of syphilis differ from those generally accepted, in advocating the so-called expectant method and in the administration of iodine, rather than of mercury, in the earlier stages of the disease, the latter drug being used only when the manifestations persist for a longer period than four months after the first appearance of general symptoms. In case, however, the symptoms become urgent or dangerous at any time, the authors advise the immediate use of mercury, preferably by inunction, fully recognizing the power of this drug to modify and check the progress of the disease. This so called expectant method of treatment is regarded by the authors as the one which yields ultimately the best and most permanent results. It represents one of the extremes in the different opinions with regard to the proper treatment of

syphilis, and is much preferable to its opposite, namely, the precipitate administration of mercury upon the appearance of what is supposed to be an initial lesion or primary sore, a proceeding which should be mentioned only to be condemned. The portions of the work most open to criticism are those in which the complications and sequelæ of gonorrhœa are considered, the chapter upon stricture of the urethra being notably inadequate. The use, also, of such terms as syphilitic æne, syphilitic varicella, etc., is to be deprecated as misleading and improper. The work of the translator is well done and the notes inserted by him are judicious and to the point.

G. H. T.

Ligaments, their Nature and Morphology. By JOHN BLAND SUTTON, F.R.C.S. Philadelphia: P. Blakiston, Son & Co. 1887.

This little book, of about one hundred pages, is very interesting, both as a study in anatomy, and as a contribution to evolutionary literature. The author has recently published several papers on the nature of ligaments in the *Journal of Anatomy and Physiology*, and this treatise is a general discussion of the nature of ligaments and fasciæ. It is well known that in different animals we find that the place of what is a ligament in one may be taken by a muscle in another, or that, on the other hand, it may be represented by bone. We know also, that the origin and insertion of muscles, but particularly the former, are apt to vary in different orders. We know also that in the human fetus we find temporary conditions that correspond to those of the adult in lower animals. It is evident that a knowledge of these facts gives a new interest to dry details of structure. Mr. Sutton brings to the study a good knowledge of comparative anatomy, and has written an interesting and valuable book. One of the most remarkable discussions is that of the significance of the round ligament of the hip-joint. He considers it the separated tendon of the *pectineus*, which is the homologue of the *ambiens* in birds. Now in the remarkable lizard *spenodon* the tendon of the *ambiens* passes inside the capsule to the head of the femur. In the ostrich the ligament and muscle are continuous. In the horse the ligaments are in two parts, one of which is continuous with the pectineus outside the joint. We have chosen this as a specimen, for it shows alike the learning and ingenuity of the author, and, as it seems to us, the unsatisfactory nature of the explanation. Is the horse nearer to a common ancestor of birds and reptiles than any other mammal? There is much written of degeneration of tissue and of migration of muscles, as if it were possible to trace the steps of these processes. Here and there, to be sure, we see an approach to a demonstration, but demonstrations founded only on special parts of the body are misleading. Here is an instance of remarkable reasoning: "Even the central tendon of the diaphragm has arisen from the metamorphosis of its muscular fibres; for in the porpoise there is no trace of a tendon, but it is muscular in structure throughout the whole of its extent." If we mistake not, the diaphragm is wholly muscular in no mammals except the cetacea, which are usually considered an aberrant branch. Why then should the porpoise be cited as evidence when this condition is not found in less divergent forms? We are aware that Prof. Albrecht holds that the promammalia were very like the cetacea, but he has few followers, and there is nothing to indi-

cate that Mr. Sutton is one of them. If he were, his position would, in this instance, be more logical. While, therefore, we dissent in many instances from Mr. Sutton's arguments, we wish to recommend highly his work, with this reservation. The interest of the intelligent student is roused by such studies, and he obtains a broader view of human anatomy.

T. D.

A System of Practical Medicine by American Authors.

Edited by WM. PEPPER, M.D., LL.D. Volume V. Diseases of the Nervous System. 8vo. pp. 1326. Philadelphia: Lea Brothers & Co. 1886.

This huge volume forms a fitting close to the great system of medicine which in so short a time has won so high a position in medical literature, and has done such credit to the profession in this country. Among the twenty-three contributors are the names of the leading neurologists in America, and most of the work in the volume is of the highest value. In a very few instances, of course, the articles are mere compilations, but the great majority are filled with the results of personal investigation, as well as of wide reading, and form a most valuable addition to our knowledge.

In common with the preceding volumes, certain great defects of method must be condemned. The first is the utter lack of system employed in the arrangement of the articles, due largely, we suppose, to the wretched classification of diseases adopted. This want of system, moreover, may be the reason for the many omissions we have noted. At any rate the editors have omitted to include any articles on poliomyelitis of adults, progressive ophthalmoplegia, tetany, the acute diseases of the medulla, or the various forms of peripheral spasm and paralysis. A still greater defect, which has injured previous volumes also, is the utter lack of proportion shown in the space assigned to the different articles. Hysteria and its allied conditions occupy a hundred and fifty pages, while the entire subject of mental diseases gets a little over a hundred, and the disorders of speech have less space than facial hemiatrophy.

We regret that we have not space to speak of the individual articles as they deserve. The following is a list of the contributors and their articles:

Dr. E. C. Seguin, "General Semeiology of Diseases of the Nervous System: Data of Diagnosis;" "The Localization of Lesions in the Nervous System." Dr. C. F. Folsom, "Mental Diseases." Dr. C. K. Mills, "Hysteria;" "Hystero-Epilepsy;" "Catalepsy;" "Ecstasy." Dr. H. C. Wood, "Neurasthenia." Dr. H. M. Lyman, "Sleep and its Disorders." Dr. H. C. Wood, "Acute Affections produced by Exposure to Heat." Dr. Wharton Sinkler, "Headache." Dr. S. Weir Mitchell, "Vertigo." Dr. Wharton Sinkler, "Tremor;" "Paralysis Agitans;" "Chorea;" "Athetosis." Dr. A. McL. Hamilton, "Local Convulsive Disorders;" "Epilepsy." Dr. M. J. Lewis, "The Neural Disorders of Writers and Artisans." Dr. P. S. Conner, "Tetanus." Dr. E. P. Davis, "Disorders of Speech." Dr. James C. Wilson, "Alcoholism;" "The Opium Habit and Kindred Affections;" "Chronic Lead-Poisoning." Dr. C. K. Mills, "Progressive Unilateral Facial Atrophy." Dr. Francis Minot, "Diseases of the Membranes of the Brain and Spinal Cord;" "Tubercular Meningitis;" "Chronic Hydrocephalus;" "Congestion, Inflammation, and Hemorrhage of the Membranes of the Spinal Cord." Dr. John Ashhurst, Jr., "Spina Bifida." Dr.

E. C. Spitzka, "Anæmia and Hyperæmia of the Brain and Spinal Cord"; "The Chronic Inflammatory and Degenerative Affections of the Spinal Cord." Dr. Wm. Hunt, "Concussion of the Brain and Spinal Cord." Dr. R. T. Edes, "Intracranial Hæmorrhage and Occlusion of the Cerebral Vessels, Apoplexy, Softening of the Brain, Cerebral Paralysis." Dr. H. D. Schmidt, "Atrophy and Hypertrophy of the Brain." Dr. H. C. Wood, "Syphilitic Affections of the Nerve-centres." Dr. C. K. Mills and Dr. J. H. Lloyd, "Tumors of the Brain and its Envelopes"; "Tumors of the Spinal Cord and its Envelopes." Dr. Mary Putnam Jacobi, "Infantile Spinal Paralysis." Dr. H. D. Schmidt, "Disease of One Lateral Half of the Spinal Cord"; "Progressive Labio-glosso-laryngeal Paralysis." Dr. F. T. Miles, "Diseases of the Peripheral Nerves." Dr. J. J. Putnam, "Neuralgia." Dr. M. Allen Starr, "Vaso-motor and Trophic Neuroses."

Elements of Physiological Psychology. By GEORGE T. LADD, Professor of Physiology in Yale University. 8vo. pp. xi, 696. 114 illustrations. New York: Charles Scribner's Sons. 1887.

The new Physiological Psychology may fairly be said to have taken as one of its fundamental theses, with the change of a single word, Moleschott's once ridiculed dictum, "*Kein Gedanke ohne Phosphor*." One of its assertions to-day, accepted by many of its students, is "*Kein Gedanke ohne Hirnsubstanz*." Prof. Ladd is the first, we believe, who has attempted to present to the English reader a complete review of the entire subject. In the present work he has followed Wundt, whose "*Grundzüge der physiologischen Psychologie*," has been his guide. Beside Wundt, however, he has been a firm disciple of Lotze.

Such a study of "the effort to approach the phenomena of mind from the experimental and physiological point of view" is, of course, of the utmost interest, and we began the perusal of Prof. Ladd's volume with the highest anticipations. He decries all declamation, and aims to set forth "the assured or alleged results of Physiological Psychology," reserving to himself the right to accept only the results that are assured. Prof. Ladd has also brought to his task a thorough knowledge of nervous physiology, and has prepared himself for his work by a careful and exhaustive examination of the literature of the subject. Nevertheless, we must admit that we closed the volume with a feeling of disappointment. Psychology is not a branch of knowledge that admits of mathematical demonstration, and upon many of the problems of mind, mankind will probably never agree, yet since the phenomena of mind have been approached from the new basis, much has certainly been added to our knowledge. Since the self-contemplation of the metaphysicians has been discarded, and since to the study of the workings of our own consciousness the data afforded by the anatomy and physiology, the development and the pathology of the nervous system have been added, we have been enabled not only to explain on an intelligible basis the simpler actions of the mind, but to resolve the higher actions into their component parts, so as to afford us some idea, vague and fragmentary though it may be, of the processes that are involved in the workings of the mind.

With this new psychology, Prof. Ladd is at variance. He divides his book into three parts; the first

dealing with the nervous mechanism, the second with the correlations of the nervous mechanism and the mind, and the third with the nature of the mind. His discussion of the physiology of the nervous system and of the quality of sensation is in every way admirable, and so far he follows the teachings of the modern psychology. At this point, however, he branches off. With some of the modern German philosophers he "has gone back to Kant," in denying the empirical basis of our ideas of time and space, and in claiming that they "can never be regarded otherwise than as due to the constructive and synthetic action of the mind." Feeling is not a form of sensation, but "an original and undervived form of consciousness, or mode of the operation of the conscious mind." In regard to consciousness itself, he asks whether its phenomena "require the assumption of one real and non-material being as the subject and ground of them all," and answers his question in the affirmative. "The subject of all the states of consciousness is a real unit being, called mind; which is of non-material nature, and acts and develops according to laws of its own, but is specially correlated with certain material molecules and masses forming the substance of the brain."

Such an assumption at once leads to difficulties. To any one trained in modern science, with the conservation of energy as one of its main tenets, the belief in a non-material something which can act on a material substance is untenable, and yet Prof. Ladd's further statements directly assert that this non-material mind acts on the material brain. "No sensations will arise in the mind unless the brain be affected in a certain way," although "all sensations are modes of the behavior of a being that is non-material and a unit being, and is called mind." The material brain and the non-material mind are mutually dependent in their modes of behavior, yet their connection is not to be found, and the difficulty which arises from the want of such a connection is treated as of no consequence. Yet it is "impossible to avoid speaking of the connection of brain and mind in terms of causation." "The assumption that the mind is a real being, which can be acted upon by the brain, and which can act on the body through the brain, is the only one compatible with all the facts of experience."

Prof. Ladd will admit the teachings of the new psychology only so far as they are thoroughly well-established. He fails to take into his calculations the data afforded by a study of the development and pathology of the mind, and, when asked to push his reasoning further, to resolve the complex processes of mind into their component parts, and to try to explain the unknown in terms of the known, he exclaims that "the theory, standing on a slender basis of real fact, makes a leap into the dark which carries it centuries in advance of where the light of modern research is now clearly shining." He therefore makes a still greater leap which lands him in a metaphysical bog where real fact is altogether lost sight of, and thence he sinks to a concluding chapter of quibbling on the old subject of the idealism of Berkeley that would do credit to the schoolmen.

The high anticipations with which we began the book were not realized, for we closed it with weariness at the incomplete reasoning, the neglect of analysis of the higher mental phenomena, the repeated beggings of the question, and the final descent into the verbal hair-splittings of the metaphysicians.

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KÖLLIKER'S ADDRESS BEFORE THE GERMAN ANATOMICAL SOCIETY.

WITHIN a year the anatomists of Germany have formed a Society which promises to be an important one. Nearly two hundred members are enrolled, representing many countries, France, Italy, England, Russia and the United States, and we believe others. The first meeting was held at Leipzig on April 14th and 15th. There were many interesting and valuable papers; but the great event of the meeting was the address by the President, Prof. Kölliker, the full text of which has been but recently received. There are probably not many men fitted to speak on anatomy with so much authority and able to take so comprehensive a view of the wide field which includes coarse and minute anatomy, comparative as well as human, anthropology, evolution, or at least a part of it, and the wonderful minute changes in the nuclei of cells. Prof. Kölliker began by speaking of the scattering of anatomical literature through many journals in many languages. The confusion, which is already great, threatens to become greater. He suggests that authors should write for strictly anatomical journals and should write either in German, English, French or Italian.

After this introduction, the speaker took up the theory of descent and treated his audience to a scholarly, dispassionate discussion of the subject viewed from an anatomical standpoint, saying but very little that had any bearing on psychology. The discussion is not, therefore, a complete one, in the widest sense, but as giving the views of a distinguished anatomist on anatomy, one of great weight. He began by calling attention to the fact that apart from numberless shades of individual opinions there are two great schools of evolutionists. The first, and from their noisy assertions one would think the only one in England and America, is that which believes in gradual changes from external causes and clings to the belief that acquired peculiarities can be inherited. The other school, to which Kölliker himself belongs, believes in

sudden changes from internal causes. The gulf between these two views is so great that it can hardly be bridged over. Kölliker, though evidently firm in his convictions, admits that no one can foretell the result, and that as yet neither theory is established. His whole tone is in most refreshing contrast to that of the followers of Haeckel, who with what some must regard as extreme dogmatism insist on their theories being accepted as beyond question. The great difficulty in Darwinism proper of accounting for the want of intermediate types, disappears if sudden changes are admitted. Kölliker replies to Weismann's criticism that the sudden change theory in no way accounts for the fitness of animals for their environment, by pointing out that animals like the butterfly and the frog, which change rapidly from very different forms, are none the less well adapted to their surroundings. His own words are worth quoting: "The hypothesis of a development, from internal causes, of organisms which progress with greater or smaller leaps in a definite direction upward is indeed not proved. It rests, however, on a series of undoubted facts, as on the ontogenesis of the higher organisms which run with a set of leaps through lower forms, as is shown most clearly in the cases of metamorphosis, and which therefore brings more in support of what occurs than Darwin's theory which has as yet in no single instance furnished a probable explanation of great changes."

This discussion naturally led to that of heredity, of the transmission of acquired peculiarities and as to what is meant by an internal cause, as opposed to external ones. Kölliker rejects the commonly received opinion that acquired peculiarities are inherited and is opposed in this matter to no less a man than Virchow. Now the question arises what is meant by "acquired?" If we say that it implies an external cause we seem to have a pretty fair definition, but Virchow considers the action of the spermatozoon on the ovum as an external cause.

Kölliker disputes this and puts his points strongly. The earliest beginning of the embryo contains the male as well as the female element. The action of one might be called an external cause as well as that of the other. The child inherits from the father as well as from the mother. He concludes, however, that there is no great difference between his views and those of Virchow, provided the latter be willing to call "internal" all causes proceeding from the impregnated ovum. Several other anatomical questions are lightly touched but not dwelt upon, as Kölliker naturally reserved space for histology. He takes up, to tear to pieces, Heitzmann's theory that bodies do not consist of separate elements but are conglomerate multinuclear masses of which the elements join one another. This has been advanced as destroying Schwann's cell doctrine, but according to Kölliker what is true in it is not new and what is new does not bear examination. Space does not allow us to consider this point at length, nor more than to mention that the next topic was the structure of the cell and

the process of division. At length the speaker came to anthropology, and he expressed himself as quite agreed with Virchow that the "missing link" is not likely to be found, and further that the relations of the various human families to one another are by no means settled. Kölliker points out that after all, those who take his view of evolution, namely, that of sudden changes, have no "missing link" to search for. We were surprised to find that Kölliker thinks that the human race need not have had a common ancestor but that different portions may have appeared independently. This seems to us a departure from the caution that is characteristic of the address as a whole. Even if an analogy could be established, as some believe, in the origin of important organs, it gives no warrant for such a generalization.

The address is an important one, for it shows the state of many questions, at least the anatomical side of them, with great clearness, which is of no small value in the confusion that results from vague discussions and bitter partisanship.

REPORT OF THE ENGLISH COMMITTEE OF INQUIRY INTO PASTEUR'S TREATMENT OF HYDROPHOBIA.

IN April, 1886, a committee was appointed by the President of the Local Government Board (England), to inquire into Pasteur's treatment of hydrophobia. The report was recently presented to Parliament, and abstracts of its important features are furnished by the late English medical journals. The report is signed by James Paget (chairman), T. Lauder Brunton, George Fleming, Joseph Lister, Richard Quain, Henry E. Roscoe, J. Burdon Sanderson, and Victor Horsley, secretary; names which will be immediately recognized as making a very strong committee for the purpose for which it was appointed. The conclusions of such a committee, especially if of a positive character, as they are in this instance, should, and undoubtedly will, go far to dispel the doubts which were beginning to find more frequent expression as to the value of the reports of the cases treated at the Pasteur Institute and the reliability and safety of Pasteur's method of preventive inoculation against hydrophobia.

Three members of the committee, besides the secretary, Messrs. Roscoe, Lauder Brunton, and Burdon Sanderson, studied the process and its results in Paris, where the method of treatment was observed. Information was obtained from Pasteur himself, and by his courtesy a personal investigation was made of ninety cases inoculated by him, these being mostly those which had been earliest treated, those in which the periods since inoculation were longest, and those living in or within easy reach of Paris.

Mr. Horsley, the secretary, subsequently made a careful series of experiments as to the effects of the method of inoculations upon the lower animals.

As the final stage of the inquiry the results of the investigation in Paris and of the experiments by Mr. Horsley were submitted to the remaining members of

the committee, Messrs. Paget, Lister, Quain and Fleming, for a critical examination.

Mr. Horsley's experiments were regarded as entirely confirming M. Pasteur's discovery of a method by which healthy animals may be protected from the infection of rabies, a method of protection comparable with that which vaccination affords against infection from small-pox. The duration of the immunity conferred by this inoculation is not yet determined, but during the two years that have passed since it was first proved, there have been no indications of its being limited. The importance of this discovery, whether for its practical utility or for its application in general pathology, the committee considers that it would be impossible to overestimate.

The committee also thinks it certain that the inoculations practised by Pasteur have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease, and furthermore, his discovery shows that it may become possible to arrest, by inoculation, even after infection, other diseases besides hydrophobia. Up to the end of 1886, of two hundred and thirty-three persons bitten by animals in which rabies was *proved*, and subsequently inoculated, only four died, whereas ordinarily without inoculation, forty should have died. Between the end of last December and the end of March, Pasteur inoculated five hundred and nine persons bitten by animals *proved* to have been rabid; of these only two have died, one of whom, bitten by a wolf a month before inoculation, died after only three days treatment.

As another result Pasteur's researches have supplied a sure means of determining whether an animal which has died under suspicion of rabies was really affected with that disease or not.

In regard to the dangers from inoculation the committee concluded that there is no evidence or probability of any danger to health at all, from the first or usual method, but after the *intensive* method, which has been practised only in the most urgent cases and has since its first trial been modified, deaths have occurred which might possibly be attributed to the inoculation rather than to the original infection.

From the consideration of Pasteur's work in the past, the committee passes on to the question whether rabies or hydrophobia can be prevented in the future in England, and the committee evidently believes in the desirability of establishing a Pasteur Institute in England, though a regard to official usages apparently forbade its making such a recommendation in formal terms.

An appendix is added to the report, containing (1) an abstract report of Mr. Horsley's experiments; (2) a report on persons in France examined by members of the committee with a list of English persons treated at the Pasteur Institute from January, 1886, to January, 1887; (3) an account of Pasteur's methods of preventive inoculation. The whole forms undoubtedly the strongest and most convincing endorsement which

Pasteur's methods and results have yet received, an endorsement which, in the absence of fuller details emanating from him, was much needed.

THE TEACHING OF TEMPERANCE BY MANIKINS.

IN an age when the gravest forms of epilepsy are cured by tenotomy of a rectus oculi muscle; when insanity, hysteria, and neuralgia are remedied by hypnotic passes, and patients with anæsthesia, monoplegia and paraplegia are restored by plates of gold, copper, and even india rubber, it is not surprising that short and easy methods of inculcating habits of virtue, sobriety and temperance should have occurred to certain clever men of genius whose supreme *end* (to put the matter in a right shape), is the promotion of morals, whose *means* is the making of a little money.

Our State legislators have wisely decreed that the youngest as well as the oldest of the pupils in the public schools shall be taught the physiological and pathological effects of strong drink and tobacco. Gray headed, wise men in the pedagogic profession shook their heads and said: "the question is one of complexity and difficulty"; but the friendly artist comes to their aid and says: "It is perfectly easy — do you see this picture? This is the stomach of a total abstinence man. How pale it looks! Now just look at this fiery red stomach. This is the effect of one glass of grog. Take two and you will have a stomach like this — see these diphtheritic patches, and this slate-colored appearance. But if you keep on drinking you will have a stomach like this: see these ghastly-looking ulcers! And here is a healthy heart, and here is a *tobacco heart*! See how puckered it looks, and all the blood is squeezed out of it. And here are the tobacco kidneys all bathed in pus!"

No one can doubt that such an object lesson as this will make a deep and lasting impression on the dullest and most obdurate scholar. This is a truly fortunate age in which we live; and when we think of the risks previous generations have encountered, and the temptations to which they have been subjected we can but wonder that they have made any — even a *poor* advancement — without the aids to sobriety and virtue which are now available to the youngest and poorest juvenile pupils of our public schools, owing to the far-seeing prudence and liberality of our school committees.

Who would consent again to tread the slippery paths of youth without the guiding help of a manikin?

MEDICAL NOTES.

— At a meeting of the Hospital Medical Society of Paris, M. Ferrol brought up the case of a patient, aged fifty-six, suffering from cancer of the stomach, in whom the subclavicular glands were infiltrated. This is his fourth case in which he has noted the enlargement of the subclavicular glands in this disease.

— It should not be forgotten that the late Professor Mark Hopkins, one of the foremost thinkers and teachers in philosophy of his generation, was a regularly graduated doctor of medicine. He took his degree in medicine in New York, in 1829, and sought to form a business partnership with an older practitioner in Binghampton, N. Y. Failing in this aim, he was after three months called permanently away from the practice of medicine, by accepting an invitation to the chair of Rhetoric and Moral Philosophy in Williams College, with which institution he remained identified as professor and as president during his long and active life.

— The Paris correspondent of the *Philadelphia Medical Times* says that considerable comment has been made in that city on a phrase in a letter that Billroth, of Vienna, has written in one of the newspapers there. Speaking of Pasteur's work, he said, "Well, we don't blame the French for applauding so much Pasteur's discovery, for not only have they not made any great progress in science these last twenty years, but they are following with difficulty and halting steps the colossal progress of German and English science." To put it mildly, this way of talking by the great Vienna surgeon has caused a great deal of irritation in Paris, says the writer, and Herr Billroth is curtly reminded that he and others are much indebted for their education to such men as the illustrious dead French surgeons were, not to mention the ones now living. They also ask him what sort of a man in neuropathology Germany can present in the last twenty years to compare with Duchenne (of Boulogne), Vulpian, Charcot, etc., or in physiology with Magendie, Flourens, Longuet, Bernard, P. Bert, Brown-Séquard, etc.

— Cholera is reported as very active in Catania, Sicily.

BOSTON.

— Dr. Henry J. Bigelow, our readers will be glad to learn, is rapidly recovering his health after an illness which had lasted some weeks and caused much anxiety to his friends.

— During the past week whilst most of the United States have been suffering from a more than torrid atmosphere, the thermometer in many places rising well above 100° F., and the death-rate in some cities, among the very young and those exposed to the sun, reaching truly epidemic proportions, in eastern New England the temperature has not risen above the eighties, and the air has been fresh and pleasant.

NEW YORK.

— A case of death from an over-dose of chloral was reported last week. The victim had been using the drug for insomnia for about a year, and some six months ago came very near dying from the effects of an unusually large dose.

— Dr. Jared Linsley, one of the most venerable and highly respected physicians of New York, died at the family homestead as Northford, Conn., on July 12.

He was born at this place in 1803, and graduated at Yale College in 1826. He received his medical degree from the College of Physicians and Surgeons, New York, and at the time of his death was one of the trustees of this institution. Dr. Linsley had a large and lucrative practice, and was always noted for his kindness of disposition and many generous benefactions.

—Mr. Martin, of the Columbia College School of Mines, who has been making an examination of some of the ice cream which made a number of persons ill on the Fourth of July, reports that the specimens sent him were too small to furnish unmistakable evidence of tyrotoxin; but his investigations indicate that the cream employed was stale at the time it was used, so that fermentation had begun when the ice cream was made. This was arrested by the process of freezing, but no doubt commenced again in the stomach of those eating the ice cream, and thus gave rise to the sickness.

—On July 9, the summer corps of physicians to visit the tenement districts was organized by the Board of Health. Thirty-seven medical men, being the entire list received from the Civil Service Examining Board as eligible for positions, were appointed, and the number will be increased to fifty as soon as practicable. This extra service, which had been maintained during the heated term for a number of years, and which is now resumed, had to be discontinued last year, it will be remembered, on account of the failure of the authorities to make the requisite appropriation for its support. Special pains will be taken to make the service more efficient than ever during the present season, and Dr. Moreau Morris of the Health Department has been designated to take charge of the work of the corps. Careful instructions will be given the visiting physicians by the President of the Board of Health, Mr. Bayles, by Commissioner Bryant, by Sanitary Superintendent Day, and by Dr. J. B. Taylor. The latter has charge of the department of contagious diseases, and the effort will be made to ferret out and report every case of this kind among the tenement population. The members of the corps have been informed that the policy of the Board of Health will be to give the preference in appointments next year to those who do the best work this summer, and that they will also be preferred over new men in permanent appointments in the department when vacancies occur. The Board of Health has asked the coöperation of the various dispensaries in the city in the work of the corps in furnishing medicines to those too poor to purchase them on the prescription of the physicians belonging to it.

—The large mortality from contagious diseases which has prevailed during the present year has recently been the subject of considerable discussion by the Board of Health, and since the appointment of Dr. Bryant as Health Commissioner, steps have been taken which it is hoped will materially reduce the number of cases and deaths in the future. Up to the

present time only cases of small-pox and typhus fever have been removed to hospital; but it has now been determined, on account of the danger to the public health, to treat in the same manner all cases of diphtheria, scarlet fever, measles, and other contagious diseases which cannot be properly isolated at home. Preparations have already been begun at the Willard Parker Hospital, at the foot of East Sixteenth Street, for the reception of those suffering from such affections, and the attention of the Board of Education has been called to the danger likely to arise from permitting janitors' families to reside in the public school buildings, on account of the possibility of infection in the event of contagious disease occurring among them.

—Dr. Taylor, of the bureau of Contagious Diseases, reports that since January 1st, there has been 1,132 deaths from diphtheria, 663 from measles, and 246 from scarlet fever, and in his opinion the prevalence of these diseases is due in a great measure to the ignorance of the tenement-house population in regard to their dangerous character and their gross carelessness in the matter of the necessary precautions for preventing the spread of such contagious affections. Special care will also be taken that there is no improper exposure of those who die, that well persons are not exposed to contagion at wakes or public funerals, and that clothing, bedding, and premises are promptly and thoroughly disinfected. There are several new pavilions at North Brother Island which it is proposed to set apart for convalescents, and, by thus removing those able to go, sufficient room will be secured for the accommodation of acute cases at the Willard Parker Hospital.

Miscellany.

INJURIES OF BASE BALL PLAYERS.

DR. A. H. P. LEUF, writes a timely article in the *Medical and Surgical Reporter* on the above subject, of which he speaks from personal knowledge both as a physician and as a participant in the game. Among the other injuries spoken of are the subluxations so commonly met with. On this point the author says: "I have a finger on my right hand which presents one of these thickenings. It was derived from five successive injuries received at the same place within one week while I was serving an apprenticeship to the game. It was treated *secundum artem*. The result was bad. Every one of the other nine fingers have been injured since, and some as badly as the specimen mentioned, but to-day they are perfectly normal. They were not treated according to the "best surgical methods," but according to base-ball custom. This consisted in continuing to play, and, whenever opportunity offered, either in the street, in the office, on cars, or upon the field, in firmly grasping the finger at about the middle and rubbing towards the tip. If continued a little while, the swelling, stiffness and soreness diminish and after some weeks are entirely gone."

Compound dislocations, while not common, have been observed by the writer to do well when simply pulled into place and bandaged moderately tight. Playing in each instance was continued the very next day or after a few days rest at most. Primary union was the rule.

In the treatment of base-ball injuries, great stress is laid by the writer on hot water. "Nothing else," he says, "compares with it. Its effects in the relief of pain are almost instantaneous. It is easily applied, and inexpensive. To be effective, the water must be hot as can be borne, and it must be kept so for an hour at a time if possible. The most marked swelling of the hands and severe pain can thus be reduced within twenty minutes. Otherwise it would require hours and be accompanied by some suffering. I have repeatedly observed that nothing will do so much harm to a player as to have him abstain altogether from playing because he has some trivial injury or sore muscles. No other treatment should be attempted for subluxation and simple dislocations without at first liberally using hot water. After this, it is best to surround the injured member with adhesive plaster and to place over all a moderately firm finger-bandage. The player may then continue playing if he choose."

THE PUPIL IN ITS SEMEIOLOGICAL ASPECT.

In an interesting paper in the July number of *The American Journal of Medical Sciences*, Mr. William Macewen, of Glasgow, gives a brief outline of the physiological phenomenon pertaining to the movements of the pupil, and then presents a series of personal observations. He cites evidence to show that the suspension or abolition of cerebral function in the living body is attended by mydriasis, the latter being the sequent of the former. If inquiry be made concerning the mechanism inducing this pupillary effect coincident with the arrest of cerebral function, the theory which explains the greater part, if not the whole of the phenomena, is that which has been so ably advocated by *Mossé*. The passive movements of the pupil are regulated by the vascular system of the iris, which is in complete harmony with that of the encephalon. In these conditions inducing general suspension of the cerebral function, a state of ischaemia prevails in the brain and iris inducing mydriasis. This, likewise, obtains in unilateral lesions, where the pressure is so great as to induce anaemia of brain and iris. Myosis may also be brought about by a like mechanism acting in the opposite direction. The "irritation" setting up congestion of the cerebral and meningeal vessels, leads to congestion of the vessels of the iris, and so produces contraction of the pupil.

Dr. Macewen shows that when the function of the brain is in abeyance the pupils are in a state of stabile mydriasis.

When the function of the brain is interfered with by conditions usually included under the term "irritation," the pupils are in a state of myosis, sometimes labile, but generally stabile myosis.

The same pathological factors which cause myosis may also cause mydriasis, the degree in which these factors are present being the determining point between the former and the latter, and not merely the particular locus in the brain.

When the function of one-half of the cerebrum is placed in abeyance by a superficial or cortical lesion, the pupil on the same side as the lesion is in a state of stabile mydriasis.

When the functions of one-half the cerebrum is interfered with by some source of cortical irritation, the pupil on the corresponding side to the lesion is in a state of myosis.

Hæmorrhage into the pons Varolii when strong causes strongly contracted pupils; but when it is more extensive, involving the gray matter beneath the aqueduct of Sylvius, a state of stabile mydriasis is induced.

Dr. Macewen concludes by pointing out the conditions under which myosis and mydriasis occur.

DILATATION OF THE RIGHT VENTRICLE, AND ITS EXPLORATORY PUNCTURE.

PROFESSOR Schrötter describes in the *Med. Jahrbücher* (Vienna), 1887, Heft, 1, and *London Medical Record* June 15, a case of the above mentioned lesions treated by exploratory puncture. The patient, a girl, aged 14, had always suffered from severe palpitation and breathlessness, and presented the following signs. The face and extremities were very cyanotic; the cervical veins showed distinct systolic pulsations. Right side of thorax in front projects more than left. Respiration, 26. Apex-beat of heart not visible anywhere, but palpable in the left sixth intercostal space, just outside the nipple-line. The cardiac dulness began just internal to the apex-beat, and reached horizontally across the lower end of the sternum to the right nipple-line. On the left side it extended upwards to the lower border of the fourth rib, half way between the nipple and sternal lines; on the right side it reached as high as the lower edge of the third rib, and at the level of the fourth rib reached outwards almost to the nipple-line, whilst a little lower it became continuous with the mammary line as far as the sixth rib. On auscultation, a double murmur was heard at the heart's apex, less distinct at the base, where the second pulmonary sound was accentuated.

On auscultation, vesicular breathing on both sides, with medium crepitations, and a few rhonchi. There were evidently mitral insufficiency and stenosis, together with tricuspid insufficiency. But how was the peculiar form of the cardiac dulness to be explained? Was it due to a pericardial or to a circumscribed pleuritic exudation, or to extreme distension of the right ventricles? As the cyanosis and dyspnoea increased, an exploratory puncture was made with the needle of a Pravaz' syringe. Pure blood escaped, as was expected. (Professor Schrötter has already advocated the puncture of aortic aneurysms in certain cases — see *Ueber Therapie der Aorten aneurysmen*, *Deutsche Archiv. für Klin. Med.*, 1884, Band vi.—and was convinced that the operation was not dangerous.) The operation had no appreciable effect upon the patient, who died nearly three weeks afterwards. The autopsy made by Professor Kundrat showed that the right ventricle was enormously distended. The right lung presented adhesions at the edge and outer surface of the upper and middle lobes. This accounted for the fact that inspiration had made no difference in the cardiac dulness, and also for the

peculiar shape of the latter. The valvular lesions were found to exist as diagnosed. No trace of the exploratory puncture could be seen.

Correspondence.

PREMATURE DISCHARGE OF AMNIOTIC FLUID.

MILTON, N. H., July 16, 1887.

MR. EDITOR,—Perhaps the following case of Clinical Obstetrics may be of interest to some of your more inexperienced readers like myself.

Mrs. P., menstruated last about October 15th, 1886. I was called to see her at 10 o'clock, May 15th, 1887. I

found the nurse there and the patient in bed. I learned the following facts:

At about 4 o'clock she got up and passed water, went to bed and slept. She was soon awakened by a large gush of water, which she thought came from "the breaking of the waters." After this she had a few slight pains which ceased before my arrival.

Digital examination showed the head presenting, low down in the pelvis, the os dilated to the size of a half-dollar, the vagina covered with a fluid containing flocci like the vernix caseosa. She was up next day, and in a few days felt better than before.

On July 13th, she had an unnaturally short labor, the waters breaking just before the birth of the head. Between May 15th and July 13th, she had no abnormal symptoms.

Yours truly,

C. D. JONES, M.D., (Harvard 1885).

REPORTED MORTALITY FOR THE WEEK ENDING JULY 11, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	1276	462	46.64	6.32	.40	3.52	39.44
Philadelphia	993,801	555	320	30.96	8.46	.90	1.44	24.48
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	254	157	43.68	9.36	1.17	1.17	34.44
Boston	400,000	263	107	22.80	11.78	1.52	1.14	14.06
New Orleans	242,750	107	32	14.88	13.02	—	—	12.09
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	113	57	32.56	14.96	1.76	—	29.92
Pittsburgh	210,000	165	102	39.04	5.49	2.44	1.22	31.72
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	99	56	25.25	5.05	2.02	1.01	18.18
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	55	33	32.76	3.64	1.82	—	30.94
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	26	14	34.64	11.55	—	—	23.70
Charleston	60,145	37	17	13.50	13.50	2.70	—	8.10
Portland	40,000	10	1	30.00	20.00	20.00	—	10.00
Worcester	68,383	34	17	49.98	2.04	—	—	44.10
Lowell	64,051	50	23	36.00	10.00	4.00	2.00	26.00
Cambridge	59,660	27	25	29.60	11.10	—	—	22.20
Fall River	56,863	39	15	46.08	10.24	—	—	40.96
Lynn	45,861	14	7	14.28	7.14	—	—	14.28
Lawrence	38,825	21	12	28.56	9.52	—	—	28.56
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	11	8	54.54	—	—	9.09	18.18
Somerville	29,992	24	11	24.96	12.32	—	—	24.96
Salem	28,084	12	3	—	16.66	—	—	—
Holyoke	27,894	11	9	72.72	—	—	18.18	40.40
Chelsea	25,709	7	5	14.28	—	—	—	—
Taunton	23,674	6	—	—	—	—	—	—
Haverhill	21,795	12	5	—	25.00	—	—	—
Gloucester	21,713	8	0	—	12.50	—	—	—
Brockton	20,783	3	2	66.66	—	—	—	—
Newton	19,769	4	2	50.00	—	—	—	50.00
Malden	16,407	10	4	10.00	20.00	—	—	—
Fitchburg	15,375	6	1	—	—	—	—	—
Waltham	14,609	3	1	96.66	66.66	—	33.33	—
Newburyport	13,716	6	1	—	16.66	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 3,268: under five years of age 1517; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,201, consumption 270, acute lung diseases 133, diarrhœal diseases 979, diphtheria and croup 66, measles 31, typhoid fever 31, cerebro-spinal meningitis 23, scarlet fever 21, whooping-cough 21, malarial fever 17, erysipelas six, puerperal fever three, small-pox (New York) three. From measles, Boston nine, Philadelphia seven, New York five, Baltimore and Cambridge two each, Milwaukee, Nashville, Charleston, New Bedford, Chelsea, and Malden one each. From cerebro-spinal meningitis, New York four, Boston three, Baltimore, Milwaukee, Nashville, Lowell, New Bedford and Brockton two each, Philadelphia, Worcester, Fall River and Holyoke one each. From scarlet fever New York nine, Philadelphia eight, Pittsburgh one. From whooping-cough, New York seven, Philadelphia five, Boston four, Pittsburgh two, Baltimore, Milwaukee, and Fall River one each. From malarial fever, New York nine, New Orleans three, Philadelphia and Baltimore two each, District

of Columbia one. From erysipelas, New York, three, Baltimore, Pittsburgh and Worcester one each. From puerperal fever, Pittsburgh two, New York one.

In the 19 cities and greater towns of Massachusetts, with a population of 937,510 (population of the State 1,941,465) the total death-rate for the week was 27.12 against 21.77 and 20.50 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 25th, the death-rate was 17.6. Deaths reported 3,115: infants under one year of age 741; acute diseases of the respiratory organs (London,) 184, measles 213, whooping-cough 127, diarrhœa 69, scarlet fever 43, diphtheria 31, fever 29.

The death-rates ranged from 7.2 in Halifax to 30.1 in Preston; Birkenhead 18.7; Birmingham 13.6; Hull 13.0; Leeds 18.6; Leicester 16.4; Liverpool 22.0; London 15.9; Manchester 26.8; Nottingham 13.3; Sheffield 19.0; Sunderland 14.9.

In Edinburgh 19.0; Glasgow 20.6; Dublin 27.6.

The meteorological record for the week ending July 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, July 9, 1887.																			
Sunday, ... 3	30.07	76.0	88.0	71.0	73.0	78.0	78.0	76.0	W.	E.	S.	10	15	12	C.	F.	F.		
Monday, ... 4	30.15	78.0	88.0	70.0	78.0	51.0	77.0	69.0	W.	S.W.	S.W.	6	24	17	C.	F.	F.		
Tuesday, ... 5	30.16	76.0	85.0	70.0	74.0	61.0	84.0	73.0	S.W.	S.	S.	12	12	10	O.	O.	O.		
Wednesday, ... 6	29.95	76.0	83.0	72.0	86.0	72.0	86.0	81.0	S.	S.W.	S.	15	18	10	O.	O.	O.		
Thursday, ... 7	29.83	79.0	88.0	72.0	82.0	45.0	63.0	63.0	S.W.	W.	S.W.	13	18	10	F.	F.	C.		
Friday, ... 8	29.85	73.0	82.0	67.0	66.0	77.0	74.0	72.0	W.	E.	S.	6	10	4	C.	C.	C.		
Saturday, ... 9	29.81	73.0	83.0	66.0	90.0	52.0	86.0	76.0	S.	S.	S.	4	22	8	F.	O.	T.	½ hr.	.01
Mean, the Week.	29.974	75.9	85.0	80.0				72.9											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 9, 1887, TO JULY 15, 1887.

HEGER, A., lieutenant colonel and surgeon. Ordered to Fort Columbus, N. Y. H.

JANEWAY, J. H., major and surgeon. Ordered to Benicia Barracks, as post surgeon, also as attending surgeon at Benicia Arsenal, Cal.

BIRMINGHAM, H. P., captain and assistant surgeon. Ordered to Fort Myer, Va.

WOODRUFF, C. E., first lieutenant and assistant surgeon. Ordered to Fort Mackinas, Mich.

WINNE, C. K., captain and assistant surgeon. Ordered to Fort Wadsworth, N. Y. H.

HAYARD, VALERY, captain and assistant surgeon. Ordered to Fort A. Lincoln, D. T.

MAUS, L. M., captain and assistant surgeon. Ordered to Fort Schuyler, N. Y. H.

GIRARD, J. B., captain and assistant surgeon. Ordered to Fort Lowell, Ariz.

POINDEXTER, J. D., first lieutenant and assistant surgeon. Ordered to Camp Poplar River, M. T.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Ordered to Fort Gibson, Ind. T.

BYRNE, C. B., captain and assistant surgeon. Ordered to Washington Barracks, D. C.

WILCOX, T. E., captain and assistant surgeon. Ordered to Fort Niobrara, Neb.

LIPPINCOTT, H., major and surgeon. Ordered to Fort Union, N. M.

CLEARY, P. J. A., major and surgeon. Ordered to Fort D. A. Russell, Wyo.

CALDWELL, D. G., major and surgeon. Ordered to Fort Assiniboine, M. T.

TORNEY, G. H., captain and assistant surgeon. Ordered to Fort Robinson, Neb.

REED, WALTER, captain and assistant surgeon. Ordered to Mount Vernon Barracks, Ala.

PATZKI, J. H., captain and assistant surgeon. Ordered to Fort Huachuca, A. T.

EBERT, R. G., captain and assistant surgeon. Ordered to Fort Custer, M. T.

PILCHER, J. E., first lieutenant and assistant surgeon. Ordered to Fort Monroe, Va.

GARDINER, J. DE B. W., captain and assistant surgeon. Ordered to Fort Washakie, Wyo. T.

CHAPIN, A. R., first lieutenant and assistant surgeon. Ordered to Newport Barracks, Ky.

FORWOOD, W. H., major and surgeon. Ordered to Fort Snelling, Minn.

PERLEY, H. O., captain and assistant surgeon. Ordered to Fort Wayne, Mich. S. O. 156, A. G. O., July 8, 1887.

S. O. 159, par. 2, A. G. O., July 12, 1887. Assigned Captain W. Matthews, assistant surgeon, as member of Army Retiring Board at Washington, D. C., and relieves Captain J. O. Skinner, assistant surgeon.

EBERT, R. G., captain and assistant surgeon. Will, in

changing station from Fort Hamilton, N. Y. H., to Fort Custer, Mont., accompany the 12th Infantry from Department East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

MAUS, L. M., and PERLEY, H. O., captains and assistant surgeons. Ordered to accompany the 11th Infantry in changing station from Department Dakota to Department East. S. O. 158, A. C. O., July 11, 1887.

GARDINER, E. F., captain and assistant surgeon. Ordered to accompany the 12th Infantry from Madison Barracks to Duluth, and to return with 11th Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

WALKER, F. V., first lieutenant and assistant surgeon. Granted leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

CABELL, JULIAN M., first lieutenant and assistant surgeon. Ordered for duty as medical officer at Department Rifle Camp, near Bellevue, Neb., August 1st, next. S. O. 66, Department Platte, July 8, 1887.

A board of medical officers to consist of Major J. S. Billings, Surgeon; Captain W. Matthews, Assistant Surgeon; Captain F. C. Ainsworth, Assistant Surgeon, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JULY 16, 1887.

LONG, W. H., surgeon. Granted leave of absence for thirty days on account of sickness, July 12, 1887.

AUSTIN, H. W., surgeon. Granted leave of absence for thirty days, July 16, 1887.

WATKINS, R. B., assistant surgeon. Relieved from duty at Marine Hospital, Detroit, Mich.; ordered to assume charge of Service at Evansville, Ind., July 9, 1887.

DEATH.

Died at Nantucket, July 9, 1887, John Sullivan Bogg, M.D., M.M.S.S., of Springfield, aged thirty-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Eighteenth Annual Report of the State Board of Health of Massachusetts. 1886.

The Relation of the Nervous System to Hæmophilia, Malariæ hæmaturia, etc. Second Paper. By C. H. Hughes, M.D., St. Louis. 1887.

Thirteenth Annual Announcement of the Medical Department, University of Tennessee, Nashville Medical College. Session of 1887-88.

A Unique Case of Bi-Lateral Athetosis. By C. H. Hughes, M.D., St. Louis, Neurologist on the Staff of St. Louis Protestant Hospital, Lecturer on Nervous Diseases, St. Louis Medical College, etc. 1887. (Reprint.)

Le Iniezioni Intrapleurali e le Crisi Epiletiche Loro Teoria del Dott. Giovanni Pascale. Estratto dal Morgagni, Anno xxix, 1887. Napoli-Milano. Dott. Leonardo Vallardi, Editore. 1887.

Original Articles.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON CERTAIN POINTS IN THE SYMPTOMATOLOGY OF CHRONIC LEAD POISONING.¹

BY JAMES J. PUTNAM, M.D.

For a number of years past, several of my colleagues and myself have had the urine of patients with a variety of obscure diseases of the nervous system examined for lead, and have been surprised at the frequency with which it has been found to be present.

Wishing to learn whether this occurred only in certain classes of cases, or in the healthy and the sick alike, I have tried of late, with the valuable aid of Professor E. S. Wood, and of Dr. A. M. Comey, of Harvard University, to have these analyses made in a more or less routine fashion, though still giving prominence to the cases in which I had first found lead the most frequently.

The whole number of urine-analyses on which I have to report is eighty-six. In none of these cases were the classical symptoms of lead poisoning, such as colic, marked cachexia, characteristic cerebral attacks, characteristic paralysis, blue-line on the gums, unequivocally present. Twenty-six of the cases have been reported in two previous communications,² but are here re-analyzed. All of these patients took five or ten grains of potassic iodide three times daily for four or five days, and then collected a quart of urine, which was acidified with a little acetic acid and sent for examination.

The cases may be divided, for convenience of analysis, into the following groups:

Description.	Cases.	Lead.	
		Present	Absent.
1. No symptoms not attributable to other causes.	11	2	9
2. Neurasthenia and simple depression.	9	5	4
3. Fine muscular tremor; nervous debility.	9	9	0
4. Chronic multiple neuritis; neuritis with chronic myelitis; spastic paraplegia; multiple sclerosis.	19	15	4
5. Vague neuralgias of long standing, probably due in part to neuritis.	4	4	0
6. Locomotor ataxia.	3	0	3
7. Progressive muscular atrophy.	4	0	4
8. Acute poliomyelitis of adult.	1	0	1
9. Cerebral and cerebro-spinal cases.	7	6	1
10. Epilepsy.	8	3	5
11. Sciatica.	2	0	2
12. Profound anæmia, with functional and organic nervous symptoms probably due to that cause.	3	1	2
13. Unclassified.	6	3	3
	86	48	38

Before proceeding to examine these groups in greater detail, I wish to call attention to the character of the evidence and the degree of accuracy, to be expected in an investigation of this kind.

It is well known that we are all taking in small quantities of lead, in our food and our drink, the articles we handle, and even in clothes we wear, and through the matches with which we are liable to light our pipes. It might be maintained as probable that, in view of the fact that lead enters readily into stable

compounds with the albuminoid tissues of the body, we all carry about with us more or less of the poison,³ and yet do not often suffer from its presence.

This conservative view is a wholesome one, and places the burden of proof, with justice, upon the shoulders of the observer who lays new groups of symptoms at the door of chronic poisoning from lead. This makes it important that the observations of many persons should be compared and combined before definite conclusions are drawn, and the present series of cases is offered only as a guide to further inquiry. The method of chemical analysis used in these analyses and first devised in its present form by Professor Wood,⁴ is as follows:—

The urine is first evaporated to dryness, then fused in a crucible, with the addition of a little pure nitre, till it becomes white. The crucible is then cooled, and dilute HCl added, hot, to extract the residue after ignition. It is then filtered, and the filtrate treated with ammonia to alkaline reaction, to precipitate the phosphates and iron. Sulphide of ammonium is added at the same time, which throws down the sulphide of iron and lead. This is washed three times by decantation with hot water, then water is added, and the whole acidified with HCl, and allowed to stand until the next day. It is then filtered through a small filter and the residue washed. A little pure (free from iron) nitric acid is then added, drop by drop, by which the sulphide of lead, if present, is dissolved and carried through as nitrate of lead. This is collected in a watch glass, evaporated to dryness, and the final test made by the addition of a drop of water and a crystal of iodide of potassium. Finally, to eliminate bismuth, the iodide of lead is again dissolved in water, and reprecipitated in a test-tube with dilute sulphuric acid. The test-tube is allowed to stand twenty-four hours, and is then twirled gently between the fingers. The sulphate of lead, if present, rises in a delicate spiral.

Dr. Wood believes that this method is exceedingly delicate, and his opinion is borne out by the frequency with which lead has been found when not expected, and by the fact that he has rarely failed to find lead in cases of undoubted poisoning, which is by no means the experience of every investigator.

Such cases do, however, occasionally occur, under this as under all the other methods, and a negative analysis of the urine, especially a single analysis, is not a certain proof that the metal is really absent from the body.

Of the whole number of (eighty-six) cases, lead was found in the urine in forty-eight; in thirty-eight it was not found. If, for the sake of determining more accurately to what extent the presence of the lead is due to an exposure no greater than that to which the whole community is liable, we strike out those cases where the patients, through their profession, or some evident source of poisoning, were known to have been unusually exposed, we have left thirty-two cases in which lead was found, to be compared with thirty-eight where it was not found. We must conclude, so far as these figures are a guide, that, at the outside, in not more than fifty per cent. of persons living in the community at large, can lead be detected in the urine.

It may, of course, be argued, as indicated above, that the failure to find lead still more often probably

¹ Read before the Association of Physicians and Pathologists, June, 1887.

² Boston Medical and Surgical Journal, 1883, CIX, No. 2. Journal of Nervous and Mental Disease, 1887, XLV.

³ See a terse and characteristic report made by Dr. Jacob Bigelow to the Boston Society for Medical Improvement in 1852.

⁴ See the Boston Medical and Surgical Journal, Oct. 4, 1883, CIX, page 316.

shows only that the process is imperfect, but it is also to be borne in mind, as affecting this question, that although all persons are doubtless exposed to lead, some persons may eliminate the poison more rapidly and completely than others.

The obvious solution of this question would be furnished by chemical analysis of the organs of persons not presenting symptoms characteristic of lead-poisoning. So far as I know this has never been systematically done, but the following bit of evidence from Dr. Thomas Stevenson, of Guy's Hospital, is worth quoting.⁶

"It has been recently stated by M. Armand Gautier, that ordinary persons take lead to the extent of at least $\frac{1}{10}$ grains daily in their food. My own extensive experience leads me to the conclusion that it is exceptional to find a trace of lead in the body, except in cases of lead-poisoning, but that, on the other hand, it is equally exceptional not to find traces of copper in the human body after death."

Dr. W. B. Hills, assistant professor of chemistry at Harvard Medical College, has also told me that in making analyses of the human tissues he had often found copper but had never happened to find lead. He thinks, however, this may indicate only that lead is present in minute quantities, not that it is absent.

To turn now to the special groups of cases, the *first group* (those in which no symptoms were present which could not be fairly attributed to other causes than lead), contains eleven cases.

Of these eleven cases, three were of persons in perfect health; two were cases of sciatica; one a case of muscular atrophy not characteristic of lead, and affecting but one arm; one was a case of acute localized neuritis; three presented vague symptoms of no especial importance; one was a case of abdominal sarcoma. I will also mention that Dr. Comey examined four samples of his own urine, though without taking potassic iodide, and found no lead.

In two of these cases lead was found, in nine it was absent. This group is obviously too small to be of much statistical value, and the history of at least one of the cases where lead was found, which was that of a patient with abdominal tumor, but of excellent previous health, makes it more than probable that that others of like kind could be found on longer search.

The number of cases in this group might be somewhat increased if we should include in it those now set down in groups two and nine, of chronic functional nervous diseases, the neurasthenias and the epilepsies, which are those which could be with the least probability attributed to lead. If we do this, we raise the number of cases with no characteristic symptoms to twenty-eight, in ten of which lead was found. This gives us a provisional proportion of one to three as indicating the probable frequency of occurrence of lead in discoverable quantities without causing signs of disease.

If we add still further to this first group, the third group, characterized by symptoms of debility, such as might be due to many causes, but also by slight muscular tremor, recurrent paræsthesia of the hands, and other symptoms pointing possibly to slight organic disease, we get thirty-seven cases, in nineteen of which lead was found. In other words, we come back to the original proportion of fifty per cent. in favor of lead in healthy persons, which is, I think, undoubtedly too large.

⁶ Guy's Hospital Reports, 1882, xxvi, p. 483.

In the *second group of cases*, a variety of neurasthenic and mild mental symptoms were present, without marked signs of nutritive disease, local or general. This group comprises nine cases, in five of which lead was found, while in four it was absent.

The cases are not sufficiently alike to form a coherent series, and I do not care to dwell upon them longer than is necessary to point out that the literature of lead-poisoning and the history of one of these cases in particular, lends support to the view that purely nervous symptoms may be due to lead, and may exist for a long time without the supervention of signs of marked organic disease. Thus, Leudet, describing the cerebral symptoms which he had seen among a large number of painters, says:⁶

"Several painters, before they had shown any signs of cachexia, suffered from mental delusions, confusion and hebetude."

Insanity of different types has been reported by a number of writers.⁷ Clevenger⁸ has described a case of melancholic depression with epileptiform convulsions in a lead worker, associated with blue-line on the gums "and other symptoms of lead-poisoning," who recovered under potassic iodide and other treatment. Kiernan⁹ besides giving a number of references to other writers, gives an analysis of thirty cases of insanity apparently due to lead-poisoning, which were observed by himself. Some of these cases confirm the opinion which I have expressed. I will refer to only one case of those which I have observed.

It is that of an intelligent Scotch workman in a factory-town of Massachusetts, who had used for ten years water which was drawn through a two-inch lead pipe, from a well twenty-five feet distant, the end of the pipe remaining in the well. His family history was moderately neuropathic. His symptoms consisted in tremor of the hands, which had first been observed three years before, after the confinement and debility attending an operation for hæmorrhoids. Ever since that time he has felt weak and has worked but little, partly from that cause, but mainly because of distressing nervous symptoms, such as noises in the head, a feeling of soreness at the vertex, and, especially, frequent attacks consisting in a sort of aura sweeping over the body and head, the so-called "rush of blood."

His appearance was that of an excitable, but intelligent and naturally healthy man. The pulse and heart were normal. There was no anæmia, though this may have been masked by a natural fulness of the cutaneous vessels. The lips and tongue trembled slightly, as well as the hands. Lead was found in the drinking-water and twice in the urine. At a third examination it was absent. His improvement under treatment was marked and continuous.

This case leads us naturally to the *next group*, where it perhaps more properly belongs. This group of cases is allied to the last, but characterized by a greater prominence of disturbance of the organic functions. The general complaints were rather of lack of vigor, and of special nervous symptoms, rather than of general nervous instability or erythism, and yet there was no sufficiently marked organic disease to demand a special pathological classification.

⁶ Recherches sur les accidents causés par l'empoisonnement saturnine. Rouen, 1882.

⁷ See Bartens; Allgem. Zeitschrift für Psychologie, 37, 1881, Ullrich; ditto, 1883.

⁸ Chicago Medical Journal and Examiner, 1884; quoted in the Journal of Nervous and Mental Disease, April 1884, p. 308.

⁹ Chicago Journal of Nervous and Mental Disease, 1881.

In this group there are nine cases, in all of which, as it happened, lead was found in the urine. Five of them were examined for lead simply because they showed muscular tremor of the hands, or hands and lips, associated with some general debility or vague pains. Two, were cases of "recurrent paræsthesia" of the extremities, a symptom which it has of late been suggested may be due to slight multiple neuritis. If that is true, it might be supposed that a certain proportion of the cases would follow poisoning by lead, which imminently tends to attack the peripheral nerves. One of the patients in whom these symptoms of debility and tremor were well marked, and accompanied with increasing nervousness and sleeplessness, of four years duration, was a printer, and his urine contained a large amount of lead. His knee-jerk was very lively, especially on one side, but this symptom was less marked at a second examination, and there was no ankle-clonus. Its possible significance will be referred to later.

This group is related to that which follows (fourth group), in which I have put together the cases where symptoms of multiple neuritis were present, with others in which symptoms of chronic myelitis were associated with those of neuritis, and finally a number of cases characterized clinically as "spastic paraplegia," and due, perhaps, to degeneration limited to the motor tracts of the spinal cord. I have also included two cases apparently of multiple sclerosis of the spinal cord.

In this group of cases the chief interest of this investigation centres. For if it can be shown that lead poisoning leads to the symptoms of spastic paraplegia, or to some forms of it, especially those which are somewhat irregular in their clinical history, and are associated with signs of peripheral neuritis, on the one hand, and with more or less disorder of the general nutrition of the body, on the other, we shall have made a practical gain in our knowledge of a distressing disease.

This group of peripheral, mixed peripheral and spinal, cases contains nineteen cases, in all but four of which lead was found in the urine.

Of the four in which no lead was found, one was a case with chronic progressive spastic and ataxic symptoms, attended with difficulty in the retention of urine. The patient was a young girl, and the case probably belongs with the developmental diseases of the spinal cord. The other three were pretty typical cases of spastic paraplegia, one of them associated with some muscular atrophy of the arms. The cases in which lead was found were characterized by such symptoms as the following:

(1) Paræsthesia of the hands and feet (two middle toes), twitching of the fingers, exaggeration of the knee-jerk, especially left.

(2) General feebleness; paræsthesia in legs with slight anæsthesia; twitching of muscles of legs; marked improvement under treatment; malarial history.

(3) Spastic paraplegia; cramps and twitching of the calves; knee-jerk and ankle-clonus exaggerated; history of chancre; lead found twice in urine and a considerable quantity also in drinking-water.

(4) Trembling of hands; sense of coldness and numbness in toes; lancinating pains in legs; fatigue on exertion.

(5) Marked progressive spastic paraplegia with

myosis and loss of pupillary reactions; ataxia and some atrophy of hands.

(6) Progressive weakness and stiffness in legs with diffused and almost universal pains; marked tremor; great improvement for a time under treatment.

(7) Temporary pain in chest with slight dyspnoea; progressive numbness, heaviness and weakness in legs; eventually rather rapid recovery.

(8) Numbness in feet and legs with impairment of strength; tremor of hands and tongue; some wasting of small muscles of hands; temporary retention of urine.

One case is of peculiar interest as an instance, probably, of very severe and wide-spread neuritis of a type unusual in lead-poisoning, and characterized by a very marked ataxia; of motion, in short, a pseudo-ataxia of peripheral origin. It was reported briefly in the *Journal of Nervous and Mental Diseases*, January, 1887 (Case VIII.)

The next case is, I believe, of a similar though less serious character. It is that of a young lady¹⁰ of fifteen, of excellent previous health, who during the six months previous to my examination, which was in April, 1887, had shown successively the following symptoms: diffused headache of moderate severity; numbness and prickling of right hand; temporary difficulty in completely controlling the sphincter of the bladder; some months later, strabismus coming on gradually and slowly increasing, attended by dizziness, confusion of eye-sight and eventually by double vision; at the same period, numbness and prickling of left hand, especially at the ends of the fingers, continuing day and night, but eventually passing away; moderate ataxia of both upper and lower extremities; grasp of the left-hand weaker than that of the right, and small muscles of hand perhaps slightly atrophied; exaggerated knee-jerk, and trace of ankle-clonus; impairment of motions of both eyes, especially right, almost or wholly confined to muscles supplied by third pair; steady and rapid improvement, apparently aided by potassic iodide; eventually complete recovery.

That these are instances of multiple neuritis, not as is the rule with lead-poisoning confined to the motor tracts, but involving the sensory as well, and thus causing the ataxia, cannot, I think, be doubted. Analogous if not exactly similar cases have been reported under the name of pseudo-tabes, due to peripheral neuritis from alcohol and arsenic¹¹ and Renault,¹² in his excellent monograph on chronic lead-poisoning, reports one of the same kind, evidently due to lead, which was observed by Raymond, who says in another place, that he has seen three cases of the kind.

The next case is likewise interesting as showing symptoms of progressive spinal character, involving almost exclusively the motor functions and associated with marked anæmia. It resembled in these two respects another case which I have placed in a different group, characterized by progressive anæmia, progressive transverse myelitis and death.

The patient had been a carriage-painter for thirteen years. His present symptoms consisted in "numbness" of the feet and legs throughout their full extent; fatigue in walking and marked muscular weakness, great constipation; similar symptoms in arms but to a less degree; no pain; marked exaggeration of knee-jerk and ankle-clonus. The duration of

¹⁰ Seen in consultation with Dr. P. Wadsworth, of Malden, Mass.

¹¹ *Gazette Medicale de Paris*, 1876, Vol. 35.

¹² On Pseudo-tabes from Arsenical Poisoning, etc. Charles L. Dana. *Brain*, Part xxxvi, January, 1887.

the symptoms was about one year and a half. No albumen was found in the urine, nor other signs of chronic nephritis. The skin was very pale, with a yellowish cast. There is no distinct ataxia, and yet the movements are rather exaggerated; no history of colic; no apparent weakness of the extensors of the fingers; no blue-line. Lead was found twice in the urine. The patient improved markedly under iodide of potash and a large quantity of food, but lately has failed steadily. The exaggeration of the knee-jerk, and the presence of ankle-clonus, in this last and some of the preceding cases leads us to (group IV) the cases of spastic paraplegia, amyotrophic spastic paraplegia, and paraplegia with ataxia, to which I have already alluded. These, together with the cases of probable multiple spinal sclerosis, number ten, and in all but three of them lead was found in the urine.

(To be continued.)

CAN CIRRHOSIS FOLLOW TRAUMA? A CASE OF MEDICO-LEGAL INTEREST.¹

BY DR. F. W. STUART, BOSTON.

THE case which I am to report is one of twofold interest, namely, from a medico-legal and from a pathological standpoint.

Oat. 3, 1885, during the service of Dr. E. O. Otis, J. B., aged ten years, came to the Carney Hospital. His family history was good. He had always been well up to 1882, when he had an abscess on the left side of his neck which suppurated for two years, and resulted in contraction of the left side of the neck. He had visited the Carney Hospital in June, 1885, when the following note was made: "Patient listless, loss of appetite, diarrhoea three days; contraction of sterno-mastoid on the left side due to an old abscess, tenderness over the site of the old gland and in the region of the pneumogastric." The patient complained only of swelling of his abdomen. He was very irritable, and cried so much that it was impossible to make a careful physical examination, though it was evident that there was fluid in the peritoneal cavity, fluctuation being well marked. He was given Syrup Ferri Iodidi, and told to return the next day for a careful examination.

The patient returned Monday, Oct. 5th, Drs. E. O. Otis, W. H. Devine and myself being present. We were now told that on the previous Tuesday the patient had been kicked by a schoolmate, and that the disease dated from the day of the assault. A careful history was now taken, and a thorough physical examination made. The patient's mother stated that he had always been well up to the time of the assault, with the exception of the abscess and the attack of indigestion mentioned before. She said that he was nervous and irritable, but attributed this to the fact that the boys of his age were constantly irritating him on account of his wry neck. Otherwise he was a strong, healthy and cheerful boy. On Tuesday, Sept. 29th, while playing in the street he became involved in a disturbance with a schoolmate, and, though an exact story of the quarrel could not be obtained, it was established that the patient had been knocked down and while lying on his back had been stamped upon, the heel of the assailant striking him in the abdomen. The patient spat up some blood, walked into his house

not far away, complained of some pain, but the next day was able to attend school. On the Saturday following, his mother first noticed that his abdomen was swollen; and brought him to the hospital.

Physical examination showed the patient to be well developed for a boy ten years old, but he was decidedly pale and cachectic in appearance. His temperature was normal, and his pulse and respiration were but little hurried. Heart and lungs were normal. His abdomen was much enlarged and fluctuating. On percussion there was dullness everywhere, with some areas of flatness, and the percussion note was unaffected by a change in the patient's position. The urine was high colored, specific gravity 1021, albumen one-eighth per cent., and the sediment contained some renal epithelium, urates, and a few casts. The existence of an exudation was of course very evident, and a diagnosis of chronic peritonitis was easily made, but at the same time it was felt that there must be something underlying the peritonitis.

In attempting to diagnose the disease more accurately, some differences of opinion were developed, though it was considered to be very probable that the case was one of tubercular peritonitis. The absence of any tubercular trouble in any of his relatives, as well as the absence of any pulmonary signs in the patient tended to negative this view.

In a few days the distension became more marked, the genitals were very œdematous, and the breathing became embarrassed. On October 16th, the abdomen was aspirated, and about two quarts of a clear serous fluid were drawn off, it being impossible to aspirate more than a small part of the exudation, owing to its being sacculated. At the same time the genitals were punctured with a needle and the fluid allowed to trickle away. During this time the patient bled very frequently from his gums. Under symptomatic treatment the effusion largely disappeared, and the patient was able to attend school again. This improved condition lasted for some time, after which the fluid began to reaccumulate, and a scrotal hernia was developed on the left side.

Again there was improvement, and in May, 1886, the patient returned to the hospital to see if something could not be done for his neck.

Examination at that time showed still evidences of the exudation, and the borders of the liver and of the spleen were undeterminable.

July 3d, the boy who assaulted our patient was tried in the police court on the charge of having committed a felonious assault, and I was the only medical witness summoned.

The facts were testified to as stated above, though the testimony also unintentionally drew out the information that the patient had for months been subject to bleeding from his mouth.

I was asked whether in my opinion the kick received caused the patient's disease. I answered that I thought that the injury did not cause the existing trouble in the sense of starting it up, *de novo*, though I admitted that possibly it might have hastened a previously existing disease.

My conclusion was based on the following considerations. It did not seem to me that the injury had started up an acute peritonitis, because the patient was not very sick, that is, he had not been confined to his bed, he had no marked fever, and had not complained much of pain. Furthermore, it seemed to me that so

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, May 11th, 1887.

large an effusion thrown out in four days would have perceptibly embarrassed his respiration and quickened his pulse. Therefore it seemed to me that the assault merely served to call attention to a previously existing condition, which it at most had aggravated.

The question then asked was, Could the hernia be due to a weakening of the abdominal walls at the point of the injury induced by the kick? I thought not, and attributed the hernia to simple distension of the abdomen by the fluid.

Finally, I was asked if the spitting up of blood was not proof that the kick had caused some internal injury. I answered decidedly, no. The patient may have received a blow on the mouth, may have bitten his tongue in falling, and in any event this symptom could have but little weight in determining the force of a blow in one who so often before had "bleeding from his mouth."

The defendant was, however, bound over to the Superior Court, and a hearing before the grand jury resulted in the finding of a true bill.

July 25th, Dr. Devine was called to see the patient, and afterwards Dr. Otis saw the case with him. The patient then had great distension of the abdomen, and general œdema. Tapping was advised, but not consented too by the parents.

August 4th, the patient complained of great pain in his abdomen, his pulse was rapid, temperature high, and the general constitutional disturbance great. Dr. Devine, who was then attending the patient, attributed these symptoms to an acute exacerbation of the peritonitis. The patient died August 6th, and an autopsy was made by Dr. F. W. Draper, Medical Examiner, at 2.45 P. M. of the same day, Drs. Devine and myself being witnesses. Dr. Draper has very kindly sent me his notes of the case, which were as follows:

AUTOPSY.

By Dr. F. W. Draper, Medical Examiner, at 2.45 P. M., August 6, 1886.

Body very pale; a little livid discoloration of dependent parts.

Rigor mortis absent.

No appearances of decomposition.

General anasarca, — œdema of face, arms, hands, thorax, abdomen, genitals, legs and feet.

Abdomen distended with fluid; fluctuation well marked.

Scrotum large and red. At the left inguinal ring, there was an opening sufficiently large to admit the index finger easily.

Internal examination. The peritoneal cavity contained one hundred and seventy-two fluid ounces of clean, thin, serous fluid.

The heart was normal.

The lungs were œdematous and injected in their lower and posterior portions.

The spleen was enlarged to four times its normal volume; it was softened and its section presented limited areas of diffuse hæmorrhagic infiltration.

The kidneys were moderately enlarged, pale, with normal relations between the cortical and medullary portions; their capsules were free.

The liver was reduced to the size of a man's fist; it was of very dense consistency, light yellow color, with thick interstitial partitions between the lobules and a great number of small nodules upon its surface.

The intestines and apposing surfaces of the abdom-

inal organs were firmly adherent at numerous points by strong bands representing a former inflammation of the peritoneum; and layers of soft lymph at various situations indicated more recent peritonitis. The peritoneum was thickened and opaque. There was no purulent exudation. The peritoneum and mesentery were œdematous and the dependent parts of the intestinal folds showed limited patches of hæmorrhagic infiltration.

The stomach and intestines presented nothing remarkable upon internal examination.

The mesenteric glands were normal.

The brain was soft and œdematous.

Diagnosis: Chronic interstitial hepatitis; chronic hyperplasia of the spleen; chronic adhesive peritonitis; ascites and general anasarca.

Cirrhosis of the liver is so rare a disease in childhood that many of the books specially devoted to children's diseases make no mention of it. Still, in a very hasty review of the literature on the subject, limited to the usual reference books, I find quite a number of recorded cases.

F. Weber² and Virchow³ report congenital cases, Wettergreen⁴ reports a case at four; Cayley⁵ and West⁶ each one at six; Loeschner² one at seven; Hauerwas² and Wilks⁷ each one at eight; Murchison,⁵ Frerichs⁸ and Griffith,⁵ each one at ten; Maggiani² one at eleven; Steffen² two cases, one eleven the other thirteen, and Wunderlich⁹ observed two cases in sisters aged eleven and twelve years respectively. None of these are recent cases, since I did not have time to consult the recent journals.

It is generally admitted that the excessive use of alcohol is the usual cause of cirrhosis, but various others have been given. Flint mentions syphilis, chronic malarial poisoning, chronic phosphorus poisoning, chronic peritonitis, and occlusion of the bile duct as causes to which cirrhosis is often assigned, though he would doubt the efficiency of them. The excessive use of condiments and extension of a perihepatitis have also been charged with producing cirrhosis, while Griffith in the report of his case, alluded to chronic abscess as if it were a recognized cause of this disease. Of the cases cited, Wunderlich, Murchison and West (the latter's patient, a girl of eight being in the habit of drinking a half pint of gin daily) were able to prove that their patients had used alcohol to excess. Wettergreen and West attributed their cases to the excessive use of coffee. The writings of Virchow and the reports of the Italian physicians would lead one to believe that syphilis and chronic malarial poisoning may cause cirrhosis, but in the main one is almost forced to look upon this disease as a specific disease with its specific cause — alcohol. The reader has notes of a case of cirrhosis seen in Professor Bamberger's ward in Vienna. The patient, a girl eleven years old, gave a history of intermittent fever, and to this her disease was attributed. But long after she had been admitted to the hospital it was ascertained that her father kept a "Brantwein-Geschäft," thus making it, after all, more than probable that her trouble was due to alcohol, since in the family of such a man

² Ziemssen's Encyclopedia.

³ Archiv. für Path. Anat., Band xxii, S. 426

⁴ Quoted by London Medical Record, 1881, p 117.

⁵ Trans. London Path. Society, vol. 27, 1876.

⁶ St. Bartholomew's Reports, 1887.

⁷ Guy's Hospital Reports, 1875.

⁸ Quoted by Pepper.

⁹ Quoted by Niemayer.

brandy was likely to be looked upon as a panacea for all our ills.

It must however be admitted that careful questioning fails to establish an alcoholic habit.

What caused the cirrhosis of the liver in our patient? Did the trauma cause it?

There was no history of the abuse of alcohol, there was no question of syphilis, since parents and brothers and sisters were all healthy and free from any signs of this disease, and the patient had never had intermittent fever. If the injury caused the disease, it first started up a chronic peritonitis, and secondarily to this came the cirrhosis. That such a thing is possible has been suggested, but I think it hardly probable, and in this case I feel that in June, 1885, when the patient was listless, etc., and a diagnosis of indigestion was made, he had beginning cirrhosis.

This would coincide with the opinion arrived at from his physical condition when I first saw him, that his disease dated back weeks at least.

According to Griffith, the chronic abscess may have caused it, but I failed to see the report of any case tending to support such a view.

In conclusion, let me say that I believe it wiser to admit our ignorance of the cause involved in a case so puzzling as this, than to refer it to so hypothetical a cause — as a chronic abscess.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D.

THE BACILLUS OF ACUTE CONJUNCTIVAL CATARRH.

WEEKS¹ has examined microscopically the mucopurulent discharge of acute catarrhal conjunctivitis. The first case that he examined was a woman of thirty years, in whom the disease had appeared three days previously. The ocular and palpebral conjunctivæ were greatly congested, the lids slightly swollen, and marked photophobia, profuse lacrymation, and a muco-purulent discharge were present. A cover-glass preparation of the secretion, stained with gentian violet, disclosed large numbers of small, well-defined bacilli which were aggregated on and in the pus cells, and free in the mucus. The case recovered in two weeks from the beginning of the attack, under the use of mild astringents. There were two children in the family, one of twenty months and one of four years. The first had suffered from conjunctivitis for two months, the second for six weeks. In both cases the palpebral conjunctiva was injected, and discharging muco-pus. The secretion from both these cases contained many bacilli, such as were found in the secretion from the mother's eyes. Both cases recovered in a week's time, under the use of a zinc collyrium. Dr. Weeks examined the secretions of all cases of conjunctivitis that came to the clinic for two months, without again finding the bacillus, when a man presented himself, who stated that his wife, three children and a servant girl, still had, or had recovered, from a similar form of conjunctivitis.

There was a muco-purulent discharge in each case. In two of the cases the attack was confined to one eye. The cases recovered, as the others had done, under a simple astringent treatment. In all of these cases the bacilli were found in large numbers. In order to de-

termine the contagious nature of this conjunctivitis, Dr. Weeks inoculated the healthy conjunctivæ of rabbits with the secretion from one affected eye, but failed to produce any inflammation of the conjunctivæ. He then inoculated the healthy conjunctivæ of six eyes in five men, who had previously lost their vision, by transferring a small amount of the secretion from the patient's eye to the eyes that were being experimented on. In five of the six eyes inoculated, the same form of conjunctivitis was produced, the bacilli being found in the secretions. Attempts were made to cultivate the small bacillus on agar and gelatine, but although the conditions were made as favorable as possible, the bacillus did not develop. On particles of pus that were transferred to the tubes the bacillus developed rapidly, but could not be induced to feed on the agar, and disappeared in a few days. Subsequently a mixture containing only about 5 per cent. of agar was prepared, and upon this the bacillus developed rather feebly in tubes. It would not grow on plates. The bacillus in the tubes was contaminated with the club-shaped bacillus (or one which soon became clubbed), which developed as rapidly as the small bacillus, and repeated attempts to separate the two proved fruitless. It was easy enough to procure a pure culture of the clubbed bacillus, as it grows quite readily on 1-per cent. agar. Repeated attempts to cultivate the small bacillus on sterilized blood serum failed to carry it beyond the second generation. It develops rapidly in beef tea, but grows very feebly on potato.

The bacillus varies considerably in length, being from one to two micro-millimeters long; in thickness it is always the same, about 0.25 micro-millimeter. Compared with the tubercle bacillus it has about the same thickness, but is considerably shorter. The bacilli were sometimes joined together, forming quite long threads, the division between individual being very indistinctly marked. There was no tendency to a double arrangement, as in bacillus subtilis, or in Leber's bacillus of Xerosis of the conjunctiva. The bacillus under consideration stains readily with watery solutions of fuchsin, gentian-violet, and methylen blue, taking the stain a little less deeply than do the cocci and bacilli ordinarily met with. The eyes of both men and rabbits were inoculated with the pure cultivations of the clubbed bacillus, and no inflammatory reaction occurred. The healthy conjunctivæ of six children were inoculated with the result of the cultivation of the mixture of the small and club-shaped bacillus. The cultivations used for this purpose varied from the fourth to the eleventh generations. In all of these cases the typical muco-purulent conjunctivitis was produced, appearing in about forty-eight hours from the time of the inoculation. The bacillus was present in all as long as the yellowish discharge persisted.

THE MICRO-ORGANISM OF ACUTE TRACHOMA.

Michel² was commissioned by the royal government of Lower Franconia to investigate and determine more accurately the nature of an eye disease, seemingly the so-called "Egyptian Ophthalmia," which had broken out in the boys' orphan asylum at Aschaffenburg. The disease apparently was originally introduced into the asylum by a boy who had daily been in the city of Aschaffenburg, attending the gymnasium there. Of the inmates, there were not affected twenty-

¹ Archives of Ophthalm., Vol. xv, No. 4.

² Archiv. of Ophth., Vol. xv., part 4.

eight, slightly affected fifty-five, and severely affected, fourteen. In the severe forms of the affection the picture of the so-called acute trachoma was well defined. The intensely swollen and hyperæmic fornix, the tarsal conjunctiva, and the conjunctivæ covering of the lacrymal caruncle, were studded throughout with extremely numerous follicles of translucent grayish red form the size of a millet-seed to that of a pea. On everting the lids the conjunctivæ folds sprang forward in a series of reddish ridges. The secretion was moderately copious and purulent, and ordinarily the vascular plexus of the scleral conjunctiva was deeply congested. In nearly all of the cases there was swelling of the pre-auricular glands. These glands were never painful, even on the strongest pressure. They were of moderately soft consistence and elastic. In about thirty or forty of these cases the secretions were examined for bacteria, and in no case could their presence be established.

Inoculations made upon agar-agar with the contents of a pressed-out follicle, developed, before the end of two days, a distinctly visible culture. In general, the cultures presented a thick coating, growing superficially, of a white color, inclining at first to gray, later to a trace of yellow, and with a moist glistening surface and sharply limited borders. The cultures which developed most quickly were those made by inoculation of blood serum and agar-agar at the temperature of the body. In nutrient gelatine the culture developed more slowly, and likewise in egg-albumen. On potato the growth was very feeble. Morphologically, the cultures consisted of diplococci. The double cocci, appearing as if two segments of a ball, resemble the gonococci, and evince an inclination towards grouping themselves in masses similar to sarcine. They are, however, much smaller than the gonococci. Specimens of cocci measured, by means of a Zeiss objective (homogeneous immersion, $\frac{1}{5}$), and of an eye-piece micrometer, gave as average results the following measurements: Length from pole to pole $0.6-0.8 \mu$, width in centre $0.4-0.6 \mu$. The trachoma coccus is distinguishable from the gonococcus, furthermore, by the greater thinness of the line of separation, which in general only becomes distinctly visible under strong magnifying power. It shares with other fission fungi the power of absorbing dye-stuffs, and displays a great affinity for the basic aniline colors. The conjunctivæ of rabbits were inoculated by pricking, and the introduction of bits of the follicle and also of pure cultivations. The results were entirely negative. Knowing that the conjunctivæ of rabbits seems to possess considerable immunity against micro-organisms, as for instance, the gonococcus, Michel regarded it as justifiable to make such inoculations in a certain case upon a man. In this case the right eye had been enucleated, and the left was, owing to meningeal atrophy of the optic nerve, almost entirely blind. Numerous fine superficial pricks were made in the conjunctivæ folds of the upper and lower lids of the right, with a small needle which had been immersed in blood-serum culture. After forty-eight hours an increased mucous secretion was observed, and a few small follicle-like elevations were noticed, which two days later were seen to have increased in size. In the further course of the case fresh elevations appeared in the neighborhood of the altered places, so as to give a complete clinical picture of follicular disease of the conjunctivæ fold. Ten days after the inoculation a follicle was

excised, the contents pressed out, and the same inoculated in blood serum. The characteristic culture developed and was recognized by the microscope as a pure culture. Upon the microscopic examination of portions of the affected conjunctivæ, the cocci were never observed in the epithelial layer, but only in the tissue of the follicle itself. They are generally in the form of irregular, roundish heaps, and appear to lie on or between the cells rather than in them.

INCISION OF THE SWOLLEN OPTIC NERVE-SHEATH.

Carter² advocates the incision of the swollen optic nerve-sheath behind the eyeball in certain cases of choked disc, and reports the case of a woman with monocular optic neuritis and blindness of the temporal half of the visual field. Headache had existed for ten days, and the left optic disc was much swollen. Mr. Carter considered the swelling due to a descent of fluid from the subarachnoid space to the space between the dural and pal sheaths of the optic nerve; the nerve was compressed by the fluid and the venous circulation was impeded. Under iodides and mercury no improvement resulted. The disc swelled still more; hæmorrhages and patches of exudation also appeared; and with the assent of Dr. Hughlings Jackson, Mr. Carter decided upon an operation, which he first practised on the dead subject. The external rectus muscle was divided; the eyeball then rotated inwards; the sheath of the optic nerve was exposed and opened, and gave exit to the contained fluid. Recovery was uninterrupted, the patient was at once relieved of the headache, which did not return for a month, and ten days after the operation the swelling of the optic disc was found to have diminished one half. Further recovery has resulted.

(To be continued.)

Clinical Memorandum.

IS TUBERCULOSIS OF THE LUNGS EVER CONTAGIOUS?¹

BY F. I. KNIGHT, M.D., BOSTON.

In July, 1885, a young lady of 19, came to my office with a history of cough of nine months duration. I found signs of phthisis in one lung. Her father was a very strong man; her mother had died of some nervous trouble after child-birth. There had been ten children, five of whom died in infancy, none of them with any brain or lung disease. There had been also six half-brothers and sisters, one of whom had died in infancy. Of the uncles and aunts on both sides, only one uncle had died of phthisis. The patient gradually declined, and died April 15, 1887. She was accompanied in her visits to my office by an older sister, twenty-three years of age, who had given up everything to attend to her. This sister, while not robust-looking appeared well, and said that she had always been so. She occupied the same room and bed with her sister. This I protested against, and advised her to go out regularly every day for walks in the fresh air.

The last record made of their visits to me was in the latter part of October, when the phthisical patient became too sick to come to me, and went under the

¹ Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, May 12, 1887.

² *Lancet*, March, 1887, p. 626.

care of her family physician in a neighboring city; she died, as I said, on the 15th of April. On the 19th of April the sister came into my office with the following history. She had continued to attend closely upon the invalid all winter, and had disregarded all my advice. She had even slept with her sister up to within five weeks of her death. She was with her night and day. During the latter part of her sister's life her breath was so offensive that she could eat almost nothing, and only kept herself up by the free use of stimulants. She stated that she had had a little dry, hacking cough for a month. She breathed rapidly, but said there was no dyspnoea. On examination her pulse was found to be 140. Temperature, 104°. On examination of the chest, subcrepitant râles were heard in both upper lobes, front and back, and the diagnosis of acute pulmonary tuberculosis was made. Examinations, April 26th and May 3d confirmed the diagnosis. On the 21st of May, she came to my office so weak that she had to be assisted from the carriage to the house. She reported hæmoptysis of several ounces two weeks before. She was so weak that I did not examine her chest. Pulse, 160; temperature, 103.4°. I did not see her again, and she died June 17, 1886, about two months after I first examined her, and three months after the beginning of the dry cough.

Who can fail to believe that the disease and death of this patient was caused by attendance upon her sister? Hardly any one will deny this. Admitting it, would she have succumbed to acute *pulmonary tuberculosis*, if she had attended upon a sister ill with some other disease? As she had no such hereditary tendency I do not think so. How often do we see patients worn out with much longer attendance upon the sick, and yet not become tuberculous! And how often do we see strong women without the slightest hereditary tendency succumb to attendance upon tuberculous patients.

It is useless to allege in this connection, that ordinary attendance upon the sick in consumptive hospitals does not affect the attendants. I admit this fact, but the attendance is not so prolonged, nor so close as in families. Let any one who has doubt about the clinical evidence bearing upon this point read the little brochure of Webb. The fact is that tuberculosis is so common with us, that we have almost ceased looking for the immediate cause in any case, especially if relationship gives us a chance to attach the blame to heredity. I believe, however, that there are hundreds who have by inheritance that peculiarity of pulmonary soil which favors the development of the tubercular disease, who would not show it unless they were brought into contact with those already affected. Whether all cases require such a transmission of germ we do not know.

In what manner is it probable that the disease is communicated? It has been claimed that bacilli have been found in the breath, but it is, perhaps, more probable that the communication in most cases is by dried sputum, which becomes diffused in the atmosphere. We have abundant proof that tuberculosis can be readily communicated to animals little liable to it, for example dogs, by causing them to inhale for an hour or two a day an atomized solution of the sputa of tuberculous patients. (See the experiments of Tappeiner and others in substantiation of this statement).

So then, I say that the appearance of tuberculosis of the lungs in countries where it was previously unknown, with the ingress of people from countries where it was common, the marked increase in the disease in the neighborhood of health-stations resorted to by the tuberculous, the personal history of the development of cases in our midst, and experimental work with the sputa, all point strongly to the probable communication of the disease under favorable conditions, and make it not only incumbent upon us, in case of pulmonary tuberculosis in a family, to establish precautions against communication of the disease, but makes us criminally negligent in failing to do so.

What precautions shall we take? These pertain (1) to the patient; (2) to the quarters he occupies; and (3) to the exposed attendant.

The patient should be made careful in the disposal of his sputa, either to deposit them in a cup in which some germicide has been placed, or if the patient is feeble and obliged to use cloths let them be destroyed before any drying occurs. It would hardly seem to be necessary to warn respectable patients not to spit about them carelessly, yet I have seen with respectable people the most utter indifference in this regard. I have seen a patient with hæmoptysis lying in bed on his back letting fly his expectoration in every direction, so that the bedding, floor, and walls of the room were well covered with sputa. I have seen a beautiful prima donna of the opera spit right and left over a handsome hotel carpet. Neither of these patients was American. I have, however, seen an American, a distinguished citizen, afterwards United States Minister to one of the European Courts, sit in the office of a distinguished consultant, and squirt a sickly stream of tobacco-juice between his teeth, over a fine straw carpeting just laid.

For disinfection of the spit-cups, Dr. Ernst informs me that a five per cent. solution of carbolic acid is the best. Corrosive sublimate does not answer, as it coagulates mucin, and does not reach the bacilli at all.

In regard to the room: we should secure change of air by every known device, and as long as possible by a daily removal of the patient from his room, for the purpose of thorough ventilation. Clothing and bed-linen should be frequently changed. The absolute value of antiseptic sprays for the room in such cases we know not, and the use of those which are offensive in themselves should not be recommended. But such as are pleasant to the patient and attendant would be of service at least in counteracting the disagreeable odor which attends the last stages of pulmonary disease.

In regard to the exposed persons, let it be said that from the moment tubercular disease is discovered, another person should not occupy the same bed, not only for the sake of the exposed person, but also that of the patient, who will rest much more comfortably alone. Sleeping in the same room should also be forbidden, as we seem to be more susceptible to all infectious diseases during sleep. The attendant should have daily exercise in the open air, and if a relative, an occasional complete change, if possible. In case of any failure in health, this should be insisted upon, and although the physician cannot always prevent self-sacrifice on the part of friends, he can often modify it. At any rate, he should not feel that relief of his patient was his only duty, but that his duty extended to the surroundings of his patient, and required that

these should be arranged with due regard to the protection of relatives and friends.

If there is any decided hereditary tendency to the disease, relatives should, if possible, be prevented from any attendance upon the sick, and put at once upon proper hygiene.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOL- OGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MAY 11, 1887. The meeting was called to order at 8 o'clock, by DR. F. I. KNIGHT, Chairman. On motion, the records of the last meeting were omitted.

The first paper was by DR. F. W. STUART, entitled

CAN CIRRHOSIS FOLLOW TRAUMA? A MEDICO- LEGAL QUESTION.¹

Dr. Stuart stated that the medico-legal character of the case, the important questions involved in the examination of the subject had made it a most interesting experience to him, and had taught him some very valuable lessons. It had served to somewhat change his views of the character of the legal investigation of such a case, and had diminished his respect for some of the methods employed for that purpose.

Dr. Stuart said: When I was called into court on this case I was summoned by the prosecution, the evident intention of the District-Attorney being to have as little medical testimony as possible, and to get hold of the youngest physician and break down his testimony. The defendants then tried it. They brought up witness after witness, and finally the policeman on the beat, all of whom testified that this boy was strong and healthy; except one boy who admitted that they called him "pot-belly" once in a while, on account of his protuberant abdomen.

During the trial I was asked to give an exact diagnosis. I said I could not. The judge said that "it made him tired" to hear a doctor say that this boy had been sick when so many people who knew him intimately and saw him daily, testified to the contrary.

After this trial I came to the conclusion that if a young man goes into court and is not sure of his case, he will be brow-beaten and all efforts made to confuse him. I think that this is one of the most difficult places a man can occupy when he is forced to admit that he cannot make a diagnosis. We did not make a diagnosis. This case was one that certainly has given me a great deal of confidence, from the existing medical knowledge of to-day, that that boy had cirrhosis of the liver. I was then inclined to believe, and am still confident that the injury did not cause the trouble which we did not diagnosticate.

DR. BLODGETT said that the insidious character of the disease in the present case, its great gravity, and its fatal termination forcibly reminded him of a case seen at a distance from Boston, in which a somewhat similar and equally unusual course of phenomena were noticed. The patient was a literary gentleman, well known to many members of this Society, who

while in the enjoyment of his ordinary good health, was surprised to find that he was becoming weak, and particularly that he was troubled by shortness of breath on making any exertion, sometimes experiencing almost the condition of asphyxia. After a time he sought medical advice, but was able to give absolutely no satisfactory history of the character of his disease. Physical examination revealed the fact that the left side of the thorax was the seat of an extensive pleuritic effusion, the liquid reaching to the level of the sixth rib in the nipple line. Twenty-four hours later, the fluid had increased to such a degree, that there was constant oppression in breathing, and the level had risen to the fifth rib in the axillary line. The case was diagnosticated according to the rational and physical signs, as acute pleurisy, but was considered peculiar from the entire absence of any of the ordinary symptoms of this disease. The case passed into the hands of a very distinguished practitioner, who treated the patient by the constant exhibition of alkalies, and frequent and abundant catharsis, without, however, any attempt to relieve the distension of the pleura by aspiration or puncture, and the patient rapidly sank, and died at the end of four days.

The autopsy showed the conditions diagnosticated during life to have been correct.

DR. HAROLD WILLIAMS asked if the autopsy of Dr. Stuart's case showed any signs of the chronic abscess from which the boy had suffered some years before?

DR. STUART said that there was no internal evidence of any lesion referable to the abscess, no trace of which was found. Griffiths, however, mentions this as one of the causes of cirrhotic disease of the liver.

DR. WILLIAMS remarked that in answer to the question "was the injury the cause of the cirrhosis?" it was conceivable to suppose that the kick might have been the cause of the chronic peritonitis and that the adhesions resulting therefrom might have acted as a cause of the cirrhosis by constricting the blood-vessels of the liver. Dr. Williams asked if the adhesions noticed in this case were found to cause such interference.

DR. STUART replied that this was not the case: That it had been discussed at the autopsy, but that while many adhesions were found, none were in such position as to warrant such a conclusion.

DR. F. I. KNIGHT then read a paper on

THE CONTAGIOUSNESS OF TUBERCULAR DISEASE OF THE LUNGS, WITH A REPORT OF ONE CASE.²

DR. STUART: Mr. President, When I was at the Carney Hospital I saw a case of a young lady; she was the stepdaughter of a consumptive who had just died; the question as to whether her mother died of phthisis could not be brought out. The patient did not seem to know. She was one of a family of eight brothers and sisters, all well, and she alone had evidence of phthisis. According to this patient's statement, while her step-mother was sick for fourteen months she had hardly been out of the house. Dr. Devine, in speaking of the case, said he knew of a draw-tender who had buried two wives of phthisis; the draw-tender had the disease of course, himself, and the only conclusion which he could draw from this case was that the draw-tender was out in the open air almost all the time, while his successive wives

¹ See page 76 of this number of the Journal.

² See page 79 of this number of the Journal.

were shut up in the house, and thus the course of the disease was made quicker for them.

DR. BLODGETT said that he could not refrain from calling attention to a fact in relation to tuberculosis, which is not sufficiently considered in the treatment of cases of this disease. He was happy to observe that the chairman had laid stress upon the same point, namely, the eminently infectious nature of tubercular disease. There is no doubt that many cases of tuberculosis are communicated from one person to another, but the cases are not followed with that care which is everywhere thought desirable, even imperative, in relation to other infectious and contagious diseases. The time has probably not yet arrived when we can test this class of diseases in the manner which would be applicable to other communicable diseases. We are too much under the domain of public opinion to venture the rational and only real method of treatment which is directed to the peculiar character of the malady in question. We cannot properly utilize the knowledge which we already possess in relation to tuberculosis.

In some foreign hospitals, patients with tuberculosis are treated in the same manner as are those with other dangerous disorders; that is, the sufferer from tuberculosis is segregated from other patients, and is isolated in a ward devoted to infectious diseases, where he is subjected to a rigid seclusion from the other sick to whom the disease might be communicated. Much the same care and seclusion is exercised in relation to tuberculosis as is done with scarlet fever, measles, etc. Dr. Blodgett said that he had recently had a case under his own care in which the germicide treatment was adopted as one of the principal measures of relief, and in which there was an entire disappearance of all symptoms of disease. The patient is the son of a clergyman, and is about forty years old. His father was for many years a sufferer from chronic pulmonary disease, and died after attacks of pulmonary hæmorrhage, presumably of tuberculosis. The mother is still living, but has long been in feeble health. The patient was never a strong man, but maintained his ordinary standard of health until five years ago, when he was the subject of fistula of the anus, for which he was under treatment by surgical measures for a year. Since that time he has been somewhat feeble, and eighteen months ago he began to fail perceptibly. Twelve months ago, he was under treatment for hoarseness, which advanced to a degree which rendered speaking above a whisper almost impossible. At this time he came under the care of Dr. Blodgett, who found distinct ulceration of the larynx, with induration and impaired mobility of the vocal structures; and by microscopic examination the bacillus of tuberculosis was readily demonstrable. The patient was at once placed under treatment by means of tonics, removal to the country, the use of antiseptic lotions and inhalations, principally of mercuric bichloride, the employment of which was rendered tolerable by means of antecedent applications of cocaine. He passed some months on the sunny side of a hill selected with some care in New Hampshire, and late in the autumn returned to Boston. He gave up his previous residence, and removed to the highest part of Newton, into a new house, on sandy and dry soil, where he has since resided. He has steadily improved, his weight has increased from 122 pounds to 140 pounds. He has never been so

heavy as at present. He is gaining strength, the voice has returned, and there is every reason for believing that the disease has entirely disappeared.

It is true that this was probably not a case of *contagion*, but it is illustrative of the way in which a disease which is contagious should be looked upon. It would, in all probability, have been perfectly possible for this patient's wife or child to have acquired the disease, by contagion. He had constant attacks of bronchial or pulmonary irritability, frequent catarrhs, and recurrent periods of hoarseness and threatened pulmonary tuberculosis. His system furnished a soil which was peculiarly adapted for the reception of such a disease.

DR. HAROLD WILLIAMS remarked that when a student he had been taught by Dr. Knight that phthisis pulmonalis was communicated by the sick to those in attendance upon them under certain conditions, and that in his practice he had never had occasion to change this view. He had not come prepared to cite cases in proof of this doctrine, but could say that he had never doubted its truth, and that he had each year many cases which confirmed it both at the Boston Dispensary and elsewhere.

The two principal arguments against the view of contagion were: *first*, that phthisis was the commonest disease in our community, one-fifth of our people dying of it, and that cases of its supposed contagion were cases of coincidence. This argument Dr. Williams thought could be answered by saying that the reason of its frequency was because of its contagiousness, and the absence of sufficient precaution in protecting the well against the sick. The second argument of the immunity of the attendants of phthisical patients in hospitals had been answered by Dr. Knight.

Dr. Williams not only believed phthisis to be contagious, but he believed the bacillus to be the element of contagion, and this had suggested to him that the well-known germicide properties of arsenic might account for the efficacy of this drug in phthisis, and that he was conducting some experiments to test this theory. Since reading Jaccoud's book, in which the administration of arsenic is highly recommended, Dr. Williams had employed it in several cases with good results, especially in one girl with phthisis of three months' standing, in which case its administration had been followed by complete recovery. Dr. Williams questioned if the good effects so strongly insisted upon by Jaccoud might not be due to the germicide properties of the drug, rather than to its action as a tonic, and as diminishing blood pressure and calming nervous irritability, as claimed by Jaccoud.

DR. HENRY J. BARNES addressed the Section upon the subject of

MILK-SUPPLY,

as follows:

"At the meeting of March 9th, a preamble and resolution relating to the milk-supply was laid on the table. I move that it be taken up and read.

"Mr. Chairman, the subject of milk-supply has been before us for several years, so that I feel we are all sufficiently informed to now take intelligent action on this resolution. Thus far our influence has been exercised in promoting legislation, and in support of the vigorous policy of our local and State inspectors. Valuable results have been accomplished, highly creditable to these officers, but the last

annual report of Professor Babcock, indicated a persistency in wrong on the part of a few dishonest milkmen, hardly paralleled in the annals of crime. During the past year 167 complaints have been made against 88 different milkmen for having in their possession dishonest milk.

"I think I speak within bounds in stigmatizing this crime, for it not only cheats the purchaser but assails the lives of many innocent beings.

"Professor Babcock publishes the names of those complained of during the past year, and in the list Bennet & Beckman appear twice; Charles M. Black appears four times; Henry S. Draper, five; Byron Eames, four; Seth Eames, four; Stephen F. Forbush, four; Albert F. Hale, five; Benj. F. Holt, fifteen; Chas. E. Kendall, four; Chas. A. Kenneson, six; John H. Kenneson, five; Mary P. Merriam, seven; Joseph W. Moore, seven; Orson Young, five; besides many others which appear once, twice or three times each.

"This dark record I believe to be chiefly due to a faulty system, which holds for twenty-four hours in secluded and often unsanitary places, milk which should go directly from the car to the consumer, as is the custom in other cities, so far as I am informed. As a rule only those persons who take milk by wholesale receive their supply on the morning of its arrival in Boston. I cannot believe there is any person here but desires a reform in this regard, although we may differ in opinion as to the best method of its accomplishment. Two or three months ago I presented this phase of the question to the Farmers' Club, and several gentlemen present advocated additional legislation to meet the case, but it was finally concluded that efforts to amend the present law might result in weakening the statute. Besides, it is extremely distasteful to medical men at least, to go before a committee and there be met by those who would attempt to impeach efforts for the public welfare by questioning disinterested motives. Therefore, this plan does not seem to be advisable.

"The other alternative is to create a public demand for a direct supply, and this is the object of the resolution, although it purposely limits action on the part of members of this Society to the exercise of such influence as they may see fit, leaving to each and all absolute freedom in selecting their source of supply.

"The coöperation of all honest dealers may be anticipated in this movement, as it will obviate the necessity of keeping in stock a large number of small cans, with the attendant care, and the maintenance of ice-chests which adds materially to the cost of handling. It would render inspection less laborious, as the samples could be taken from comparatively large quantities."

Dr. Barnes then offered the following resolution:

Whereas, A large proportion of the milk daily supplied to the City of Boston for human consumption by its inhabitants is from six hours to twenty-four hours old when it reaches the city, and

Whereas, Owing to the inconvenient time of arrival of the milk-trains, and to the system of delivery in small service-cans, the milk so brought is still further detained twenty-four hours in the barns and sheds of the milkmen, and

Whereas, We are of the opinion that during this period, not only are opportunities afforded to the dishonest dealer to tamper with the milk, but that it is

often exposed to unsanitary influences, the cost of handling is increased, and the additional age thus given to it is detrimental to the public health, therefore,

Resolved, That we, the members of the Suffolk District Medical Society, Section for Clinical Medicine, Pathology and Hygiene, will exercise every proper influence to secure for ourselves and the community in which we live, milk which has not been subjected to this unnecessary delay.

Voted, That the Secretary of this meeting be instructed to endeavor to secure the publication of the above resolution in the daily papers of the City of Boston, over the signature of the Chairman of this meeting, and that of the Secretary.

The Chairman then declared the resolution to be before the Section, and invited Prof. James M. Babcock, the Inspector of Milk, to open the discussion.

PROFESSOR BABCOCK spoke as follows: Mr. President: I had no idea when I was invited by Dr. Barnes to come here that I should be called upon to speak, and I feel all the more diffident, now that I have observed that such matters have been brought before the Society in the form of papers prepared with a considerable degree of study and care. It will be evident from what few remarks I make that I have come here with no preparation whatever. I shall of course be glad to answer any questions in regard to this matter, that any gentleman may see fit to put to me.

It is as Dr. Barnes has said: a very large part of the milk which is supplied to the citizens of Boston is twenty-four hours in the hands of the milkman between the time when it arrives in Boston and the time the milk is supplied to the consumer, and is in many cases thirty-six hours old from the time of milking. On the Boston & Albany Railroad there is a train, of some six or seven cars, which gets in the city at half-past one, A.M., there are also some two or three cars which arrive at about eleven o'clock. On the other roads, the Boston & Maine, Eastern, Lowell and Fitchburg, etc., the milk is received at about ten or eleven o'clock in the day; of course the milk under that arrangement of trains cannot be delivered to the citizens of Boston till the next morning. The remedy for that would be a different arrangement of trains. The milk which is received by way of the Boston & Albany, is loaded directly on the teams in large cans and taken to grocery stores and bake shops, while the family trade is supplied by milk which was put up the day before. The milkman, after he has gone his rounds, perhaps visits the depot for the milk which has arrived on the eleven o'clock train that day, and takes it to his own stable and puts it up in small cans and then puts them into an ice-house or ice-pit and then at twelve o'clock or one o'clock in the morning, his wagon starts on its rounds to deliver this milk to his customers, so-called "fresh from the cow." There would be probably a certain amount of disinclination to enter into any arrangement which would make it possible to deliver milk in a fresher condition than it is at present. I ought to say, perhaps, there is a good deal of milk brought into Boston from Lexington and other outlying towns where the milkmen make their own contracts with the farmers, and the milk which is put up in the evening, is delivered to his customers the next morning. The proportion, however, is not perhaps over ten or fifteen per cent. of the milk sold in Boston.

Of course the less handling milk has, the better.

It does not seem so me that the pouring from a large can into a small one and then setting aside, is objectionable.

Of course the increased age of the milk is very objectionable: but anything which will prevent the taking of this milk into stables, some of which are certainly not in a condition to warrant investigation, will doubtless work an improvement in the quality of the milk. Something should be done to enable us in our department to visit these stables. There are in Charlestown many such stables, and the inspectors should be granted the right to enter all places where milk is stored or kept for sale in order to ascertain the manner in which these stables are kept.

DR. DURGIN was called on by the Chair, and responded as follows: I do not know that I am prepared to say anything on this subject, but I wish to call the attention of my friends here to the fact that very much can be done in the way of delivering milk earlier than it is now delivered. I am aware of the fact that much of the milk delivered in Boston is at least twenty-four hours older than it should be.

Everybody knows that the older the milk, the worse it is for use. I think that the profession is well aware of the fact that the mischief created in children during the summer season is by milk that is tampered with by means of water which is not of the best. The cream is also taken from it and water is added, which prevents the child from obtaining a proper nutrition from that which is taken. As far as resolutions are concerned, it seems to me that the profession is the one to start a movement of this kind. Certainly there is a call for such action on the part of the medical profession, and it seems to me that this is the place to do it. As far as legislation is concerned, there has been a very strong effort made at the State House to break down the existing law, which is a fairly good one. Thus far the attempt to make any inroad on the law has not been successful. In regard to the condition of the stables, I do not know that there is any law which would empower the Board of Health to enter these buildings, which are private property. The only way in which it occurs to me that we might reach them, is through a general law which would enable the Board of Health, to investigate such places on the ground that they constitute a nuisance, and are a source of danger to the public health.

There is no doubt that the public has great need of instruction in regard to matters connected with its milk-supply, and these resolutions which have been proposed may have a very excellent effect in educating the public in some of these things which they ought to know. I have had occasion to say elsewhere that probably three-fourths of the people of the City of Boston firmly believe that whatever may be true of other people's milkmen, in the way of fraud and deception, *their* milkman is honest and truthful, and that somewhere in the radius of ten or fifteen miles of the city he keeps cows, and milks them and brings the products of his dairy to their doors. There are very few people who know the manner in which the milk business is carried on. The great majority of the milk-consumers of Boston suppose that the froth which they find on the top of their cans in the morning is the same kind of froth which they may have seen on the top of the milk while being drawn from the cow, in some cool farmyard in the country. They know that the froth rises to a considerable degree

above the milk, and they are pleased to see the same appearance on the top of the milk can. They do not know that this froth is manufactured from a mixture of the white of egg, and a little cream, and is carefully placed on the top of the milk after it is put in the can. This compound is called by the milkmen "spudge," or in the more common vernacular of the milk trade, it goes by the name of "flub dub."

The public is to a certain extent to be blamed in regard to the quality of the milk. The milkmen justly complain that in certain sections of the city the people are not willing to pay what good milk is worth. I am obliged to confess that I have a feeling of suppressed sympathy for certain milkmen; I would like to believe that it is the force of circumstances which compels some of them to water their milk, and take the cream off, in order to get a living. There are certain sections of the city where the people are unwilling to pay five cents a quart for good milk, to have the milk brought to them.

DR. B. F. DAVENPORT said: I have had within a week or ten days an illustration of the degree of interest and information which the average milk-dealer has in the production or care of milk. I recently saw a milk dealer who had just arrived from Chicago. On the journey to Boston he rose early one morning, and looking out of the window of the sleeping-car, he saw a farmer milking his cow. The milk-dealer stated that it was the first time that he had ever seen a cow milked in his life.

The system of milk-supply in Boston is different from that of any other large city in the country. There is no other city which is supplied exactly like ours. The larger part of the supply is brought in by railroads and is put up for family use in large cans. In New York it is carried around in large cans and is ladled out into pitchers, etc., as it is desired by the consumers.

In other cities, Philadelphia, Baltimore, Chicago, they have very little railroad milk, but the supply is mostly from dairies in the suburbs of the city. There is another point in which the consumers are at fault for the quality of the milk. As the milk is supplied the cream has risen to the top of the can, and ordinarily the consumer will pour off the top of the can without mixing, and the lower portion then acquires a bluish appearance. The consumer thinks that this is not as it should be, and at once concludes that the milkman is not delivering honest milk. He thinks that the milk should be of the same appearance at the bottom of the can as at the top. I have known a case in which a pedler said that he was compelled to adulterate the milk in such a way as to make the bottom of the can appear as white as the top, in order to sell the milk.

DR. BARNES stated that he had been repeatedly told by the contractor on the Boston and Albany road that he would much prefer to have the whole supply of milk come into Boston so as to be delivered in the morning.

The Chairman then put the resolution, and it was unanimously carried. The Secretary was directed to secure the publication of the preamble and resolution in the daily papers.

The Section adjourned at ten o'clock.

— One hundred and sixty-five people died in Chicago, July 15, 16, and 17, from the effects of heat.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, June 2, 1887.

INTUBATION OF THE LARYNX.

DR. F. HUBEL read a paper based on a study of forty-seven cases, the results of which had convinced him, he said, that at the present time tracheotomy should only be resorted to in cases in which intubation had failed to afford the needed relief; and he was of the opinion that a case of this kind would seldom be met with. Having stated that the dyspnoea was as effectively relieved by intubation as by tracheotomy, he spoke of the advantages of the former, and also referred to the origin of the procedure as proposed and practised by Bouchut, in 1858. Then, after referring to some practical points derived from his personal experience, he said that intubation had now passed through the experimental stage, and that its utility had been fully established by numerous operators in different parts of the country. Notwithstanding the gratifying results obtained, however, it had as yet received very little favor, or even attention in Europe.

Of his forty-seven cases, Dr. Huber said that twenty-nine, with eleven recoveries, were in children under three years of age, and eighteen cases, with nine recoveries, in children of three years or over. Of the children under three years, one was nine and one-half months old, one, ten and one-half months, two, eleven months, one, one year, two, two years, two, two and one-half years, and two, two years and eight months old. Of all the children that he had been called upon to treat who were suffering from laryngeal stenosis he had found it necessary to resort to intubation in only one out of every three or four cases; and he thought that it should not be practised until dangerous symptoms had supervened. He used it, in fact, in exactly the same class of cases in which one year ago, he would have performed tracheotomy. Having spoken of the diagnosis of croup and the indications for surgical interference, he referred to the importance of making a careful examination of the neck and chest, and said that he had known cases of retro-pharyngeal abscess and empyema to be mistaken for laryngeal stenosis. As confirmatory of the diagnosis of the latter, relative absence of fever, in uncomplicated cases, was of much value; and aphonia, with difficulty of both inspiration and expiration, were positively indicative of croup.

He next spoke of the various accidents and mishaps which had been met with in connection with intubation, and the objections raised against the procedure. He referred first to the gag, and said that O'Dwyer's gag was liable to be displaced by the struggles of the patient, but that this was not the case with the one devised by Dr. Denhart, which he exhibited. The thread attached to the tube should be eighteen or twenty inches in length, and if not withdrawn at once, should be passed over the ear and secured. In order to avoid accidents in introducing the tube the efforts to place it in position should be short and repeated, rather than kept up uninterruptedly for any length of time. One of the most serious accidents that could occur, was the pushing of dislodged membranes before the tube, and in a case of this kind, Dr. E. D. Ferguson, of Troy, was obliged to resort to tracheotomy.

Several deaths had been reported from this acci-

dent, and Dr. Waxham had recently devised a long tracheal forceps for the purpose of removing the membranes when it occurred. In a case of his own in which it happened he gave the child brandy, with the effect of exciting a fit of coughing which expelled both the tube and the membranes. If at any time after the tube had been introduced, noisy breathing should set in, it was an indication for the temporary removal of the tube. The tube had been known to be coughed up and then swallowed. Instances had also been reported in which the tube had slipped through the larynx into the trachea; but this was when the earlier pattern of tube, with small head, was employed. The tube did not act as a foreign body when in the larynx, giving rise to choking sensations and coughing; but if it remained in position for a considerable length of time it might possibly produce slight ulceration. This, however, did no harm.

In speaking of accidents in connection with the withdrawal of the tube, he said that instances had been reported in which it was pushed down into the trachea, but this had occurred only when the older pattern of tube, with small head, was employed. As to the time for removing the tube, in some cases this might be done as early as the fourth or fifth day, although it was often desirable to allow it to remain longer. As a rule, however, it could be dispensed with at a much earlier date than the tracheotomy tube. If the respiration continued free, the tube should generally be allowed to remain until the fifth or sixth day; but if the respiration became noisy, it should be promptly removed, and afterwards re-introduced, if this should prove necessary. When there were diphtheritic patches discernible in the nose or pharynx it was advisable, as a rule, to leave the tube in position until they had disappeared.

In intubation, as in tracheotomy, the prognosis was more favorable when there was simply local obstruction in the larynx than in cases where there was marked constitutional infection from the diphtheritic poison. No age offered a contra-indication to intubation. No positive prognosis should ever be made, however, until forty-eight hours had elapsed from the time of insertion of the tube.

As regards medicinal treatment, Dr. Huber said that it was his practice to keep up the use of bichloride of mercury throughout the course of the disease, whether intubation were resorted to or not. He employed it, in accordance with the views of Dr. Jacobi, in larger doses than those usually recommended; giving from one-sixth to one-half a grain, and in severe cases as much as one grain, in divided doses, during the twenty-four hours. When there was much difficulty in swallowing, he gave it in the form of tablet triturates, of one-fortieth of a grain each, mixed with sugar and placed dry upon the tongue. If there were extensive diphtheritic membranes in the fauces he also employed tincture of iron and chlorate of potassium. In threatened heart-failure he resorted to brandy, caffeine, etc. If the temperature was very high, antipyretics were employed either by the mouth or rectum. Finally, he used the steam atomizer for producing a moist vapor.

Intubation, he went on to say, possessed every advantage possessed by tracheotomy. It could also save many cases in which tracheotomy would not be permitted, as well as many which would die if the latter were performed, especially in children under three

years of age. Out of twelve cases in which Dr. Huber had resorted to tracheotomy, ten had proved fatal. He had also seen many cases in the hands of others in which the results were no more favorable; so that he felt warranted in assigning to intubation a much higher position.

Dr. J. O'Dwyer read a paper on

FEEDING AFTER INTUBATION OF THE LARYNX,

in connection with which he exhibited various tubes modified to overcome difficulty in feeding. He also showed specimens with the tube in position, and a section of the cricoid cartilage filled up with membranes, except where the tube had left an opening, the form of which was just the shape of the latter.

The difficulty of swallowing, he said, was recognized by all as the most important objection to intubation, and he had long been trying various modifications in the shape of the tube in order to diminish this as far as possible. At first he tried making the heads of the tubes quite small; but, while this rendered it possible for them to slip down into the trachea, it did not make deglutition any easier. The next modification that he made was to increase the size of the head to some extent, and also gave the tube a greater curve, in order to avoid ulceration at the base of the epiglottis. The third modification was to make the posterior surface of the tube longer than the anterior surface, so as to allow the epiglottis to pass over it more completely. Next, he increased the size of the head still further, so that it should fill the cavity of the larynx and prevent fluid and other foreign substances from entering around it. The fifth modification was to make the upper surface of the tube concave, so that it would adapt itself more perfectly to the conformation of the parts; and this modification had the effect of rendering it very easy to remove the tube. With the pattern commonly used, extraction had always proved the most difficult part of the procedure.

The last modification which he had adopted was to give to the upper portion of the tube a double backward curve, in the hope of increasing the facility of swallowing, and this, at all events, had the effect of preventing ulceration of the anterior wall of the trachea, which hitherto had sometimes been quite extensive. Any one, however, who practised intubation at all largely would find it advisable to employ a variety of tubes according to the circumstances of particular cases; and he had lately devised a large, short tube for temporary use in certain instances. The string could be left attached to it, and he thought it probable, on account of the large calibre of the tube, that membranes might sometimes be coughed up through it.

Notwithstanding all his modifications, Dr. O'Dwyer said that he still found about the same difficulty in swallowing present. Solids and semi-solids, as a rule, were taken much better than liquids. Food would not enter the tube if the epiglottis was normal. In a number of instances he had removed the tube in order to give nourishment; but the results were no better than when it was in position. In some cases, particularly when nephritis was present, there was nausea and vomiting, as well as anorexia. Sometimes, however, swallowing was more readily accomplished than before the insertion of the tube, on account of the relief which it afforded to the urgent dyspnoea. As a rule, the longer the tube remained in position, the easier it became to swallow. When the patient was

old enough to understand, he always gave instructions that drinking should be done rapidly and that as large a quantity of fluid as possible should be taken at one time. Then, by coughing, the tube could be freed from any of it that might perchance have entered. Sometimes he employed rectal alimentation, but he very seldom had to resort to the stomach-tube.

Passing on to speak of pneumonia, Dr. O'Dwyer said that in his opinion this might arise from (1) the presence of secretions in the lower air-passages; (2) an excess of blood drawn out of the lungs; (3) atelectasis (in the same cases in which there was an extension of the membranes); (4) the presence of a tube either in the larynx or the trachea. He did not believe that food was a cause of pneumonia, as there was no evidence that food had ever been found in the minute bronchi. He had known a patient (an adult female) to wear a tube in the larynx for over ten months, who not only did not have pneumonia, but who in the meanwhile recovered from bronchitis, which she had at the time the tube was put in.

He had lately had constructed two hard rubber tubes designed for all kinds of acute laryngeal stenosis in adults; the smaller one for women and young males, and the larger for full-sized males. The principal difference between these and the metallic tubes was in regard to their weight and the size of the calibre. While a rubber tube weighed only one hundred grains, an adult metallic tube weighed an ounce and three-quarters; and the rubber tube was fully double the calibre of the metallic. As regards the comparative comfort of the two kinds of tubes, one patient found the metallic tube the most satisfactory, while another, who was a syphilitic and had a very sensitive larynx, preferred the rubber. In the latter case the metallic tube produced ulceration, which was not the case with the rubber one, while greater freedom of movement and facility of expectoration were also secured with the latter.

Dr. DILLON BROWN read a paper on

STATISTICAL RECORDS OF INTUBATION.

As far as he had been able to ascertain, there had been reported altogether 760 cases of intubation, by 54 different operators; and of these he had tabulated 502 cases. 211, or 27.07 per cent., had recovered. The average age of the children who died was three years and two months, and of those who recovered, four years and one month. In those who recovered, intubation was resorted to at an average period of two days and nine hours after symptoms of laryngeal stenosis had first appeared, and in those who died, at an average period of one day and nineteen hours. In the fatal cases the average time between intubation and death was two days and eight hours; and in those which recovered the average time during which the tube was worn was five days and three and one-half hours. The causes of death he found were given in 339 of the fatal cases. Those who had performed intubation in the largest number of cases were, O'Dwyer, 78 cases; Waxham, 106 cases; Dillon Brown, 84 cases; and Huber, 47 cases.

Unavoidable accidents, Dr. Brown went on to say, were rare, and with the exception of the one of pushing the membranes before the tube, were not important. From the use of too much force false passages had been made in two instances. The slipping of the tube down into the trachea, which had been reported

in several cases, could never occur if a tube of proper size was employed. In two cases the tube had passed into the œsophagus, instead of the larynx; but there was no reason why this mistake should be made if sufficient care were taken. In order to avoid as far as possible the danger of pushing membranes before the tube, he advised that the latter should be pressed well down and held firmly in position with the finger until the obturator had been removed. Coughing up of the tube was a source of danger, but this could, as a rule, be avoided if a tube with a sufficient retaining swell was used. If there were paralysis of the muscles, however, this accident was liable to occur, notwithstanding an ample retaining swell. As to the causes of death after intubation, the extension of the membranes to the bronchi was the most frequent; and he believed that pneumonia, when present, was secondary in character.

DR. W. P. NORTHRUP read a paper on the

PATHOLOGICAL ANATOMY OF THE RESPIRATORY TRACT AFTER DEATH FROM LARYNGEAL DIPHTHERIA AND INTUBATION.

In a paper on this subject which he read before the Academy in December last, Dr. Northrup said that he had reported eighty-seven fatal cases. Since that time twenty additional fatal cases had occurred at the Foundling Asylum, so that he had now altogether one hundred and seven cases on record. The cause for this large number during so short a period as four months was the occurrence of diphtheria in connection with a fatal epidemic of measles and scarlet fever. The severity of the outbreak was shown by the fact that all the fatal cases had pneumonia, and thirteen of them nephritis. In his former paper he had stated that he had never met with ulcers of the trachea; but in the twenty cases now reported for the first time there were deep ulcers, laying bare the rings of the trachea, in no less than five instances, and he presented the specimens from these cases. He had not as yet met with ulceration of any consequence caused by the head of the tube:—nothing more, in fact, than necrosis of the epithelium. He had never seen any evidence of aspiration pneumonia, as it was called, due to the entrance of milk or other fluid into the finer bronchi.

DR. IRVIN H. HANCE read the report of a

CASE OF LARYNGOTOMY AFTER INTUBATION.

It was met with at the Nursery and Child's Hospital, and the patient, who was twenty months old, and suffering from scarlet fever and diphtheria, twice coughed up the tube. After it had been introduced a third time the tube became obstructed, and had to be removed. At this time the child was so exhausted that artificial respiration had to be resorted to for a while. The tube was then inserted for the fourth time, and again it filled up with mucus, and had to be withdrawn. After being introduced a fifth time it again became occluded, and was finally coughed up. The stenosis still continuing, laryngotomy was performed, at the cricothyroid membrane, and complete relief from the dyspnoea was at once afforded. The child died the next day, however, of the scarlatinous disease.

In this case, he said, the tubes were thoroughly tried, and were found to be utterly valueless. Their failure, he thought, was probably due either to the large quan-

tity of tenacious mucus present or to the dislodgment of diphtheritic membrane. It was a question whether tracheotomy should not have been resorted to earlier, before the child had become so exhausted by the existing condition and the repeated introduction of the tube.

In conclusion, Dr. Hance alluded to other cases in which laryngotomy or tracheotomy had to be performed after a trial of intubation. Nine such cases, including his own, had been reported, and among these there had been three deaths and five recoveries, while in one instance the child was still under treatment at the time the report was made. The operation had been performed or advised under the following circumstances: (1) Great irritability of the larynx. (2) When membranes are pushed down before the tube. (3) When the tube became plugged up with dislodged membrane. (4) When there was a return of the dyspnoea with absence of the tube from the larynx. (5) When the tube became wedged in the larynx.

As to laryngeal spasm, he had found that this could usually be controlled with belladonna, nitre and chloral. Practically, the only condition calling for tracheotomy was the obstruction of the tube by membranes, and this was a very rare occurrence. The attempt had been made to remove the membranes with forceps. Finally, he said that he would advise resorting to tracheotomy only after intubation had failed.

In reply to a question of the President, Dr. A. Jacobi, Dr. O'Dwyer stated that in his later cases he had performed tracheotomy after intubation in only one instance. His own experience had been so unfavorable in this operation that he was not disposed to hope for much from it. As to removing membranes with the forceps, the subglottic division of the tube was of such narrow calibre that it was practically impossible to use this instrument, and he had therefore devised a flexible apparatus for this purpose somewhat on the principle of the umbrella probang. He knew of no wedging in the larynx that could occur except such as was sometimes met with when a tube with a very small head was used. Like Dr. Northrup, he had never seen any evidence of the so-called aspiration pneumonia arising from the entrance of food into the bronchi. The secretions, he believed, were the source of the pneumonia that was found after intubation; there being aspiration of these into the finer bronchial tubes. It was due primarily, however, to the presence of the tube, because the latter impaired the patient's power of expulsion; the secretions under these circumstances not being gotten rid of with the same facility as through the normal larynx.

The President said that he was much pleased to hear both Drs. O'Dwyer and Northrup say that they had never seen any reason to believe that pneumonia originated from the presence of food. He would like to inquire of Dr. Northrup whether lobar pneumonia was of frequent occurrence, and if so, whether this was found especially in cases of sepsis.

DR. NORTHRUP replied that in the 87 cases previously reported by him, 27 were believed to have died from extension of the diphtheritic membrane. In a large proportion of these there were found membranes extending from the tip of the nose to the finest bronchi of the lungs. Bronchial diphtheria, with œdema was a marked feature at the autopsies. Pneumonia, when it did occur, was of late origination. It

affected both lungs, and was lobular, not lobar, in character. In not more than one-fourth of the cases could it be said to have been the cause of death.

Dr. CAILLE said that it was too early as yet to speak a final word as to the merits of intubation. Many of the cases published had been reported in such a way as to render them of no practical value. In comparing this procedure with tracheotomy in his own experience, he found that he had performed tracheotomy in 21 cases, with five recoveries, and intubation in 16 cases, with six recoveries. In his cases of intubation diphtheritic membranes were observed on the nares or pharynx in nine instances. Most of the cases were seen in consultation, and, as a rule, intubation was undertaken rather late. He believed that all the patients would have died without surgical interference, and that one who died would have recovered if intubation could have been practised earlier. The cause of death after intubation he had found to be catarrhal pneumonia in a majority of his fatal cases. It was a fact that most of the children who died had taken liquids, and of late he had allowed only solids, cut up fine with rice to allay thirst. Since he had adopted this course his results had been better.

In conclusion, he said that intubation was to be preferred to tracheotomy in the majority of instances. When the pharynx and nares are affected, intubation is preferable, as a rule, to tracheotomy, especially when the after-treatment of the latter cannot be carried out satisfactorily. Tracheotomy is preferable to intubation in some cases, hopeless without operation, provided the surgeon can operate and carry out the after-treatment under the most favorable conditions. These statements apply to intubation with the present style of tubes.

AMERICAN OTOLOGICAL SOCIETY.

TWENTIETH ANNUAL MEETING.

THE twentieth annual meeting of the society was held on Tuesday, July 19, 1887, at the Pequot House, New London, Conn.

MORNING SESSION.

The society was called to order at 10.30 A.M., by the President, Dr. J. S. Prout, of Brooklyn.

In the absence of the Secretary, Dr. E. E. Holt, of Portland, was elected secretary *pro tem*. Resolutions expressing regret at the absence of the secretary, Dr. J. J. B. Vermyne, who was prevented by ill-health from being present, were adopted, and the secretary of the meeting was directed to forward a copy to Dr. Vermyne.

Dr. John Green, Dr. J. A. Andrews and Dr. J. A. Lippincott were appointed as a nominating and business committee.

The report of the committee of conference with reference to the formation of a Congress of American Physicians and Surgeons, was adopted, and the following resolution was also adopted.

Resolved, That the Society expresses its acquiescence in the general plan for the formation of a congress of special societies as set forth in the printed minutes of the Washington meeting of September 24th.

The naming of the representative and alternate to the executive committee of the congress was left to the nominating committee.

THE EXAMINATION OF THE POWER OF HEARING AND HOW TO RECORD ITS RESULTS,

was the title of a paper read by Dr. H. KNAPP, of New York.

This was the report of a committee consisting of Drs. H. Kuapp, J. S. Prout and D. B. St. John Roosa. The tests for hearing described were the watch, the voice, Politzer's acumetre, and the tuning-fork. The watch is one of the best means of testing the hearing. A low ticking watch is of service in indicating the lowest degree of hardness of hearing in those cases where the patient has not become aware of the defect. This is, however, not sufficient to measure the higher degrees of deafness. In these cases a loud ticking watch or Politzer's acumetre must supply its place. Each of these instruments must be tested by the physician in his office on a number of normal ears in order that he may obtain a standard. It is a fact that in persons over fifty-five years of age, a low ticking watch may not be heard when placed over the temporal or mastoid bone if the ear is closed, but will be heard if the ear is open.

With reference to the voice, as tests for hearing, the whispered voice, the voice of ordinary conversation and the loud voice are used. Each observer must test his own voice by the acuteness of hearing of normal persons between the ages of twenty and forty-eight years of age. The state of the room as to noise and quiet should always be considered. The tuning-fork over all parts of the skull is heard louder and longer when the ear is closed than when it is open. All tuning-forks are heard longer by air conduction than by bone conduction. Low tuning-forks are heard louder but not longer by bone conduction than by air conduction. Departure from these conditions indicate disease.

DISCUSSION.

Dr. SAMUEL SEXTON, of New York. It seems to me that sufficient importance has not been given to the varying conditions of the patients themselves. I find that in cases of chronic catarrhal inflammation of the middle ear, and also in acute forms of inflammation, that there are constantly varying changes in the tension of the drum and in the transmitting mechanism. In these cases the acuteness of hearing changes from hour to hour or day to day. I have noticed that in the morning when the perceptive faculties are active, a patient will hear better than he will later in the day. It is also well known that the vapor tension of the air as well as the temperature has something to do with the transmission of sound. The hearing is better in cold weather than in hot. I think that we shall always find difficulty in obtaining accurate tests for the more interesting cases which come under observation.

Dr. D. B. ST. JOHN ROOSA, of New York. I am not inclined to lay such stress as has been done on the variations in hearing from hour to hour, in cases of chronic inflammation of the middle ear. These variations do occur in cases of disease of the middle ear, but I think that they are more marked in disease of the internal ear. In cases of a nervous deafness the condition of nervous exhaustion has much to do with the capacity for hearing.

Dr. SAMUEL THEOBALD, of Baltimore. As bearing upon the use of the tuning-fork, I could mention an observation which I have made in a number of in-

stances and which I have been unable to explain. I have noted in certain cases that when I have placed the tuning-fork on the vertex, the patient will hear it louder in one ear, say the right. Then striking the fork again and placing it upon the forehead, it will be heard best in the left ear. This has given me less confidence in the tuning-fork as a differential test between middle ear and labyrinthian troubles.

Dr. H. KNAPP, of New York. For practical purposes we must test the hearing as accurately and with as little loss of time as possible. In certain cases of chronic catarrh you get no change in the hearing power by any test. In these cases I think that nothing is to be looked for from treatment. Where, however, by changes of weather or changes in the patient's condition, there is a change in the hearing power, we know that there is something to improve. We get not only an estimation of the condition, but we also get a foundation for prognosis and an indication for treatment.

THE SUCCESSFUL REMOVAL OF AN EXOSTOSIS FROM THE EXTERNAL AUDITORY CANAL BY A NEW METHOD,

by CHARLES H. BURNETT, M.D., of Philadelphia.

The patient was a physician, about thirty years of age, in whose right ear the exostosis had been growing for fifteen years, and within the past year it had entirely occluded the meatus and caused deafness. The growth was about one centimetre in diameter, pediculated and attached to the anterior wall of the meatus just within the outer edge of the tympanic bone. Its outer surface was covered with thick and rather insensible skin. After a hypodermic injection into the concha, of fifteen minims of a five per cent. solution of hydrochlorate of cocaine, the outer surface of the exostosis was seized by specially devised bone forceps and a piece of the bone tumor cut off. About one-half of the growth was thus removed in successive pieces. As the blades of the forceps could not enter further into the meatus and get hold of the remnant of the exostosis, a small chisel a few millimetres in width was placed against the attachment and a blow from a hammer on the chisel knocked off the remainder of the growth, *en masse*. The operation caused very little pain or bleeding. The fundus of the canal and the membrana tympani were covered with a glove finger cast of epithelium. This was removed and the hearing found to be normal. The ear was dressed with a little iodoform and stopped with cotton. There was no reaction and the cut surface of bone on the wall of the meatus at the point of attachment of the exostosis was entirely covered with-skin in two or three days. Usually drills impelled by the dental lathe have been used to open the lumen of the canal occluded by exostosis. The novelty in this case consisted in the use of bone forceps devised by the author to remove the growth as far as possible, and then the use of hammer and chisel to complete the opening.

DISCUSSION.

Dr. H. KNAPP, of New York. I have taken considerable interest in the removal of exostoses from various canals. To attack them at the apex, with the chisel where they consist of ivory bone is most difficult. The most efficient way, in my experience, is to attack them at the base. Here the bone may be much softer. In the after-treatment cleanliness and anti-

septic precautions are of the utmost importance. I think that this is a safe and is the most efficient method of removing these ivory tumors with large bases.

Dr. J. A. ANDREWS, of New York. I would endorse what Dr. Knapp has stated. Where these osteomata are situated in the orbit, much serious injury may be inflicted upon the brain by the use of the chisel. It would be much easier to fracture the plate of bone lying against the brain in osteoma of the frontal sinus, by attacking the tumor itself than by attacking the bony surroundings of the growth.

THE DIFFERENTIAL DIAGNOSIS BETWEEN AFFECTIONS OF THE MIDDLE EAR AND THOSE OF THE LABYRINTH,

by D. B. ST. JOHN ROOSA, M.D., of New York.

There has been some difference of opinion as to our ability to differentiate between affections of the middle ear and those of the labyrinth. Many cases usually classed under affections of the tympanum, should be placed among diseases of the cochlea or of the acoustic nerve. The records of seven recent cases were given in detail. These cases were nearly all in the middle period of life, when its cares and troubles are most pronounced. Such patients often exhibit symptoms of nervous exhaustion. These cases may be benefited by the administration of strychnia, arsenic and quinine. Proper hygiene should be employed. The universal use of the watch as a test of hearing occasionally leads to false conclusions on the part of the general practitioner, who discovers loss of hearing by testing with the watch alone. When used alone, I regard the watch as insufficient. When both the watch and the voice are heard badly there is cause for anxiety. Many persons have lesions which cause them to hear the watch and certain other tones badly who can hear the voice well. In the opinion of the author those persons who hear conversation better than the watch, who hear better in a quiet room than where there is a noise, and who hear the tuning-fork better through the air than through the bone, suffer from an affection of the labyrinth or nerve, and not from disease of the tympanum, although the latter may be engrafted upon the previous affection. The general adoption of this view would save a good deal of local treatment of the naso-pharynx and tympanum and greatly simplify and improve our therapeutics.

Dr. EMIL GREUNING, of New York. Were the cases described by Dr. Roosa benefited by general treatment?

Dr. ROOSA, of New York. As far as the aural condition is concerned, I regard these cases as incurable. I think that we can assure these patients that if the general health be looked after carefully that they will never hear so badly but that they can hear in a quiet place. This has a good moral effect. It makes the patient happier, and enables us to dispense with much useless treatment.

Dr. E. E. HOLT, of Portland. For several years I have performed experiments with the tuning-fork, but I have not been able to reach the same conclusions as those presented by Dr. Roosa. You may find quite a degree of deafness and still the tuning-fork will be heard longer by air conduction than by the bone. I have seen many cases where bone conduction would be longer than air conduction, and where by treatment the air conduction would become longer. It is difficult to test the hearing properly with the watch

unless it is made with a stop. In my own case I hear the watch very badly. I hear the tuning-fork by air-conduction three or four times longer than by bone conduction. In an ordinary quiet room I can hear all that is said, but in the cars I can hear better than a person with normal ears.

DR. ROOSA, of New York. The case of Dr. Holt would not agree with my experience, which is that of a person who hears well in a quiet room, and who hears the watch badly, always hears worse in the cars than he does in a quiet room.

REMARKS UPON A CASE OF CEREBRAL ABSCESS, by DR. D. B. ST. JOHN ROOSA, of New York.

The patient, a boy of eleven years of age, came under observation May 4, 1887, with a painful swelling over the right ear. It was said that the boy had had some trouble with the ear two years before, but that there had been no discharge. For three months he had tinnitus aurium and vertigo. One week before he was seen he had pain in the ear, then this swelling appeared. Bone conduction with the tuning-fork was better than aerial conduction. The hearing power of the left ear was normal. Immediately above and in front of the auricle there was a swelling about the size of the walnut. This presented fluctuation. There was a history that previous to admission to the hospital the treatment had consisted in the use of injections and the insufflation of powders. The auditory canal was filled with a white substance which was supposed to be the powder that had been employed. The day after admission the patient was etherized and the abscess opened with the removal of half an ounce of laudable pus. No fistula was discovered. The patient did well for nine days. Nausea and vomiting then set in and the temperature went up to 104°. The patient sank into a condition of coma and died on the tenth day after admission. At the autopsy there was found a cerebral abscess one and one-half inches in diameter, situated in the temporo-sphenoidal lobe one-half inch from the surface of the brain. This was lined with thick membrane. The membrane tympani was perforated and the upper wall of the canal was necrotic. At the junction of the mastoid and squamous bones there was a spot of necrosis one-half inch in diameter. The canal and mastoid cells were filled with caseous material.

(To be continued.)

— Cetti, the Norwegian whose twelve days' fast in Berlin was made the subject of study by Professor Virchow, began on June 13th, a thirty days' fast in London, for "scientific purposes." The performance was brought to an abrupt conclusion by his detection in eating gelatine jujubes, about a half-pound of which were found on his person.

— A suit was recently tried in Brooklyn, says the *Medical Record*, which shows that it is not always safe to speak lightly of a physician. Dr. W. J. Cruikshank recovered a \$1,600 verdict, in his suit for \$50,000 damages, against William Gordon, the trial of which was brought in the Supreme Court. The doctor asserted that Mr. Gordon went to the mother of a child he was attending, and urged her to secure another physician without delay, as, in his opinion, Dr. Cruikshank had not the skill necessary to attend a sick dog.

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A CONTRIBUTION TO THE STUDY OF PER- NICIOUS ANÆMIA.

At the Medical Congress lately held in Wiesbaden, Professor Lichtheim of Berne, in reviewing the present status of medical knowledge respecting that puzzling and obscure affection known as pernicious anæmia, called attention to the facts published last year by Reyher, of Dorpat and Runeberg, of Berlin, in which the coincidence between the manifestations of the disease and the presence in the intestinal canal of various kinds of tænia, seemed to indicate a causal relation between the two facts.

Reyher published thirteen cases of pernicious anæmia, which he regarded as undoubtedly due to the presence of the bothriocephalus latus in the intestines, for all these cases got well after elimination of the parasite.

Runeberg, shortly afterward, published a number of facts of a similar nature. It is worthy of note that previous to these observations there was an outbreak of the same disease among the workmen of the St. Gothard tunnel, which was occasioned by infection by the ankylostoma duodenalis. Prof. Lichtheim, in directing attention to these facts, states as a result of his personal experience, that, although in the majority of cases of pernicious anæmia, followed by autopsy, which had come under his observation, he had been unable to find any tape-worms, yet in a case occurring since Reyher's publication, in which the death was clearly from pernicious anæmia, he found six tæniæ (bothriocephalus latus) in the intestine of the patient. Quite recently, moreover, another case of pernicious anæmia presented itself at his clinic, and here again he discovered in the stools of the patient ova and segments of the bothriocephalus. Since then, he has had nine more cases of the same disease; six of these patients have died, and the autopsy failed to disclose the presence of any intestinal parasites. Lichtheim very sensibly concludes from these experiences that the parasite does not play a constant or well-marked rôle in the etiology of this disease.

He anticipates the objection that the cases in Dorpat and Berlin were not cases of pernicious anæmia. It is, however, a fact that these cases, as well as those occurring in his own practice in connection with the presence of intestinal parasites, presented all the clinical symptoms of the malady. He is therefore led to believe that pernicious anæmia is a "*multiplum*"; that it is the form of anæmia which is the most grave, and may be produced by widely different causes.

Lichtheim has seen two cases of pernicious anæmia which were coincident with affections of the spinal cord. The anæmia was associated both times with degeneration of the posterior columns. He thinks it probable that in these cases the spinal degeneration was a consequence of the pernicious anæmia, rather than a cause. In both instances the diminution of red corpuscles was very marked (500,000 to the cu. mm.) Another case is still under observation, in which the coincidence of pernicious anæmia with tabes dorsalis is clearly shown. "There have been," he says, "the last few years a multitude of facts which go to show the production of spinal affections under the influence of a profound modification of the blood." He recalls to mind in this connection the relation established between syphilis and tabes, and the experiments of Tuzek with certain toxic substances; also the observations of Lépine concerning atrophic paralysis consecutive to pernicious anæmia.

With regard to the treatment of this rebellious malady by transfusions of blood, or saline solutions, Lichtheim does not speak as favorably as Ott and some other authorities. In only one case was improvement noted after the use of intravenous saline injections.

Prof. Jurgensen, in commenting on the above paper, referred to a case of his own: a young man of robust constitution, who, all at once, contracted grave pernicious anæmia. He presented all the symptoms of the disease, and in a very pronounced degree. Temperature from 35° C. to 36° C., for several weeks; pulse only 50 per minute; rapid emaciation; extreme diminution of red-blood globules; dilatation of the heart, etc.. Jurgensen thought of a possible infection by the ankylostoma. All other kinds of treatment having failed, he gave twelve grains of the extract of male fern. This dose produced symptoms of intoxication; no segments of tænia were expelled; but, on the other hand, an enormous quantity of *bacterium termo* was found in the stools. The patient immediately recovered his appetite and strength, and two months after was able to return to his home and usual occupation.

Prof. Litten, of Berlin, reported thirteen cases of pernicious anæmia occurring in his hospital service, and eventually proving fatal. The autopsy of these patients gave negative results as far as the presence of any intestinal parasites was concerned. He, therefore, agrees with Lichtheim and Jurgensen that there is no constant etiological connection between pernicious anæmia and the presence of tæniæ in the intestines.

THE TREATMENT OF BURNS.

THE treatment of burns of the first and second degrees, when not of too large extent, is generally a matter of no great difficulty, such injuries healing readily by rest and the most simple applications. Burns of the third degree, even when not implicating a large surface of the body are very slow to heal, and cause great disturbance of the functions of the skin and of the entire system.

Prof. Mosetig writes in the *Wiener Med. Press*, Nos. 2 and 3, 1887 (and here we are indebted to the June number of the *Journal of Cutaneous and Genito-Urinary Diseases*), that he has treated forty-eight cases of severe burns with iodoform, and highly praises this mode of treatment. The action of iodoform is twofold; it is both analgetic and antiseptic. In Mosetig's hospital, patients treated by iodoform, lie quietly in bed, free from pain, they recover more quickly, with less loss of strength, and have smoother scars than when otherwise treated. If life cannot be saved in any given case, at least euthanasia is secured. Although the danger to life from oligocythæmia and nerve shock is not lessened by iodoform, it does lessen the danger of sepsis. In employing iodoform Mosetig so employs it that only a small amount is used. He either does not apply the powder at all as such, or he dusts it lightly over those parts that have been deeply burned, and over which the skin is in a parchment-like condition. He advises iodoform gauze compresses, not the dry preparations which are found already made in the shops, holding much loose iodoform powder, but the kind which he himself first recommended, and which are prepared by impregnating bandage gauze which has been cleansed and freed from fatty matter, with an iodoform solution in ether.

Before being applied, any blisters or bullæ must be opened, and their walls cut away and all foreign substances cleansed by absorbent cotton wet in a one-half per cent. solution of salt. Several thicknesses of the iodoform gauze are then cut to fit the burned part, and applied dry, so as evenly and entirely to cover in the region. Over this is to be spread an equally large sheet of gutta percha paper; care being taken to avoid wrinkles; and finally over all a thin sheet of absorbent cotton encircling the whole region of the body, and the whole secured by turns of a roller bandage.

This is designed to be a permanent dressing, and is to be kept on as long as cleanliness permits, and the temperature does not furnish an indication for its removal.

Simple wetting of the dressing is not an indication for changing it, but should the outer bandage become offensive, it should be changed without moving the others. The iodoform gauze and gutta percha sheet should not be removed until the end of the second week.

Should fever make its appearance, and point to septic trouble as a cause, the probability is that demarcation has taken place, and the burn-slough is

coming away, and there is retention of the secretion of the wound. The retention of pus must be sought for, and the slough removed with forceps and fingers; and fresh dressing applied as before.

The gutta percha dressing is said to be very necessary, and should never be omitted, for should the gauze dry and stiffen upon the burn it can only act injuriously.

By means of this permanent iodoform dressing, the contact of air and infection is prevented; and healing takes place in burns of the second degree under the first bandage. In burns of the third degree, the slough is thrown off with slightly marked secretions, but when the latter is not the case, healing takes place by granulation in relatively shorter time, and the scars are flatter and smoother than those resulting from the healing of non-aseptic wounds.

In burns of the face, Mosetig recommends the use of an iodoform salve (1 to 20), and over it the application of a gutta percha mask.

MEDICAL NOTES.

— Passed Assistant Surgeon John Guitéras, United States Marine Hospital Service, reports under date of July 21, total number of cases of yellow fever at Key West to date, 135; deaths, 35. A majority of the new cases are native children. One death occurred from yellow fever on the 15th inst., at Egmont Key, Florida, (refuge station.)

— The *Lancet* says: "We make no secret of our deep dissatisfaction, extensively shared by the profession, with the dispensation of Jubilee honors. Apart from the reasonable expectations of our own profession, the dispensation is exceedingly disappointing and unworthy of the occasion." Professor Gairdner, of Glasgow, has declined the knighthood tendered him.

— Dr. John Vansant of the United States Marine Hospital at St. Louis, has succeeded in taking a successful photographic negatives by means of the light emitted from twelve fire-flies. The insects were placed in a three ounce bottle, having a piece of fine white bobinet stitched over its mouth. The average duration of the flash of each insect is half a second, and the luminous area on the abdomen is about one-eighth of an inch square. The time of exposure was that of fifty flashes, as counted by the operator, who claims to have the first picture ever produced by the light emitted from a living human organism.

— The wife of an Illinois farmer had six toes on each foot and six fingers on each hand. The farmer became incensed at his wife when his children were born and found to be similarly equipped with toes and fingers. Recently the birth of the third child occurred, with the same peculiarities. In a fit of anger the husband struck the poor woman over the head with a hammer, and she died from the effects of the blow. The murderer was placed in jail, but it is

believed he will be lynched. So runs the newspaper despatch.

Instruction in physiology in the public schools will teach the rising generation of males the consequences of marrying supernumerary digits or other physical or mental peculiarities. Male adults will not only be expected to know their own taste in these matters, but also the consequences of their acts, and there will be no possible excuse for such an act as that of the Illinois farmer.

— Professor Charcot in a recent letter addressed to Dr. Merlotti, an Italian physician, alludes to the danger to morals and health which are likely to result from public exhibitions of hypnotism. The induction of the hypnotic condition, he says, is by no means as inoffensive as we are asked to believe; it approximates so nearly to the hysterical neurosis that under certain circumstances it may, like the latter, become freely contagious. If medicine in the cause of science has taken up this condition, its production should be restricted to the narrowest limits, and it ought never to be allowed in profane hands, capable of misusing it to the public detriment.

— An English contemporary gives the following statistics, as showing the past and present revenue derived from the duty on proprietary medicines in Great Britain. In 1865 the receipts under this head were £55,333. Ten years later the amount had increased to £114,323, and last year it was upwards of £171,000. Although the quantity of patent medicines placed upon the market did not increase in so large a proportion between 1876-86 as between 1875-85, the public demand would appear to have been more general from the fact that the number of vendors increased by 35 per cent. during the recent, as against 26 per cent. of the earlier period. The label duty being equal to one-eighth of the value of the article stamped, we have a ready means of estimating the approximate annual expenditure in patent medicines. Within twenty-one years it has risen from £497,997 to £1,611,639.

— The *Journal* has already referred editorially to the reported discovery by Dr. Edington of Edinburgh, of a definite bacillus, provisionally termed the bacillus scarlatina, obtained from the blood and desquamation of scarlatinal patients, a claim at variance, as will be seen, with Dr. Klein's recently published researches showing the streptococcus scarlatinae to be the cause of the disease. The Medico-Chirurgical Society of Edinburgh, has appointed a committee to investigate the method and repeat the experiments conducted by Dr. Edington with a view, if possible, to the speedy corroboration of the important discovery. The Committee consists of Professors Grainger Stewart (President), Greenfield, and Drs. Carmichael, Hare, Philip, and Woodhead. The Society arranged a discussion on scarlatina for Wednesday, July 20th, when it is hoped the Committee might have some preliminary reports to offer.

— Dr. E. D. d'Oliveri in *La France Médicale*, June 21, 1887, calls attention again to the superiority of iodide of ammonium over the salts with other bases. Rabuteau, in 1872, said that iodide of ammonium was less stable than the other iodides, and more rapid in action, and therefore to be preferred in cases of grave syphilis where prompt and energetic action was necessary. Oliveri says that the chief hindrance to the use of this drug in France has been the impurity of its commercial preparation and its chemical instability. Meynet, a Parisian pharmacist, is said to have produced an aqueous solution of the strength of one gram to the teaspoonful, which is at once pure and stable.

— Sir Andrew Clark in the *Lancet*, June 11, 1887, describes a speedy and sometimes successful treatment of hay fever by the application through the nostril to the naso-pharyngeal cavity on a laryngeal brush of a mixture thus composed: glycerin of carbolic acid, one ounce; hydrochlorate of quinine, one drachm, and one-thousandth part of perchloride of mercury, heat being required to dissolve the quinine. If there is much mucus in the nostrils, cleanse them by means of a douche of warm water containing boroglyceride, in the proportion of an ounce to the pint. The brush is to be loaded with the mixture but not to overflow; the left hand steadies the left side of the patient's head and the thumb controls the shape of the nostril by being applied to the top of the nose. The brush is carried first to the upper part of the nasal cavity, and then through the posterior nares to the pharynx. If the symptoms are severe the brush may need to be applied to the pharynx through the mouth. The application is painful to the patient, and of this fact he should be forewarned. But the pains, smarting and occasional bleeding pass off in half a day. Sometimes one application has stopped the disease for a whole season, and four times within the author's own knowledge it has never reappeared. The treatment may be renewed on alternate days or each third day, but two or three applications are enough to insure the chance of success.

NEW YORK.

— Dr. Moreau Morris, in charge of the extra service of summer physicians reported to the Board of Health, July 20th, that during the first week of the service the members of the corps inspected 4,738 houses, inhabited by 32,710 families, and distributed 2,459 circulars imparting sanitary information, and 673 tickets for the St. John's Guild Floating Hospital excursions. They prescribed for 867 cases of sickness, of which 475 were diarrhoeal in character.

— In the reorganization of the Board of Health recently adopted by the Commissioners, Dr. R. S. Tracy was made Chief Inspector in the Sanitary Bureau, Dr. Cyrus Edson Chief Inspector of Food, and Dr. William Bullard Chief Inspector in charge of the work of the Sanitary Police.

— Dr. Joseph C. Hutchinson, the most eminent general surgeon of Brooklyn, N. Y., died at his residence

in that city, July 17th. He was born at Old Franklin, Howard County, Missouri, in 1827, and graduated from the Medical Department of the University of Pennsylvania, in 1848. After practising for four years in his native State he removed to Brooklyn, where he remained in active practice up to the time of his last illness. He devoted himself principally to surgery, and won for himself a national reputation. He founded the Brooklyn Orthopædic Infirmary, and for many years was its chief surgeon. In 1860, he was elected Professor of Operative and Clinical Surgery in the Long Island College Hospital, a position which he held for seven years, and not long since he was made President of the collegiate department of that institution, in place of the late Dr. Dudley. For three years, beginning in 1873, he served as Health Commissioner of Brooklyn, and somewhat earlier than this, he was elected President of the King's County Medical Society. He was one of the founders of the New York State Medical Association, and was the first President of the Fifth District Branch of that Society. Dr. Hutchinson was one of the foremost citizens of Brooklyn, and was universally held in the highest esteem.

Miscellany.

A CYCLE OF TUBERCULOSIS INFECTION.

BESIDES cases of infection of tuberculosis in the human subject as described in Dr. Knight's paper in another column of this JOURNAL, well authenticated instances have not been wanting of transference of tuberculosis from man to animals and vice versa. The domestic fowl has been known to prove an easy prey to this species of infection, as when the sputum of a consumptive patient was cast into a barn-yard, infecting a whole flock of hens. The following case, reported by Dr. Lamallerée, of the congress of the French Scientific societies, in Paris, and recorded by the French Correspondent to the *Therapeutic Gazette*, shows the chain of contagion of tuberculosis (1) from man to man, (2) from man to animal, (3) from animal to man.

In 1872 a young man liberated from military service after he had been a prisoner of war, came to a small village, where he settled as a woodcutter. Although suffering from bronchitis, he married a young girl of the locality, but soon after he was taken with hæmoptysis, and died within a year after his marriage, leaving a child rather delicate. The widow, who had been a strong, healthy girl, gradually became consumptive, so that in 1885 she had cavities in her lungs, profuse expectorations, and now she presents all the symptoms of an approaching end. Dr. Lamallerée was recently called upon to see a neighbor of the widow just mentioned, a young woman whose antecedents could not lead him to suspect tuberculosis. The patient, nevertheless, was found to suffer from incipient phthisis. After long questioning, it was ascertained that within some four months she had eaten eleven chickens bought from her neighbor, and as her strength was failing she had roasted them very slightly, hoping to thus get more nourishment. From her

house the doctor stepped into the widow's whose case he knew well, to ascertain how the hens were fed, how they had died, and whether they were in the habit of absorbing sputa. On this point he received prompt satisfaction. As he was walking into the house he heard the widow have a fit of coughing, and immediately a legion of chickens ran in, as they are wont to when hearing the voice of one who feeds them, and began to fight around the bed for the consumptive's sputa. One of the hens having died the same morning, the doctor found in the animal seventeen soft tubercles; the liver was honeycombed with them, and the liquids contained many bacilli.

THE DEATH POINT OF MICRO-ORGANISMS.

AN important paper by Dr. Geo. M. Sternberg, in the July number of the *American Journal of the Medical Sciences*, gives the results of his experiments as to the temperature necessary to destroy the various known micro-organisms. His conclusions are as follows:

(a) The temperature required to destroy the vitality of pathogenic organisms varies for different organisms.

(b) In the absence of spores, the limits of variation are about 10° Centigrade (18° F.)

(c) A temperature of 56° C. (132.8° F.) is fatal to the bacillus of anthrax, the bacillus of typhoid fever, the bacillus of glanders, the spirillum of Asiatic cholera, the erysipelas coccus, to the virus of vaccinia, of rinderpest, of sheep-pox, and probably of several other infectious diseases.

(d) A temperature of 62° C. (143.6 F.) is fatal to all of the pathogenic and non-pathogenic organisms tested, in the absence of spores (with the single exception of *sarcina lutea*, which, in one experiment, grew after exposure to this temperature).

(e) A temperature of 100° C. (212° F.) maintained for five minutes destroys the spores of all pathogenic organisms tested.

(f) It is probable that some of the bacilli which are destroyed by a temperature of 60° C. are from endogenous spores which are also destroyed at this temperature.

ALBUMINURIA IN HEALTH.

PROF. GRANGER STEWART has recently made an important communication on the above subject to the Royal Society of Edinburgh, based upon a large series of examinations of the urine of persons supposed to be healthy, the tests being carefully made with nitric and picric acids. According to the *Medical Press*, Professor Stewart examined the urine of 407 persons, and discovered albumen in 129, that is, in 31 per cent. Care was taken to avoid such fallacies as might arise from the presence of gonorrhoea, spermatorrhoea, and such like. Of 205 soldiers, 77, that is, 37.56 per cent., had albumen. Of 74 civilians, 10.8 per cent. had albumen. Of 40 pauper children in one of the city poorhouses, 17.5 per cent. had albumen, and of 40 adult paupers of about sixty years of age, 67.5 had albumen.

The following table shows the per cent. of persons having albuminuria before and after breakfast:

	Before Bkfst.	After Bkfst.
Soldiers	15.6%	40.6%
Old Men	37.5%	67.5%
Children	12.5%	17.5%
Children (2d group)	14.6%	20.8%

Professor Stewart also drew attention to the effect of exercise and exertion. Thus, of a party of soldiers, before taking exercise, 29 per cent. had albuminuria, and on their returning from an eight miles' march, the percentage was lowered to 19. Again, of a party of soldiers, 15.6 per cent. had albuminuria before breakfast, 40.6 per cent. after breakfast, and 28.1 per cent. after a march of eight miles. When more severe exertion was undertaken, the results were different. Thus, before commencing coaling duty (that is, the carrying of and distributing coals from the basement to the upper parts of Edinburgh Castle), soon after breakfast, 44 per cent. showed albuminuria, and after they had finished the work, the percentage was found to be raised to 64 per cent. Of band boys, playing wind instruments, he found the percentage having albumen to be 20.8, while in other boys in the same institution not so employed, the percentage was 8.3; but, after one hour's playing, the band boys showed a diminished percentage of 12.5. Of 21 boys in the orphan hospital, 19 per cent. showed albumen before taking a cold bath, and after the bath, the percentage was increased to 23.8. Professor Stewart draws the following, among other conclusions: That there is no sufficient proof that albumen is normally discharged from the human kidneys. That albumen is much more common among presumably healthy people than was formerly supposed, tests having demonstrated its presence in nearly one-third of the population. That the frequency of albuminuria increases as life advances. That it is more common among those whose occupations involve arduous bodily exertion than among those who lead easy lives. That albumen frequently follows the taking of food, especially of breakfast, which, more than any other meal, increases the amount of albuminuria. That moderate muscular effort rather diminishes than increases albuminuria. That it is often induced by violent and prolonged exertion. That cold bathing produces or increases it in some individuals. That the existence of albuminuria is not of itself a sufficient cause for the rejection of a proposal for life insurance.

PUERPERAL INSANITY.

AN interesting discussion on the above subject took place in a recent meeting of the Washington Obstetrical and Gynecological Society, introduced by a paper by Dr. F. C. Fernald. The paper and discussion are to be found in the *American Journal of Obstetrics* for July. Dr. Fernald's conclusion as to the etiology of the affection was as follows:—

"I would say that a hereditary neurotic constitution is the predisposing cause, while the exciting cause is physical depression, resulting from a number of factors of which labor is only one, some of the remainder having usually been acting for a shorter or longer time before delivery."

The chair called attention to the comparative percentages of recoveries in the three forms of insanity—pregnancy, parturition, and lactation. A table presented by Dr. Adams showed that these forms of disease are more frequent and more favorable in reverse of the order named. The farther the attack is removed from the period of pregnancy, the greater the

probability of recovery and the shorter the duration of the disease. The table shows, also, that the average age of the cases of insanity of parturition and lactation is less than that of the cases of insanity of pregnancy, but the difference is not sufficient to account for the lessened mortality and duration of the other classes.

Dr. W. W. Godding said that the three forms of puerperal insanity are frequently confounded in statistics. They, however, seemed to him to be different conditions, all, perhaps, dependent upon an exalted nervous state, but insanity prior to the birth of the child appears to be of an inherited type, the pregnancy being merely the exciting cause.

The insanity of parturition is the only true puerperal insanity. The conditions at this time are favorable for an outbreak; there is exhaustion of the vital powers, anemia and nervous irritability.

He thinks there is good reason to differentiate puerperal insanity from ordinary mania or melancholia. In puerperal mania there is an intensity of type. The patients exhaust early, and when there is no inflammation of the brain, exhaustion is the danger. For this reason the feeding of such patients is of the greatest importance, and he would advise easily digestible foods, as eggs and milk with wine, etc. Fatal cases usually die in two or three weeks, but if they live beyond three weeks, there is a good chance of their getting well, though they may run into dementia.

Speaking from memory, he would have said that the death-rate was about five per cent. in those cases which were uncomplicated with hereditary insanity, and from eight to ten per cent. in women from all causes. From hastily prepared figures which he had brought with him, drawn from the records of St. Elizabeth, he finds the death-rate twenty per cent., and that only twenty-five per cent. are cured—a sad commentary on the curability of the disease. Some cases admitted under puerperal insanity have gone on to chronic mania, and their death from ten to twenty years after ought hardly to be said to result from puerperal mania. Such statistics are deceptive and misleading.

A point which he has often observed is that women, even in the best walks of life, make use of the most horrible profanity and obscenity during these attacks.

While it is probable that the origin of the trouble is in the genitalia, pyemia is not the cause, in his opinion. The condition is one of exhaustion, the brain being irritated, not inflamed. The pulse is usually soft and not above one hundred, the temperature only slightly raised, and no evidences of pyemia.

Dr. Godding remarked that he has always fought against the admission of such cases into an asylum. The stigma attached to this proceeding, and the critical condition of the health of the woman should, he thought, lead the general practitioner to carefully consider the circumstances in each case before he advised such removal.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 16, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhoeal Diseases.
New York	1,481,920	1102	667	43.02	7.83	.63	4.32	34.38
Philadelphia	993,801	543	289	26.53	10.26	.54	.90	21.60
Brooklyn	745,108	543	331	41.94	8.46	.18	4.32	36.36
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	253	139	37.52	7.92	1.58	1.98	30.49
Boston	400,000	211	111	36.49	12.79	1.41	1.41	26.91
New Orleans	242,750	134	54	14.25	9.00	—	3.00	6.00
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	112	56	43.61	7.12	1.78	.89	34.71
Pittsburgh	210,000	128	63	50.70	7.81	6.24	2.34	37.44
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	139	108	43.20	6.48	1.44	2.16	36.00
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	60	33	32.60	4.89	4.89	—	24.45
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	22	14	36.40	18.20	—	—	27.30
Charleston	60,145	43	28	27.96	6.99	—	2.33	23.30
Portland	40,000	13	7	23.07	7.69	—	15.38	7.69
Worcester	68,383	36	16	33.36	19.46	2.78	2.78	27.80
Lowell	64,051	41	23	48.80	7.32	8.32	—	29.28
Cambridge	59,660	43	25	44.27	6.99	—	2.33	41.94
Fall River	56,863	47	35	—	—	—	—	—
Lynn	45,861	16	7	31.25	12.50	6.25	—	25.00
Lawrence	38,825	20	11	35.00	5.00	—	—	30.00
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	6	14.28	21.56	—	—	14.28
Somerville	29,992	18	8	44.44	16.66	—	—	44.44
Salem	28,084	16	6	31.25	12.50	—	—	25.00
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	11	3	27.27	9.09	—	—	27.27
Taunton	23,674	6	2	16.66	16.66	—	—	16.66
Haverhill	21,795	17	9	52.20	11.80	—	5.90	41.30
Gloucester	21,713	3	1	—	33.33	—	—	—
Brockton	20,783	3	0	33.33	66.66	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	3	2	—	—	—	—	—
Fitchburg	15,375	10	4	10.00	20.00	—	—	10.00
Waltham	14,609	3	2	66.56	—	—	—	66.66
Newburyport	13,716	8	0	—	25.00	—	—	—
Northampton	12,896	5	4	—	—	—	—	—

Deaths reported 3,628: under five years of age 2065; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 1,889, consumption 326, lung diseases 130, diarrheal diseases 1,123, diphtheria and croup 103, typhoid fever 39, measles 34, malarial fever 32, whooping-cough 20, cerebro-spinal meningitis 16, scarlet fever 14, puerperal fever five, erysipelas two. From measles, New York 12, Philadelphia nine, Lowell four, Boston, District of Columbia, Pittsburgh and Milwaukee two each, Brooklyn one. From malarial fever, New York 11, New Orleans seven, District of Columbia and Pittsburgh four each, Philadelphia and Worcester two each, Brooklyn and Boston one each. From whooping-cough, Philadelphia and Boston five each, Baltimore three, New York and Nashville, two each, Richmond, Pittsburgh and Milwaukee, one each. From cerebro-spinal meningitis, New York seven, Milwaukee two, Richmond, Boston, Baltimore, District of Columbia, Charleston, Lowell and Brockton one each. From scarlet fever New York seven, Brooklyn, Boston, Baltimore Pittsburgh, Worcester, Lawrence and Salem one each. From puerperal fever, Brook-

lyn three, Philadelphia two. From erysipelas, New York and Philadelphia one each. From small-pox (New York) one.

In the 21 cities and greater towns of Massachusetts, with a population of 983,525 (population of the State 1,941,465) the total death-rate for the week was 26.37 against 27.12 and 21.77 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 2d, the death-rate was 18.1. Deaths reported 3,207: infants under one year of age 807; acute diseases of the respiratory organs (London,) 199, measles 156, whooping-cough 136, scarlet fever 38, diphtheria 22, fever 22, small-pox (Cardiff) two.

The death-rates ranged from 9.4 in Derby to 29.2 in Manchester; Birmingham 15.9; Hull 16.7; Leeds 18.7; Leicester 14.2; Liverpool 21.4; London 18.6; Norwich 20.8; Portsmouth 12.5; Sheffield 19.1; Wolverhampton 19.4.

In Edinburgh 16.9; Glasgow 19.9; Dublin 29.4.

The meteorological record for the week ending July 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, July 16, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 10	29.59	67.0	86.0	61.0	97.0	80.0	87.0	88.0	S.	S.	W.	5	7	10	O.	F.	F.	13 ³	.77
Monday, ... 11	29.72	69.0	75.0	63.0	88.0	71.0	87.0	82.0	W.	N.W.	N.	11	18	5	O.	O.	O.	10 ³	.34
Tuesday, ... 12	29.97	67.0	71.0	63.0	85.0	78.0	88.0	84.0	N.E.	E.	S.	4	8	5	O.	C.	C.	2	.02
Wednes., ... 13	29.85	80.0	92.0	66.0	77.0	41.0	70.0	63.0	S.	N.W.	W.	10	11	10	O.	C.	C.		
Thursday, ... 14	29.95	73.0	81.0	69.0	45.0	34.0	51.0	43.0	N.	W.	W.	16	15	12	F.	C.	C.		
Friday, ... 15	29.98	70.0	78.0	63.0	41.0	31.0	68.0	47.0	N.W.	N.	W.	24	15	8	F.	F.	C.		
Saturday, ... 16	29.87	72.0	80.0	64.0	72.0	62.0	84.0	73.0	W.	S.W.	S.	6	12	5	O.	F.	C.	1	.02
Mean, the Week.	29.847	71.1	80.0	64.0				68.6										14 ³	1.15

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 16, 1887, TO JULY 22, 1887.

By par. 43 S. O. 162 A. G. O., July 15th, so much of par. 1 S. O. 156 c. s., A. G. O., as directs Capt. Jno. de B. W. Gardiner, Assistant Surgeon United States Army, to report for duty at Fort Washakie, Wyo., is revoked.

BARNETT, R., captain and assistant surgeon. Sick leave still further extended six months on account of sickness. S. O. 162 A. G. O., July 15, 1887.

By par. 42, S. O. 162, A. G. O., July 15th, so much of par. 1 S. O. 156, c. s., A. G. O., as relieves Capt. Geo. H. Tomey, Assistant Surgeon, United States Army, from duty at Fort Monroe, Va., is revoked.

TAYLOR, A. W., captain and assistant surgeon. Now at Fort Laramie, Wyo., is ordered for temporary duty at Fort Robinson, Neb. S. O. 162, A. G. O., July 15, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 23, 1887.

FESSENDEN, C. S. D., surgeon. Granted leave of absence for thirty days on account of sickness, July 18, 1887.

MEAD, F. W., passed assistant surgeon. Granted leave of absence for thirty days, July 19, 1887.

YEMANS, H. W., passed assistant surgeon. Granted leave of absence for thirty days, July 23, 1887.

BROOKS, S. D., passed assistant surgeon. Promoted and appointed passed assistant surgeon from July 1, 1887. July 21, 1887.

WHITE, J. H., assistant surgeon. To proceed to Washington, D. C., as escort to an insane seaman, July 18, 1887. Ordered to examination for promotion, July 23, 1887.

WATKINS, R. B., assistant surgeon. Leave extended fourteen days, on account of sickness, July 20, 1887.

MAGRUDER, G. M., assistant surgeon. To proceed to Galveston, Tex., for temporary duty, July 21, 1887.

RESOLUTIONS OF THE SPRINGFIELD MEDICAL SOCIETY ON THE DEATH OF DR. JOHN S. BAGG.

The Springfield Society for Medical Improvement, through

its committee appointed for the purpose, present the following resolutions upon the death of the late Dr. John S. Bagg.

Resolved, That in the death of Dr. John S. Bagg, the profession has lost one of its most promising members; one who possessed unusual qualifications for the practice of his profession; who was the very soul of honor in his relations with other physicians, who despised all pretense, who did what he had to do thoroughly and well; who frowned upon all professional work that was not strictly honest and honorable; seeking for himself only that professional reputation and reward which ultimately attends upon real merit.

Resolved, That the community has been deprived of a citizen who always manifested a warm interest in all public affairs, and who contributed liberally to the artistic and charitable enterprises of the city, which he had but recently made his home.

Resolved, That the Springfield Society for Medical Improvement, of which the deceased was an honored and a beloved member, extends its profound sympathy to his family, and that a copy of these resolutions be sent to them and to the *Boston Medical and Surgical Journal*.

G. S. STEBBINS,
F. W. CHAPIN,
DAVID CLARK, } Committee.

BOOKS AND PAMPHLETS RECEIVED.

Report of Proceedings Illinois State Board of Health, Quarterly Meeting, Chicago, July 8, 1887.

Fifth Annual Announcement of the Northwestern Ohio Medical College, Toledo, Ohio. Session of 1887-88.

Transactions of the South Carolina Medical Association. Thirty-Seventh Annual Session, held in Aiken, S. C., April 12 and 13, 1887.

Twelfth Annual Announcement and Catalogue of Meharry Medical Department of Central Tennessee College. Nashville, Tenn. 1886-87.

Verzeichniss der Curse welche wehrend der Ferienmonate August und September im Jahre 1887, an der medicinischen Facultät in Wien abgehalten werden. 1887.

On the Classification of Mental Diseases. By Ralph L. Parsons, M.D., Greenmont-on-the-Hudson, near Sing Sing, New York. New York: D. Appleton & Co. 1887. (Reprint.)

"Renal Colic, Parasitic and Calculus." A Criticism. By J. B. Marvin, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine in the Kentucky School of Medicine. 1887. (Reprint.)

Original Articles.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON CERTAIN POINTS IN THE SYMPTOMATOLOGY OF CHRONIC LEAD POISONING.¹

BY JAMES J. PUTNAM, M.D.

THAT some of the characteristic symptoms of spastic paraplegia are occasionally due to lead-poisoning can, I think, be established beyond much doubt, though the fact is not generally recognized, all the writers on the subject, from Tanquerel down, speaking of the paralysis of the legs as characterized by atrophy and muscular relaxation, like that of the upper extremity, not by rigidity and exaggerated deep reflexes. The former condition is certainly the rule, and for the simple reason that the paralysis of the legs, like that of the arms, is usually due to peripheral neuritis. Brissaud, for example, takes this view, in his recent and excellent monograph on the toxic paralyzes,² yet, while calling attention to the fact that the so-called deep reflexes are habitually diminished or lost, he says that in exceptional cases they are exaggerated, owing as he thinks, to a sort of associated condition of spinal irritation.

Brissaud also points out that the interesting observations on the effects of poisoning by the different species of lathyrus, in the southern countries of Europe, and especially the investigations by Bouchard and Proust, show that the typical symptoms of lathyrism consist in spastic paraplegia, with exaggerated deep reflexes and without marked sensory symptoms. Ergot³ also causes pronounced spastic paraplegia as its typical sign of its poisonous action.

Besides this spastic form, there is a flaccid form of lathyrism paralysis which Brissaud thinks is perhaps of peripheral origin, and may justify the ranking of this poison under the same head with lead, arsenic and alcohol. The question is whether these latter agents also, or at any rate lead, besides the flaccid paralyzes or peripheral origin may not sometimes cause a typical spastic paraplegia.

I am well aware that the presence of ankle-clonus and exaggerated knee-jerk cannot be taken as proof of the existence of spinal sclerosis. They are found exaggerated in hysteria and neurasthenia, acute and chronic, and I have seen both quite recently in two cases of severe anemia, one following rheumatism and one of unknown origin. They may, in short, indicate only a functional, nervous hyperexcitability. Such may have been the origin of the symptom in a case reported by Dr. Dercum, of Philadelphia,⁴ where a very large amount of lead was found in the urine, and which was characterized otherwise by the following symptoms; loss of strength and weight for two years; great nervousness; insomnia; severe itching of the skin; numbness of the right arm; indigestion; cramps in the abdomen; exaggeration of the knee-jerk.

Finally, Möbius, and Strümpell have reported two cases supposed to be instances of multiple neuritis, in which this symptom was present, and perhaps another example of this kind is furnished by the following case, which was reported by Dr. S. G. Webber⁵ as prob-

ably an instance of lateral sclerosis due to lead, but which seems best interpreted as peripheral polyneuritis with exaggerated knee-jerk.

"Female patient, married, twenty-three years old; numbness and pain below the elbows and knees, for three months past; swelling of legs; at time of examination, paralysis of feet in extension, with pain on passive motion; delayed sensation from feet; complete paralysis of extensors of wrist and fingers, and incomplete paralysis of the rest of the muscles of the arm below the elbow; diminution or loss of Faradic reaction; urine contains considerable lead; knee-jerk very greatly exaggerated, improvement under treatment."

Setting aside for the moment the question whether we are justified in assuming that the pronounced exaggeration of the knee-jerk and the presence of the ankle-clonus in these cases is really due only to a general nervous erythism, or to an irritability of the spinal cord, let us glance at the remaining evidence that this symptom and other signs of spastic paraplegia are seen in typical lead-poisoning and in the cases where lead was found in the urine.

The first case is that of T. C., a stone-cutter, from Quincy, who came to the Massachusetts General Hospital on May 5, 1887. He reported that he had a chancre four or five years ago, followed he thinks, by secondary symptoms, and used also to drink a good deal of liquor, but not for three or four years. Except for this his previous health had been good, and he had not at all the appearance of a person suffering from the cachexia of alcohol. For three or four years he has not felt well, and has been subject to "jumping" pains in the head, back and legs, especially about the knee; also pains in the abdomen, not always attended with indigestion.

Three months ago he began to lose power in the extensors of the fingers and thumb of the left hand. This increased steadily but is still incomplete, the little finger being extended fairly well; the others in the order in which they follow. The extensores carpi radialis and ulnaris are both deficient, the ulnar extensor, as is usual in lead paralysis, acting the best. There is slight tremor on attempted extension of the fingers. The muscles of the right arm are in a similar but much less serious condition; that is, there is a slight tremor and incomplete extension of the fingers. The electric examination shows loss of Faradic reaction in the extensor communis digit of the left arm, and R. D. at three M. A. The Faradic reaction of the flexors of the left arm, and of both flexors and extensors of right arm is normal. The knee-jerk is exaggerated on both sides, though more left than right, and there is a trace of ankle-clonus, increased by "reinforcement." There is no marked spastic gait, but at times his legs feel stiff.

The second case is as follows: Male patient; works at grinding up old articles of manufactured rubber (in the making of which litharge is used); has had severe abdominal pains for the past four months; constipation; tenderness on pressure over the abdomen; fatigue in walking; insomnia, due he thinks to the pains; yellowish cast to conjunctiva and complexion; marked blue-line on the gums; exaggeration of the knee-jerk, and trace of ankle-clonus.

I am indebted to Dr. R. T. Edes for the notes of the following cases:

(1) Jennie C., aged twenty-two. Sharp pains in legs, with numbness and inability to walk; creeping

¹ Concluded from page 76.² Des Paralyties Toxiques. Paris, 1886.³ Tuzek, Arch. Für Psych. und Nervenkrankheiten, 1887, xviii,

329.

⁴ Philadelphia Medical News, January, 1887.⁵ Archives of Medicine, New York, Vol. viii, 1882, No. 1.

sensations in the hands; muscular tremors; exaggerated deep reflexes; lead in urine.

(2) John D., aged twenty-six. Pains in thighs, and numbness of legs; staggers a little in walking and standing with eyes closed; patella reflex exaggerated; ankle-clonus. No syphilis. In this case the urine was not examined for lead, but it is some evidence in favor of its presence that the patient worked in rubber, an industry in which lead is largely used, and which has furnished me with a typical case of spastic paraplegia, and two cases of typical lead-poisoning.

Finally, we come to the instances of typical spastic paraplegia and allied cases, where lead was found in the urine.

Of these the first is the case of a plumber, who besides a typical spastic paraplegia, which was of a year and a half's standing, had considerable impairment of hearing and eyesight, of the same duration, slight but distinct trembling or twitching of the lips and muscles of the face, in talking, and looked pale and rather sickly.

In the second and third cases the symptoms of spastic paraplegia were also well marked. A certain degree of support to the motion of causation by lead, besides the finding of lead in the urine, was furnished by the fact of considerable improvement, partly under treatment, partly without treatment, so that one of the patients was eventually able to resume work though not cured.

The significance of this improvement as a sign of poisoning rather than of progressive degenerative disease could easily be overrated. Such cases do sometimes improve, at any rate, for a time, and in one of these the improvement seemed more or less independent of the taking of potassic iodide. Still, improvement for any considerable length of time is not common in the run of cases of chronic myelitis of any form. It is also worthy of note that, as Tuczek¹⁷ has pointed out, the spinal sclerosis due to ergot, which gives rise to these same symptoms of spastic paraplegia, shows a rather remarkable tendency to remain without progressing, though without much improvement, when the patients are withdrawn from the influence of the poison.

In a fourth case the patient was a painter, and besides his spastic gait and exaggeration of the deep reflexes, he suffered from attacks of dizziness and increased frequency of micturition. A small trace of lead was found in the urine. The symptoms seemed to indicate an extension of the disease beyond the limits of the spinal cord.

In a fifth case the spastic symptoms were accompanied by signs pointing to multiple sclerosis; ataxia of arms and legs; almost universal paræsthesia and anæsthesia, especially in patches; great impairment of muscular sense; excessive hyperæsthesia to contact with hot or cold objects; transient hemiparetic attack; tremor on effort. These was exaggerated knee-jerk but no ankle clonus; no cachexia suggesting lead.

On the other hand, in three typical cases of spastic paraplegia, one of them complicated with atrophy of the muscles of the hands and arms without contracture, no lead was found. The test for lead was also applied, and none found in another case, which might be classed under the head of multiple sclerosis, but this was evidently not a case of sclerotic inflammation

of the ordinary type, but rather of some hereditary degenerative process, the patient being a young girl and the case peculiar in several respects.

I am by no means prepared to assert that a clear case is made out for the causation by lead of typical chronic spastic paraplegia, or of ataxic paraplegia. I would only claim that the cases I have reported indicate that as a direction in which to look in the future. The fact that ergot and lathyrus, cause the same group of symptoms, and that syphilis leads to another form of spinal sclerosis, rather encourage us to look favorably upon the evidence adduced, and what we already know of the pathology of lead-poisoning does not make such a connection intrinsically improbable.

It is perfectly true that the great weight of pathological evidence is in favor of the view that the typical lesion of lead paralysis is an inflammation not of the spinal cord, but of the peripheral nerves, but it is equally true that the nutrition of the spinal cord is sometimes more or less grossly impaired (in six out of fourteen cases, as Dr. Birdsall¹⁸ made out from an analysis of autopsies, published up to 1881. See also Schultzze,¹⁹ Oppenheim,²⁰ Brissaud,²¹ and Robinson.²²)

Again, although it is true that typical *outspoken* lesion in lead-poisoning is usually confined to the peripheral nerves, and even to the peripheral extremities of the peripheral nerves, yet, as is pointed out by Oswald Vierordt, the writer who has spoken the latest word on the subject,²³ lead paralysis is, after all, a "system" disease, not a general neuritis, and as such probably affects in some degree all the segments of the motor system of which those special nerves form a part. The injury to the spinal cord probably effects no more, in most cases, than an impairment of its normal nutritive influence upon the peripheral nervous and muscular apparatus. If this opinion is correct, the involvement of the spinal cord may be a matter only of more or less, and it is not inconceivable that the antero-lateral pyramid tracts of the spinal cord, though not forming a part of the lower nerve segment (Gowers) which is primarily involved in lead-poisoning, might be secondarily involved, as so often happens, in progressive muscular atrophy; or might be primarily and separately attacked; or, finally, the disease in them might be due to thickening of the vessels so common in lead-poisoning. Such reasoning is, however, of secondary importance in the absence of more definite clinical and pathological evidence.

In contrast with these cases where the motor spinal tracts were involved and where lead was so often present, I would mention that in three cases of local ataxia; five cases of progressive muscular atrophy; and one which was a case of either acute symmetrical neuritis, or of polymyelitis of the adult, no lead was found.

The next group of cases examined for lead is characterized by more or less distinctly localized cerebral or cerebro-spinal symptoms. This group contains seven cases, in all of which lead was found. Three of these cases may be excluded because the disease was fairly assignable to other causes. The other cases

¹⁸ Journal of Neurology and Psychiatry, New York, 1881.

¹⁹ Ueber Bleilähmung. Arch. für Psych. und Nervenkr., xvi, 1885, p. 791.

²⁰ Arch. für Psych. und Nervenkrankheiten, xvi, 1885, page 476.

²¹ Loc. cit.

²² Brain, Vol. vii.

²³ Arch. für Psych. und Nervenkr. xviii, I, 1887.

¹⁷ Arch. für Psych. und Nervenkrankheiten, 1887, xviii, 329.

are not sufficiently alike to make it worth while to consider them together, and I will therefore postpone the enumeration of them to a future time.

The next group is that of the epileptic cases. This contains eight cases, in only three of which lead was found. Of these three patients, one was a young lady in good circumstances, who was subject to peculiar attacks of petit mal, consisting in a sensation of nausea with little or no impairment of consciousness, and occasional attacks of temporary blindness of one eye. She was about twenty-five years of age, and had had the attacks for a number of years; no sign of lead cachexia was present, but lead was found twice in the urine, once in considerable quantity. At a third examination it was not found.

Of the second case I have no full notes. The patient was sixteen years old and had attacks of petit mal about once a week for three years: whether cachexia was present or not I do not know.

The third case seems to me of special interest. It is that of a student about twenty-six years of age, who had suffered during the past year from numerous attacks of petit mal, and one severe attack of outspoken epilepsy. There was no family predisposition to be discovered, and the patient could not remember ever to have had such seizures before, except that once, when about fifteen years old, while sitting at his desk reading or writing, his vision suddenly left him for a moment, as he thinks. The patient is decidedly pale, though this is in part natural; he looks rather feeble; there is slight tremor of the hands; he also did very well under treatment with potassic iodide, and bromide. The urine was examined three times for lead and twice it was found. I was inclined to make light of the connection between the lead and the epileptic symptoms until I found to my surprise, on asking the patient to extend the fingers and wrist to their full extent, to find that the three smaller fingers of both hands drooped considerably, those of the right hand more than those of the left, and that, on the electric examination of the muscles, the extensores communes digitorum of the right arm responded less easily to both galvanism and faradism than the corresponding muscles of the left arm. The interest of these cases centres on the inquiry which they suggest, whether lead can cause epileptic symptoms for any considerable length of time without signs of marked cachexia, or other serious phenomena of lead-poisoning. This condition, though certainly rare, seems to be occasionally met with.²⁴

The epileptic attacks recorded as due to lead are usually severe and prostrating, but of course lighter attacks really due to lead may have been referred to some other cause. It seems to be certain that the children of parents with lead-poisoning suffer from convulsions, in which as a rule they die in infancy. That epileptic attacks of the type of petit mal may, however, be present for a long time without any serious cerebral symptom is well illustrated by the following case which I have recently observed.

It is that of a young woman twenty-seven years of age, employed in a shoe-shop in a country town, and drinking water which came, as is so common in country towns, through twenty feet of lead-pipe from a sunk well, the end of the pipe lying in the well. Her symptoms date back about three years. At this

time her health began to fail, but she showed no more definite symptoms of lead-poisoning than frequent pains in various parts of the body, and in the abdomen, the latter, to be sure, so severe that she was thought by some of the physicians whom she saw, to have inflammation of the bowels. For two or three years she had, at short intervals, what she called "fainting spells," characterized by a loss of consciousness for two or three minutes, preceded by a sense of dizziness, but never attended by convulsions, and leaving her, after a few moments, in her normal condition. She also suffered a good deal with diffused headaches, and dizziness. After this state of things had continued for about two years, sometimes better and sometimes worse, she had a violent cerebral attack, with prolonged loss of consciousness, convulsions and amaurosis, lasting for nearly a week, and this was followed, after a time, by another similar, but less severe attack, and later by characteristic and severe palsy of lead, from which she recovered, only to be attacked by a similar paralysis of other muscles than those first affected. At the time of my examination there was an indication of blue line on the gums, incomplete extension of the fingers and wrist, and paralysis of the small muscles of the hands, with atrophy and reaction of degeneration.

Besides these groups of cases which I have reported, there are a number which do not fall under any single heading, with the recital of which I will not take the time of the association.

Looking back over all the groups, it may be pointed out: *first*, that the urines of persons known to be in perfect health, though their number is, to be sure, but few, were almost all free from lead; *second*, that in the cases of functional nervous disease, neurasthenia and epilepsy, the cases in which lead was found were in a decided minority; *third*, that in proportion as these nervous symptoms were associated with signs of organic disease, the proportion of cases in which lead was found became greater; *fourth*, that among the cases of organic disease, those in which lead was found with the greatest regularity were cases presenting symptoms of chronic diffused neuritis and chronic myelitis, especially of the motor tracts of the spinal cord; *fifth*, that among these cases, those which presented the least sign of cachexia, were those in which lead was not present; *sixth*, that the cases of progressive muscular atrophy showed no lead. Finally, I would suggest, as worthy of future study, the question whether lead may not cause epileptic symptoms of long continuance, without indicating its presence by other unequivocal signs.

In conclusion, I would call attention, as I have already done in a previous paper, to one occupation which has furnished me with several marked instances of lead-poisoning, and which, to my surprise, I cannot find set down among the dangerous employments from this point of view, and that is the manufacture of articles of rubber.²⁵

—A *cause célèbre* in English law and politics, that of a Miss Cass, arrested on Regent Street, London, has brought out the admission on the part of the Police authorities that no reputable female can be or is expected to be seen on that street after dark.

²⁴ See Leudet; loc. cit.; also Schultze, Dissertation, Breslau, 1885, p. 21; Berger, Berl., Kl. Wochenschr., 16, March, 1884.

²⁵ Lead has been found in the rubber ends of feeding-bottles, in Europe.

DISEASE IN THE MILK-CAN.

BY JULIUS S. CLARK, M.D., MELROSE, MASS.

It is fairly well established that diphtheria is excited by some forms of bacteria yet to be individualized. However this may be, its contagiousness is undoubted, and equally certain it is, that its contagious material may be communicated directly by the patient or be transmitted to a distance in various material ways. The more usual channels for the spread of this disease are believed to be drainage and a polluted water-supply; and, equally certain, if less often determined, it may be from infected milk of healthy or diseased cows. The results of very many investigations in England, France and Germany, establish beyond cavil the fact that diphtheria does occur among domesticated animals, and especially the cow, from which its transmission has been traced again and again. How frequently it is spread from the milk of healthy cows, through contamination outside the cow, either by the water-supply to the milk, or from infected vessels, or from absorption of atmospheric contagium, is of vital consequence to all.

When we reflect upon the fact that milk is so sensitive to meteoric conditions and has such absorbent qualities, or affinity, so to speak, for atmospheric poisons, it seems strange that so much stress is put upon the responsibility of the animal, and so little attention or research is given to other possibilities. Whenever it is established, as it frequently and undoubtedly is, that scarlet fever, typhoid and diphtheria gain entrance to the family through the milk-can, it is hardly just or wise to condemn offhand, the friend of all and the foster-mother of many, the cow. In many of the towns in the vicinity of Boston, the local vendor of milk nominally furnished his patrons from the limited product of a few cows, which he ostentatiously parades, while his chief supply is from a general dealer, who on his part collects it of the small producer, more remote, from a house-to-house visitation. Thus it will be readily seen that the chances of infection are multiplied in the ratio of the greater number of original sources from whence the supply is derived.

If one of these many small tributaries that feed the general stream should be the habitation of some infectious disease, it will be seen that with a little carelessness, or with the ordinary care that is exercised in the handling of milk in the average home, it would be extremely liable to pollution. For, while the large producer of milk has separate and special apartments for the treatment of the same, the one-to-three-cow producer *safely* cares for his under his own living-roof, where it may be exposed to deleterious and unhealthy influences at all times. Some facts of interest bearing upon the propagation of diphtheria which prevailed epidemically in Melrose and Malden, during June, July and August of last year, and which was the direct and immediate outcome of an infected milk-supply, I will recite: Of the several cases occurring in my own practice, I failed to discover any of the classical grounds, or *loci causæ* obtaining, but incidental inquiry elicited the fact that each had a common milk-supply, and further investigation found it also true in the cases of other physicians. In Melrose, twenty-three cases occurred in twelve families. In one of these families the contagium was from immediate contact with contiguous neighbors, who were down with the disease.

We have, therefore, eleven distinct foci of infection widely separate, (two only being within the same square) being generally near a line from North to South, of two miles in extent, at intervals of one-eighth of a mile. At these eleven foci of infection, or original cases, a certain local vendor served seven with milk, another two, another one, and a fourth one, while these four obtained milk from two wholesale dealers, who, on their part collected it in a neighboring town and district where diphtheria was then prevailing, and *from families in which diphtheria then existed*. If these were coincident phenomena they attain to the marvelous, when we consider that, of probably thirty distributors of milk, this disease only followed in the trail of a certain supply and failed to appear on the routes of twenty or more who drew their supply elsewhere and none of whom peddled this particular milk.

In the interest of truth and to satisfy an awakened curiosity as to the extent of the mischief wrought by this milk-supply, I pursued it in its effects still further. Being furnished with a list of cases in Malden, for the same period, I continued my investigations with the following results: Number of cases reported, twenty-seven; number of families in which they occurred, eighteen; of these one was not to be found, and one claims to have contracted the disease from a neighbor in whom it existed and with whom they intermingled freely. Now, of the sixteen foci of infection to be accounted for, thirteen received the infected milk. Of the remaining three, who were served by two vendors who received their main supply from the cars, no history is obtainable, but it is quite possible that it came from this very infected locality. It is also more that possible that these vendors supplemented a deficiency occasionally, as they are wont, from a brother vendor, or, what is quite as possible, they procured it direct from the wagon of one of these distributors of the infected milk, who daily passed their doors to a market several miles beyond. Social relations may and do have influence in the spread of zymotic diseases; poverty, uncleanness and the effluvia of animal putrefaction establish a general condition favorable to the genesis of miasmatic contagious diseases. At least, under such conditions their development is encouraged and extended and their virulence intensified—but how much more? Wherever diphtheria occurs we enthusiastically search for filthy surroundings, or defective drainage, as the primitive cause, and with our willing senses these can be had to our satisfaction; yet it is very doubtful if it is ever caused by sewer-gas, or that it is ever endemic in the sense that *ague* is. True, certain endemic conditions of a sanitary and atmospheric nature do supply in many instances the predisposing cause as applied to the individual and his surroundings.

This may be equally said of typhoid, yet who with our limited knowledge can assert, that the sole condition of parentage, the noxious agent, the real element-producing disease, are these essentially? Experience, observation and discoveries are reducing some heretofore probabilities to present possibilities.

Let us turn from the speculations of fancy to the logical teachings of absolute facts, as set forth. We have an epidemic of diphtheria extending over four miles in length, including fifty subjects of this disease in thirty families, or, twenty-eight distinct foci of infection. No facts can be had in one instance, thus leaving twenty-seven to be dealt with. Of these

twenty-seven foci of the disease twenty-four were supplied with milk coming direct from families in which the disease was known to exist, leaving three only wherein we fail to make out a case that would warrant a verdict for conviction. Of the fourteen deaths resulting from this epidemic, thirteen were in families using the milk known to be infected, and one in the family in which no history is had. We emphatically assert that thirteen deaths were the immediate result of an infection conveyed by milk-supply, *the mischief of preventable cause.*

We have local ordinances, Board of Health rules and statute laws, for the isolation of the sick, the non-intercourse of family members, the destruction and disinfection of clothing and habitations, wherein exist typhoid, scarlet fever, small-pox and diphtheria, but nothing to restrain what may be the most pernicious factor in the spread of these — milk.

NOTE.—The facts and data of the above, in the completest detail, are in possession of the State Board of Health.

RECENT PROGRESS IN OPHTHALMOLOGY.¹

BY MYLES STANDISH, M.D.

PATHOLOGY OF OPTIC NEURITIS AND CHOKED DISC.

DEUTSCHMANN⁴ writes that the so-called choked disc (*stauungspapille*) is from the beginning an inflammatory condition, a true neuro-retinitis. There is no evidence in favor of the supposition that it is caused by compression of the ocular end of the nerve; the anatomical facts are opposed to this assumption. Schultén, on the ground of original experiments on animals, has lately come forward as an advocate of the compression theory of Schmidt and Manz. He raises the intra-cranial pressure by means of injections of salt solution into the sub-dural and sub-arachnoid spaces. He produced thereby a narrowing of the arteries, and an overfilling of the veins in the retina; he assumed that these vascular changes were caused by compression of the nerve by fluid in its sheath, and that they truly represented the first stage of the condition known clinically as choked disc. In other experiments, Schultén raises the brain pressure by injections of oil, wax, or gelatine, and by the introduction of small india-rubber bags between the dura-mater and the skull. In this way, also, he obtained the vascular changes in the disc above described.

Deutschmann, accepting the above observations as accurate, denies that they support the compression theory of choked disc. The vascular changes produced were not proved to be the beginning of the morbid process in question, or to be produced by the compression of the ocular end of the nerve by an excess of fluid in its sheath. To settle the matter more positively, he determines to solve, by means of further experiment, the two following questions:

(1) What degree of hydrops of the optic nerve in animals is required to produce changes in the disc similar to those of choked disc in man?

(2) Are there any conditions under which a moderate and even transient hydrops of the nerve, such as is often found post-mortem in man, is associated with the occurrence of choked disc?

For the determination of the first question he in-

jected directly into the nerve sheath. Dividing the superior rectus he laid bare and cut through the optic nerve in front of the optic foramen; then drawing forward the distal end, and taking especial care not to rupture the central vessels at their entrance into the nerve-trunk, he injected warm sterilized agar-agar solution, the advantage of which is, that, at the body temperature it remains of a soft semi-fluid consistence, and is only very slowly absorbed. A ligature being then applied to the nerve, the divided muscle was sutured and the wound closed; the whole with anti-septic precautions. Healing follows almost without trace of the operation. By filling the nerve-sheath very forcibly, he obtained ophthalmoscopic evidence of a total arrest of circulation in the retina, and a few hours later a swelling and turbidity of the papilla, much resembling the choked disc in man. Microscopic sections showed a well marked compression of the nerve close to the globe, a swelling and œdema of the papilla, but no trace of a true neuritis. When the injection was made less forcibly, however, though still sufficient to produce a more marked hydrops than is usually found in man, he obtained only a temporary diminution of the arteries, and an overfilling of the veins, and the microscopic examination, several days later, showed no trace of pathological change, either in the nerve or papilla. Deutschmann concludes that in animals a choking of the disc comparable with that which occurs in man, can only be produced by a pressure sufficient in amount to arrest the circulation. No one, he points out, has found a degree of hydrops in the human optic nerve approaching to this required amount; and, moreover, the frequent retention of good vision in such cases refutes the idea of an arrested circulation. In the next place, Deutschmann made injections of agar-agar into the cranial cavity in order to fill the nerve-sheath by means of pressure within the skull. By repeating the injection from time to time in the same animal, he established not merely a transient excess of pressure in the skull, but one which was renewed from time to time, and by the antiseptics he obtained the effects of pressure without the inflammatory complication. A well marked injection of the optic nerve-sheaths, are equal in degree to that which is found in the human subject under conditions of morbid pressure in the cranium, and lasting for several weeks, was produced. Dissection showed that the sheath was forcibly distended, but that papilla, the nerve-trunk, and its sheath, were absolutely free from any trace of inflammation. From these experiments Deutschmann concludes that an excess of intra-cranial pressure, with distention of the optic nerve-sheath, does not of itself suffice to produce the choked disc. Deutschmann therefore adopts the theory of Leber, that hydrops of the optic nerve is concerned in the production of choked disc in a manner other than that assumed in the compression theory, namely, that the products of new formations, (tuberculosis and intra-cranial tumors), mixes with inflammatory exudation and with cerebro-spinal fluid, are carried into the intervaginal space of the nerve, and at its bulbar extremity excite inflammation of its tissues. To test this view, he repeated his injection experiments, but used an infecting instead of an aseptic material. A few drops of tubercular pus were injected with anti-septic precautions into the sub-dural space. No reaction followed. Three weeks later the papilla began to redden, and the veins to become tortuous; swelling

¹ Concluded from page 79.

⁴ Monograph, Jena, 1887, Ophthal. Review, April, 1887.

of the papilla followed, and then these changes either subside or became gradually intense, until typical appearance of papillitis were developed; the process reached its acme in the fifth week, and then gradually subsided, leaving the appearance of post-neuritic atrophy. The microscope showed widely-spread miliary tuberculosis of the meninges: the intra-cranial portion of the nerve normal, the orbital portion more or less altered, the sheath being more or less distended with exudation in the early stages, and occupied with tubercle deposits in the later; the nerve and the sheath being both inflamed. It was evident that the changes in the papilla were not pressure effects, for they were present before any considerable tubercle masses were formed in the sheath. The conclusion Deutschmann draws from these experiments is as follows: choked disc does not depend upon pressure, it is excited by an irritating fluid, which passes together with the cerebro-spinal fluid, from the cranial cavity, along the nerve-sheaths, and which is arrested at the bulbar end of the nerve, and there produces an infective action.

OPTIC NEURITIS IN HEAD INJURIES.

Drs. Edmunds and Lawford⁵ report twenty-four cases of head injury, in which the condition of the optic nerves had been observed, either ophthalmoscopically or microscopically. The microscopic evidence of neuritis consists in a considerable increase of staining corpuscles in the sheath space and in the nerve.

The cases were divided into three groups:

(1) Cases which ended fatally, directly from the severity of the head injury; eleven cases, four of which had optic neuritis, were included in this group.

(2) Cases which ended fatally, indirectly from complications; the group comprised four cases, two of which had optic neuritis.

(3) Cases which recovered; eight cases, six of which had optic neuritis, were included in this group. The optic neuritis was attributed to the spread of inflammation from the seat of the injury to the optic nerves; this might take place either along nerve tissue or by the meninges. The authors adopted the latter view, because: (1) while in some of the cases in which there was optic neuritis, basal meningitis was found; it never occurred in those cases in which optic neuritis was absent. (2) Those cases in which the base of the skull or brain was injured generally had optic neuritis, while those in which the injury was confined to the convexity of the brain, such as punctured wounds, had not. (3) In some cases of neuritis, transverse sections of the optic nerves showed the inflammation most marked at the periphery of the nerves and in the sheath space. The same authors, in reply to Deutschmann's article, say,⁶ that if his theory be correct, he should be able to show that if the animals he killed in the first few hours or days after inoculation no optic neuritis is present; that at a later stage inflammation confined to the bulbar end of the nerve is found, and that later still the whole length of the nerve is involved. But that he does not say this, and that his statement is that the intra-cranial portion of the optic nerve was found normal, and that the intra-orbital parts altered, the inflammation being more marked near the eye than posteriorly; but this is not

conclusive, for the normality of the intra-cranial portion of the nerves would not exclude the possibility of the inflammation found in the distal portion, having descended by the meninges of the nerve, which he admits were found inflamed. The inflammation of the sheath space appearing more intense near the eye, may be due to the sheath being looser at the anterior part of the nerve, and consequently allowing more free exudation. They have themselves examined some forty cases, and in every case in which papillitis was seen during life there were inflammatory changes in the optic nerves in their entirety. In a few instances the inflammation was confined to the proximal part of the nerve, and in these cases the papilla, both to the ophthalmoscope and to the microscope, showed no changes, death having occurred before the inflammation had time to travel down the nerves as far as the papillæ. In two specimens recently prepared by longitudinal section, inflammatory changes can be traced from the optic foramen to the disc.

CHOKED DISC (STAUUNGSPAPILLE) IN CEREBRAL HÆMORRHAGE.

Remak,⁷ in an argumentative article upon the causation of choked disc in conjunction with cerebral hæmorrhage, gives five cases, the last observed by himself in which cerebral hæmorrhage was caused either by the rupture of an aneurism or a bloodvessel in the brain, and was accompanied by choked disc. The aneurism was generally situated at the bifurcation of the internal carotid, and the hæmorrhage was of a large amount. In two of the cases the nerves were very carefully examined. The conclusions drawn are, that the phenomenon of choked disc in these cases is due to the compression of the central vessels of the optic nerve, in their course through the intervaginal space, through the pressure of blood clotted there, thereby causing an arterial anæmia and venous congestion of the papilla and retina. Our author considers another cause of choked disc to be the interruption of the lymph stream flowing from the eye through the sheath of the optic nerve into the sub-dural space of the cranium. This condition of the lymph circulation as occurring with cerebral hæmorrhage, was shown by the œdema of the retina, the papilla, and the distention of the intervaginal space near the bulb by lymph.

Clinical Memoranda.

A CASE OF BROW PRESENTATION CONVERTED INTO FACE; HIGH FORCEPS.¹

BY EDWARD REYNOLDS, M.D.

M. S., married, native of England, 11 para. Labor began at 10 A. M., January 11th, but she did not send for medical assistance till 6.30 P. M., though the pains are said to have been severe all day. I was sent for first at 8.30 P. M., when the os was of the size of a dollar. The brow presented, M. R. P., and was so far extended that the mouth was within the os. The fetal heart was strong and regular, the caput large and firm. Almost all the liquor amnii had drained away. The pelvis was roomy, but a mass of about

¹ Read, by invitation, before the Obstetrical Society of Boston, May 14, 1887.

⁷ Berl. Klin. Wochen., Vol. 23, Nos. 48 and 49.

⁵ Ophth. Review, November, 1886.

⁶ Ophth. Review, May, 1887.

the size of an orange could be felt by external palpation in the right wall of the uterus and just above the pelvic brim; this was not reached per vaginam.

It was evident that the presence of a fibroid in the lower uterine segment and on the right side, had thrown the occiput of a head presentation O. L. A. into the opposite (left) iliac fossa, and that its detention there had produced extension so soon as the upward retraction of the fibroid permitted the descent of the chin.

Feeling that the case was likely to prove difficult, I sent for Dr. C. M. Green in consultation. On his arrival the patient was etherized and a more thorough examination made. The fibroid was entirely above the head, and the adaptation between head and pelvis was easy.

It was decided to extend the head and make a tentative application of the forceps, and failing with them to have recourse to version.

The head was easily extended to a face. M. R. P., no rotation was attempted for fear of complicating the version, should that be necessary, and forceps were applied by Dr. Green, with the tips reversed, in the hope of promoting the fullest possible extension and consequent rotation. A few strong tractions produced no effect, the forceps were removed and version determined on.

As a preliminary, I attempted to flex the head, fearing that the prominent occiput of a face presentation might put too great a strain on the probably thin lower segment, during the passage of the head; but finding that though the head was easily returned to its original position, any further flexion was impossible, I re-extended it and cautiously passed the hand upward in search of the obstacle, and was surprised to find that the neck of the child was firmly grasped by a spasmodic contraction ring.

All idea of version was now abandoned, the chin was easily rotated to the front (M. R. A.) by the hand, and the forceps reapplied by Dr. Green, who succeeded in delivering, after great difficulty, an eight pound female child. It was somewhat asphyxiated but was resuscitated without much difficulty.

Mother and child did well, and an examination two weeks later demonstrated the presence of an intramural fibroid, of about the size of an English walnut and situated just at the junction of the body and cervix. The mechanism of the case is to me most interesting; that a fibroid in the lower uterine segment should have jammed the occiput into the opposite iliac fossa, and then by its retraction have permitted extension to take place; that this extension should have delayed a normal head in a roomy pelvis until the exhausted uterus had closed down upon the neck in a constriction ring; that forceps to the face should have failed, when the chin was posterior, but succeeded after manual rotation of the chin to the front, are all points which are certainly full of practical interest.

A CASE OF DOUBLE DISLOCATION OF THE HIP.

BY O. J. PFEIFFER, M.D., DENVER, COL., *Chief Surgeon Union Pacific Railway Company.*

ON April 3, 1885, Anna Lindstrom, aged eight years, a deaf-mute, while running along a narrow-gauge railroad track was overtaken, knocked down and run over by a switch engine.

When called to see the case, the legs seemed to be all tangled up, and as the child could bear no manipulation and could answer no questions, Dr. L. E. Leinen having been called in consultation, ether was administered by an assistant and the case was examined.

The left leg, perfectly straight, was rotated inwards so that the left foot lay flat upon its inner side; the left inner condyle of the knee pointed vertically downwards toward the plane of the bed and was resting upon it; the head of the left femur was felt directly outside of the tuberosity of the ischium.

On flexing the left leg to a right angle with the thigh, resting the leg upon my left forearm and moving the left knee upwards in a long vertical arc the head of the femur could be felt to describe a short arc outside and alongside of the tuberosity of the ischium.

The right hip was dislocated upon the dorsum and the right foot rotated inwards and drawn up lay upon and obliquely over the left instep.

The seventh, eighth and ninth ribs were broken at about the angle, and the left forehead and left side of the face were scratched and abraded, and filled with sand.

I remarked that, as dislocated hips were abundant, we would take one apiece, the ischiatic dislocation falling to my lot.

Both dislocations were reduced by Dr. Bigelow's method of manipulation, the chest after a deep inspiration was bound with a swathe and the face wounds cleaned and dressed. A towel was placed between the knees and they were tied together; the patient was placed upon her back, ice bags were applied to the hips, and in three weeks the child was up and about.

The child had been struck by the pushbar of the engine, knocked down head foremost, and in being passed over by the engine had been so gyrated that though she had fallen to the ground head foremost she was picked up with her head to the rear.

The distance between the rails was three feet, and the distance between the lowest part of the narrow-gauge engine and the road-bed was seven inches.

It is remarkable that the child, having passed through so small a space, neither of the femora had been broken.

Reports of Societies.

AMERICAN OTOLOGICAL SOCIETY.¹

TWENTIETH ANNUAL MEETING.

DR. ROOSA also reported the history of a case of SUPPURATION OF THE TYMPANUM OCCURRING IN A PATIENT WITH BRIGHT'S DISEASE.

The patient, a woman aged forty-two years, was seen April 11, 1887. There was intense pain referred to the left ear which had existed since the day before. The hearing was much impaired as the result of a chronic non-suppurative inflammation of the middle ear. The bone conduction was better than the aerial. There was a watery discharge from the left auditory canal. Examination of the urine revealed the presence of Bright's disease, and the patient died some days later from oedema of the lungs. The point which the author made was that although this patient com-

¹ Concluded from page 90.

plained a good deal of the mastoid process, it was determined there was no lesion requiring operation, because of the absence of the characteristic symptom of tenderness at the apex. The case was regarded as one of tympanic trouble. The post mortem proved that there was no trouble with the mastoid, but acute suppuration of the tympanum occurring in a patient with chronic non-suppurative inflammation. The patient died from the Bright's disease.

DR. W. H. CARMALT, of New Haven. The author speaks of tenderness of the mastoid as though it were an almost infallible sign of suppuration in the mastoid cells. I would ask if we should expect to find this sign always?

DR. ROOSA. I think that this is a very strong test, although by no means infallible.

DR. EMIL GRUENING, of New York. I have this winter seen a number of cases of abscess. In two months I saw seven cases. In children, I open the abscess and invariably open the mastoid cells. I do this especially where the abscess has been preceded by otitis media purulenta. In four of the seven cases the mastoid cells were filled with pus. In this way thorough drainage was established, and all the patients recovered. I saw three cases of otitis media purulenta treated by insufflation of powder, leading to retention of secretions and death. All died of meningitis.

DR. B. E. FRYER, of Kansas City. I would ask whether the abscess and the affection of the ear were of the same duration?

DR. ROOSA. I think that the cerebral abscess was of long duration, months, possibly years. The abscess was undoubtedly induced by the tympanic disease.

DR. LUCIEN HOWE, of Buffalo. This case calls to mind one which I had in a child, where there was a history of recurring attacks of ear trouble with discharge. It was stated that good results had been obtained by the use of alum and boric acid. This was continued and the patient began to develop the typical signs of mastoid trouble. I etherized the child and removed the accumulation in the outer ear; all the symptoms then subsided.

DR. W. H. CARMALT, of New Haven. The fact that the cerebral abscess was surrounded by a thick membrane does not prove that it was of long duration. In a recent case of cerebral abscess resulting from an injury over the parietal bone, I attempted to reach the abscess by trephining, and passed my knife two and one-half inches in the direction where I supposed the abscess to be, but got no pus. The man died and I found an abscess in about the position I had passed the knife, but the wall was so thick that the pressure of the knife had squeezed the pus into the lateral ventricles, and death had been the result. In this case the operation was performed within two months of the original injury.

A paper entitled

DESQUAMATIVE INFLAMMATION OF THE MIDDLE EAR,
WITH REMARKS,

by DR. O. D. POMEROY, of New York, was read by title and referred to the publication committee.

AN EFFICIENT POWDER BLOWER, WITH REMARKS ON
THE USE OF POWDER IN THE TREATMENT OF DIS-
EASES OF THE EAR,

by DR. E. E. HOLT, of Portland.

The powder blower consists of six or eight inches of small glass tubing to which is attached about fifteen inches of rubber tubing. The glass tube is plunged into the powder until a sufficient amount is introduced into it. The powder is gently drawn into the proximal end of the glass tube. The distal extremity is then placed in the speculum and the powder blown into the ear. By drawing the powder from the distal end before blowing it, it is carried *en masse* to the desired point and applied evenly to all parts. The instrument can be used with great facility.

After trying various powders, boric acid has been found the most efficient in the largest number of cases. One of the first cases in which the author had used this powder was one in which treatment for over two years had failed to cure a suppurative otitis media. Upon the application of the powdered boric acid, the discharge ceased and has not returned in a period of five years. Cleanliness, before using the powder, is essential. A comparison of cases of chronic suppurative otitis media treated with boric acid with those treated without this agent, led to the conclusion that while the discharge from the ear ceases much earlier when the powder is used, yet perforations in the drum head, heal less frequently.

DR. SAMUEL THEOBALD, of Baltimore, exhibited a powder blower similar to that of Dr. Holt, with the exception that the glass tube was substituted by a piece of goose-quill, and that the rubber tube was furnished with a mouth-piece consisting of a quill. The powder is introduced into the quill, and by shaking brought to the proximal extremity of the tube, the object being that it shall be thrown into the ear in the form of a cloud.

DR. W. W. SEELY, of Cincinnati. I have never seen any fit from blowing powders into the ear. I have only seen good results where the powder is packed into the canal. I, however, now rarely use the powder in any way. In these cases of suppuration there are three points to be observed, the eustachian tube should be kept open, the naso-pharynx should be treated as in any other case of inflammation of the middle ear, and the ear should be kept clean by the use of cotton probes.

DR. D. B. ST. JOHN ROOSA, of New York. I find the syringe the best means of cleaning the ear. I use powders with great circumspection. They are inferior to other methods of treatment.

DR. B. ALEXANDER RANDALL, of Philadelphia. In treating a number of cases of purulent discharge which had continued from five to fifteen years and in which the discharge had been pretty continuous and fetid. I have cleansed the canal and used boric acid, at first blowing it in lightly and finally filling the canal pretty full without packing. Within a few days the powder is dissolved and the discharge is usually diminished in quantity and the odor is lost. In eight out of every ten cases, that has been my experience. I have never seen any bad results.

DR. H. KNAPP, of New York. In acute cases of otorrhoea I use boracic acid as an antiseptic and cleansing powder. The patient is directed to cleanse the ear with the syringe three times a day. The powder is then introduced by means of a spoon until the canal is loosely filled. If the powder becomes moist the patient is directed to syringe the ear and renew the application. The majority of acute cases do not require any other treatment. In chronic cases I remove any

polypoid growths or any carious bone that may be present, and then use alcohol in fifty or sixty per cent. strength or absolute with sulpho-carbolate of zinc, and change that with nitrate of silver. I continue this treatment until the ear is dry and there is no discharge, and direct the patient to do nothing beyond using a light cotton plug to filter the air. I do nothing to the perforations. In one case I make an exception, and that is, when a perforation of moderate size has perfectly clear edges and remains in the same condition for weeks or months. Here I paste a small piece of sized paper over the perforation. In many cases the hearing is improved, and it seems to stimulate the healing of the perforation.

DR. C. R. AGNEW, of New York. In using fluid applications in the treatment of these cases I have employed a procedure which may be new to some of the members. After cleaning the ear in which I want to diffuse a fluid application as much as possible, I turn that ear upmost and fill the external canal with the solution. Then I insert the nozzle of my Politzer apparatus into the external canal and make pressure, diffusing the liquid to all parts of the ear and making it appear in some cases in the pharynx. This sometimes may be of value.

DR. SAMUEL THEOBALD. I think that both powders and solutions may be used with advantage. I have never seen any direct harm follow the use of boracic acid. In cases of suppuration with a small or moderate sized perforation, I have seen it dry up the discharge and leave the perforation larger than before its use. In such cases, I prefer solutions. In acute cases my practice is to always use solutions. I have used a fifteen grain solution with satisfaction. Where the drum membrane is practically gone, with a granular condition of the mucous membrane, the use of boracic acid powder is indicated. I have never found it necessary to pack the canal. One puff of the powder-blower fills the canal sufficiently full.

AFTERNOON SESSION.

The interesting discussion on the use of powders in the treatment of inflammation of the ear was continued.

DR. H. KNAPP, of New York. In acute suppurative otitis, which is certainly of bacterial origin, I use boric acid largely, on account of its drying properties. Suppuration, fermentation and decomposition do not take place where a part is kept dry. The ear is unfavorable for thorough drainage. As soon as the boric acid becomes moist, I have it removed. For acute cases, I know nothing better than this method of treatment.

DR. EMIL GRUENING, of New York. I should like to make a few remarks with reference to three cases which I have already mentioned. In these cases I attributed the fatal result to the use of powder, which was boracic acid. The first case, that of a girl nine years of age, had otitis as a result of the use of the nasal douche. She was advised to use powders. In a few days she began to suffer with headache, dizziness, and intense tenderness on one side of the head, and slight puffiness in the region of the mastoid. I saw the patient after she had become comatose. I found the tympanic membrane bulging. It was injected. There was a slight tit-like projection, and in this there was an opening filled with powder. The pus which formed in the middle ear escaped through the eus-

tachian tube. I made an opening in the membrane and cleaned it out carefully, and advised the family physician to open the mastoid. He did so, and found the mastoid cells filled with pus. The patient recovered consciousness, but died the next day from heart failure. The second case was that of a lady seventy years of age, who had otitis media with perforation. A powder was applied by a general physician, and a few hours later, she began to suffer with intense headache. Symptoms of meningitis appeared, and I was called in. I found a small opening in the membrane occluded with powder. I made an opening, but the patient died of meningitis. The third case was that of a child with long standing otitis media, and destruction of both membranes. This is the only case in which the powder had been packed. After the ears had been packed the child had repeated chills. I was called in, and removed the plugs, which were hard concrete masses and were taken away with difficulty. In spite of the removal of the powder the child died with all the symptoms of pyæmia.

DR. D. B. ST. JOHN ROOSA, of New York. I think that in a large percentage of cases acute inflammation of the middle ear is a self-limited affection. I try to secure cleanliness, and then dry the parts. I do not use dryness as a means of destroying of the germs or preventing them from acting, for I do not believe in the germ theory of disease. I think that germs are the products and not the causes of disease; I think that they retard recovery and therefore should be removed. In a large proportion of the acute cases the only treatment required is irrigation with warm water, *pro re nata*, and drying afterwards. I believe that the pus has a chemical quality apart from the presence of germs, which renders it corrosive. I therefore try to keep the parts as free from pus as possible.

DR. SAMUEL SEXTON, of New York. I think that it would help us in this discussion to consider the kind of cases in which boric acid is useful. Where there is a catarrhal inflammation of the atrium there is generally a profuse discharge which renders it difficult to apply the powder. In the cases referred to by Dr. Gruening, where there is a nipple-like formation, there is little discharge from the atrium. In these cases I make an early and free opening, and in this way I have avoided many of the consequences which are apt to follow in these cases. I make this opening with a stout tenotome. An opening is made through the membrana flaccida into the attic and through the integument of the upper wall, which usually becomes tumefied.

DR. SAMUEL THEOBALD, of Baltimore. I would enter my protest against the view that the good effects of boric acid are due to its drying qualities. Some of my most brilliant results have been with the solution of boric acid. I have had cases in which the discharge has stopped after a single application of a saturated solution of boric acid.

DR. J. A. LIPPINCOTT, of Pittsburg. I count boric acid a most valuable agent, and would not care to relinquish its use. There are, however, certain cases in which as a result of idiosyncrasy on the part of the patient, the powder acts as an irritant. In the cases reported by Dr. Gruening, the fatal results are to be attributed to its improper use. It seems to me that the dangers of boric acid can be avoided by applying it in the form of a loose powder.

AN EXAMINATION OF FIFTEEN DEAF MUTES BY MEANS
OF J. A. MALONEY'S OTOPHONE,

by CHARLES H. BURNETT, M.D., of Philadelphia.

The cases examined were pupils in the Pennsylvania Institution for the Deaf and Dumb, Philadelphia, and were between the ages of twelve and twenty-one years of age. The cases were divided into three classes: (1) congenital cases; (2) those losing their hearing between the ages of one and five years; (3) cases of profound hardness of hearing, but who still hear a little and can talk so-called semi-mutes.

The method of procedure was as follows: five vowels were written and pointed out at the time of their repetition three times in succession through the otophone by Mr. Maloney. The pupil was then told to indicate which vowel was spoken when Mr. Maloney made another repetition, care being taken to mix about in the tests. The words Philadelphia, Mississippi, Burlington, Missouri, boy, baby, papa and mamma were also used as tests, as well as the consonant B.

Hearing was excited in every instance; but fourteen of the fifteen cases gave ample evidence of hearing by their successful indications with the pointer as the different tests were repeated in their ears. It was noted that the results were not as good with the acquired cases as in the so-called congenital cases of deafness. This may be due to the fact that the process productive of the acquired form is more violent, involving the internal ear, as in spotted fever, than in congenital cases which generally give evidence of being simply catarrhal in their origin, and affect the middle ear but not the internal auditory organ. In the case of semi-mutes the results were especially satisfactory, as they heard nearly everything said to them, and returned intelligent answers to the questions. In such cases both the remaining hearing and the articulation could in all probability be improved by the systematic employment of such an instrument as the otophone as a means of instruction, the best results being obtainable where the instruction is begun early in life.

A paper with the same title was presented by Dr. F. B. Loring, of Washington. In the absence of the author, the paper was read by title.

DISCUSSION.

Dr. WM. W. SEELY, of Cincinnati. I would ask whether the use of this instrument is recommended simply as a help to hearing, or as a therapeutic measure?

Dr. C. H. BURNETT, of Philadelphia. The instrument seems to be an immediate help, and is also a valuable therapeutic measure. In the case of an extremely deaf person who was unable to hear a loud voice when the words were spoken close to the ear, and when, with an ordinary ear trumpet, could hear slightly, with this instrument he could hear fairly well from the first. After exercising for fifteen minutes, he was able to hear with closed eyes the unaided voice, the words being spoken a foot from the ear.

DRS. H. L. MORSE, of Boston, and B. ALEXANDER RANDALL presented a series of

PHOTOGRAPHIC ILLUSTRATIONS OF THE ANATOMY OF
THE HUMAN EAR.

EXCISION OF THE OSSICLES OF THE DRUM OF THE
EAR FOR CHRONIC PURULENT INFLAMMATION OF
THE MIDDLE EAR TRACT,

by SAMUEL SEXTON, M.D., of New York.

Since bringing this subject to the attention of the Society, one year ago, the writer has continued the practice with satisfactory results, and presented some further observations based upon the records of nineteen operations. Of these nineteen cases, thirteen were females and six were males. Seven cases were between five and twelve years of age, eight were between thirteen and twenty years of age, and four were between twenty-three and forty years of age. The left ear was affected in eleven cases, the right in eight. In two cases both ears were the seat of suppurative inflammation, and in one there had been a mastoid abscess. In a majority of the cases there had been a history of recurrent aural catarrh for a long time attended with pain in the ear. There was much deafness and distressing acoustic phenomena, as autophonia and the like. The discharge was usually offensive. The general health of most of the patients was fair.

In all cases the drum-head was greatly impaired, the membrana vibrans being usually almost entirely gone; in most of the cases the membrana flaccida alone remained, perhaps with some portion of the membrana vibrans attached. Where any of the latter remained, it was liable to be found connected by bands with the inner wall of the tympanum. Sometimes a sinus of greater or less size opened through these diseased structures into the attic. The membrana flaccida together with the membranous and ligamentous attachment of the ossicles generally held the latter in place, even after the most extensive suppuration had long existed. Under these circumstances, drainage was extremely likely to be interfered with. The manubrium and cicatricial structures depending from the auditory plate were frequently found adherent to the inner wall of the tympanum, which the attic and antrum were lined with much thickened mucous membrane.

Some portion of the middle-ear tract was found to present more or less carious bony surface. In some instances, the ossicles themselves were carious or ankylosed. In several of the cases, the malleus handle was adherent to the inner wall of the drum. In some only a necrosed stump remained. In some the malleus and incus were adherent to each other. The incus was less liable to caries. The tapes cannot be so well examined as the other bones, since it is never removed. In some of the cases the operation was not resorted to until months or years after ordinary methods of treatment had been resorted to without success.

Without going into all the details of the operation, the author said that experience had shown that it may be performed much more rapidly than was at first supposed. The first operations required an hour, the later ones not more than fifteen minutes. To the protracted operation he attributed some disagreeable symptoms, such as nausea, which had not been presented by the later cases.

The remaining fragments of the drum-head are everywhere detached from the tympanic ring with a slender trowel-shaped knife. The malleus is then freed from its attachments, including the tensor tympani muscle by one or more sweeps of the knife. After all blood is removed the long process of the incus is separated from the stapes, if it be connected with that bone. The malleus handle is separated from the inner wall of the canal if it had been attached. The malleus handle is seized with stout forceps as high as possible and gradually detached and brought away. The re-

removal of the incus is more difficult, since its long process is liable to be swept from view. With a little patience, however, the bone may be soon found, and its removal is then a simple matter. When lying in the attic the scraper may be of service in bringing it down. In most instances he no longer divides the chorda tympani. In some cases where the ossicles were very adherent, considerable force was necessary to detach them, and in one instance this was impossible.

After the operation, the drum should be carefully dried with cotton and ten drops of a four per cent. solution of cocaine may be instilled. This is usually unnecessary. Usually, very little or no reaction follows the operation. In females it is important to defer operation until a little time after the menstrual period.

In the nineteen cases both malleus and incus were removed in ten. In one the body of the incus alone was removed. In six cases the malleus only was excised.

When possible, it is well to clear the drum of granulation tissue by treatment before the operation, since less hæmorrhage will then be encountered. The duration of treatment after the operation was, in five cases, one month; two, two months; in two, three months; in one six months, and of the other nine cases, three cases unimproved, one failed to continue treatment, and five are yet under observation. Nine cases progressed steadily to a complete cure; six were much improved; three were unimproved, and one failed to continue treatment. Many of these were dispensary patients under bad physical conditions. A marked improvement in hearing occurred in nearly all cases. In the cases noted as cured, the hearing was improved from 75. to 100 per cent., as far as testing with voice was concerned.

This marked improvement in hearing was unexpected, and gave rise to the conjecture that we may recommend the operation for deafness alone in many cases where the drum is obstructed by the results of chronic purulent inflammation, although all discharge may have ceased.

It might be expected that the taste might be affected by injury to the chorda tympani nerve. In a few this was the case for a short time, recovery, however, always took place. Reproduction of the drum-head never took place. Among the results of the operation may be mentioned the prevention of recurrent accumulations of purulent matter in the attic and antrum. The general health was nearly always improved. In two phthisical cases the cough was lessened in one and ceased in the other, while both gained much in weight. In children the effect on health was most marked.

The operation is performed with the patient upon the back and under ether narcosis. The electric light is almost essential. Magnifying lenses introduced into the speculum are of service. The after treatment consists in keeping down granulation tissue and aiding in the transformation of the mucous lesions into a dermoid condition. A meddling plan of treatment is undesirable. Where a large secreting tract exists a cure is sometimes almost impracticable. Alcohol has not been found useful in treating granulation tissue. Salicylic acid and boric acid have done good in a few cases. The peroxide of hydrogen has its use in certain cases. The persistence of discharge after opera-

tion may be expected in catarrhal and run-down subjects, especially where caries of the bone exists.

The specimens removed in these nineteen cases were presented.

DISCUSSION.

DR. C. H. BURNETT, of Philadelphia. I had the pleasure of seeing seven cases that had been operated on by Dr. Sexton. One was of fifteen months standing. There was no evidence of reproduction of the membrane. In the longer cases, there was no discharge. In the cases more recently operated on, there was still some discharge. In five of the seven cases, according to the statements of the patients, the hearing had been greatly improved.

EVENING SESSION.

A CASE OF RAPID AND ALMOST TOTAL LOSS OF HEARING IN A CHILD SEVEN YEARS OF AGE; INHERITED SYPHILIS APPARENTLY THE CAUSE; MARKED IMPROVEMENT FOLLOWING THE USE OF IODIDE OF POTASSIUM,

by DR. A. H. BUCK, of New York, was read by title. DR. SAMUEL THEOBALD, of Baltimore, reported a case of

SYPHILITIC DISEASE OF THE LABYRINTH,

exhibiting remarkable variations in the degree of deafness.

The patient was a man about thirty-four years of age, the subject of inherited syphilis. In one ear the deafness was nearly complete, and in this ear there was but little variation. In the other ear frequent and sudden relapses occurred, after the hearing on several occasions had been brought up almost to the normal standard. Within twenty-four hours the hearing would fall from the ability to distinguish words in a whisper at twenty inches, to a degree of deafness which would require the same words to be spoken in a loud voice. Iodide of potassium was given with but little effect, but decided benefit resulted from the administration of bichloride of mercury in combination with muriate of ammonia.

EXECUTIVE SESSION.

The following were elected to membership: Drs. J. C. Lundy, of Detroit; Wm. H. Hotchkiss, of New Haven; S. D. Risley, of Philadelphia, and David De Beck, of Cincinnati.

Officers for ensuing year: President, Dr. J. S. Prout, of Brooklyn; vice-president, Dr. George C. Harlan, of Philadelphia; secretary and treasurer, Dr. J. J. B. Vermeyne, of New Bedford, Mass.; representatives to executive committee of Congress of American Physicians and Surgeons, Dr. C. R. Agnew, of New York, alternate Dr. Wm. H. Carmalt, of New Haven.

The next meeting of the Society will be at the Pequot House, New London, Conn., Tuesday, July 19, 1888.

— "Buck" Taylor, the "King of the Cowboys" who sustained a compound fracture of the thigh while in the discharge of his professional duties in connection with the Wild West Show, while a patient at the West London Hospital, had to be moved from the general ward to a private room from "the extraordinary and lavish concourse of ladies" who visited him.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

TWENTY-THIRD ANNUAL MEETING.

The twenty-third annual meeting of the American Ophthalmological Society was held at the Pequot House, New London, Conn., on Wednesday and Thursday, July 20 and 21, 1887.

WEDNESDAY.—FIRST DAY.—MORNING SESSION.

The meeting was called to order by the President, Dr. WILLIAM F. NORRIS, of Philadelphia.

Under the head of unfinished business the following were elected to membership: Drs. J. B. Emerson, New York; H. F. Hansell, Philadelphia; J. O. Tansley, New York; M. Hayward Post, St. Louis, and Edmund C. Rivers, Denver, Col.

A memoir of Dr. Ezra Dyer, of Newport, R. I., one of the founders of the Society, was read by Dr. Hasket Derby, of Boston, and referred to the publication committee. The death of Dr. William S. Little, of Philadelphia, was also reported.

The first paper read was entitled

REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY,

by Dr. C. S. BULL, of New York.

Of these thirty-six cases, twenty were males and sixteen females. In twenty-four the cataracts were hard and senile, in eleven they were traumatic and soft semi-soft, and in one case, it was of secondary origin. There were corneal maculæ in three cases; tremulous iris, in seven; old choroiditis in five; and irido-choroiditis in one. Careful antiseptic precautions were adopted in all the operations.

The operation was done with the patient lying in the bed he was to occupy after operation. The speculum was employed in every case. The knife was long and narrow, narrower than that of von Graefe. It was quickly passed across the anterior chamber, the flap measuring about two-fifths of the corneal circumference. Prolapse of the iris did not usually occur, but if it did, it was allowed to remain until the extrusion of the lens. The capsule was then opened by a quadrilateral incision, and by pressure the lens was caused to pass out of the corneal wound. If reduction of the iris did not occur spontaneously, it was reduced with a spatula. All soft lens matter was washed out with the antiseptic solution and one drop of a solution of eserine instilled of the strength of one grain to the ounce of a saturated solution of boracic acid. The lids are then closed and an antiseptic dressing applied. If the eye did well the bandage was not removed for two days, but the eserine solution was instilled twice daily under the bandage. At the end of two days the bandage was removed and the eye washed. The lids were not opened for four days unless there was some indication for it. If at the end of this time, the appearance was favorable, eserine was reinstalled, and the bandage applied for another day when it was removed altogether.

The healing process was usually favorable; there was no suppuration in any case. There were six cases of plastic iritis of a mild type and two cases of irido-cyclitis. In the first thirty cases there was no incarceration of the iris. In the last six cases in the treatment of which the same care was manifested, incarceration occurred in every instance. The average duration of the treatment was a little more than twenty

days. A secondary operation, usually a needling or a laceration of the posterior capsule was required in twelve cases. Prolapse of the vitreous occurred in four cases, and dislocation of the lens downward in two cases. Eserine was not used after the healing of the cornea. The degree of acuteness of vision obtained was as follows: $\frac{20}{xxx}$ in two cases; $\frac{20}{xl}$ in eight cases; $\frac{20}{l}$ in eight cases; $\frac{20}{lxx}$ in ten cases; $\frac{20}{o}$ in five cases, and $\frac{20}{cc}$ in two cases. In one case the eye was blind before operation, as the result of irido-cyclitis. The technique of the operation is more difficult than where iridectomy is performed. The knife must be passed rapidly in order to prevent injury to the iris. The extraction of the lens is more difficult, and the danger of prolapse of the vitreous is more imminent.

DISCUSSION.

Dr. II. KNAPP, of New York. During the past year I have performed Pana's operation sixty-eight times. Following the operation there was mild iritis in three cases; severe iritis with closure of the pupil in one case; protrusion of the iris in three cases; incarceration of the iris without protrusion in two cases; capsulo-iritis in one case, and suppuration in one case. This was secondary to an old disease of the eye. In twenty-seven cases a secondary operation was performed. In one case I performed the operation in a man much addicted to drink. The operation was successful, but there was slight wrinkling of the capsule. In the fourth week I made a simple division of the capsule. For twenty-four hours there was not a trace of reaction. The following night he had an attack of acute iritis with dysentery, and the urine was loaded with albumen. The next day there was circumcorneal injection, and the ball was very hard. Eserine reduced the tension but did not contract the pupil. On the third day the ball was as hard as it is in any case of acute glaucoma. I then made an iridectomy and the patient recovered.

REPORT ON A SERIES OF ONE THOUSAND SUCCESSIVE CASES OF EXTRACTION OF CATARACT WITH IRIDECTOMY,

by Dr. II. KNAPP, of New York.

These one thousand cases were operated on during the years from 1866 to 1886. A tabular statement was given, showing the results obtained in each series. $V = \frac{20}{cc}$ to $\frac{20}{xx}$ was considered a good result; $V = \frac{21}{cc}$ to $\frac{1}{cc}$, was considered a moderate result, and where $V =$ less than $\frac{1}{cc}$, the case was regarded as a failure.

In the first series of cases, the method of extraction was by a very peripheric section more curved than linear, with the following results: good 70%; moderate 22%; failures 8%. Of the failures 3% were from suppuration. In the second series, a peripheric linear section was employed. Results, good 86%; moderate 12%; failures 2%, all from suppuration. In the third series, linear section was employed. Results, good 86%; moderate 9%, and failures 5%, 3% of which were due to suppuration. The fourth and fifth series were performed by peripheric linear section with removal of the anterior capsule. Results, good 82%; moderate 7.5%, and failures 11.5%, of which 8.5% were due to suppuration. In the sixth series in which peripheric linear incision with peripheric capsulotomy was performed, the results were, good

89% ; moderate 1% , and failures 10% , of which 8% were due to suppuration. The seventh series was operated on by the same method, only the section was less peripheral. Results, good 88% ; moderate 7% , and failures 5% , of which 2% were due to suppuration. The eighth series was operated on by circular marginal section, with peripheric capsulotomy and with antiseptic precautions. Results, good 90% ; moderate 8% , and failures 2% , of which 1% was due to suppuration. The ninth and tenth series of cases were operated on in the same way with the following results ; good 90.5% ; moderate 5.5% ; failures 4% , of which 3% were due to suppuration. The results obtained, taking the one thousand cases as a whole, were, good 85.2% ; moderate 9% ; failures 5.93% , of which 3.8% were due to suppuration.

DOES SUNSTROKE AFFECT THE SIGHT PERMANENTLY?

by DR. J. A. SPALDING, of Portland.

The author introduced the question of the permanent effects of insolation (or sunstroke) upon vision. So many pension claimants were now coming forward, asserting that they suffered from sunstroke and permanent loss of sight in the army, and finally became more or less blind, that it is quite desirable for the expert in examining such cases to be supported by greater authority than he is likely to discover in any text-books or accessible literature. In point of fact there has never been reported in the vast extent of ophthalmic literature but a single undeniable case in which sunstroke had been followed by permanent blindness, and only six others in which the eyes were ophthalmoscopically examined soon after the attack. In all of these optic neuritis was distinctly marked, and in several vision was reduced to a low degree; yet ultimately, all six recovered perfect vision without much, if any, treatment.

Two or three cases illustrative of the assertions of pension claimants were presented in the paper, and the precise reasons for granting or not granting a pension were reported in full. Judging from the history of these cases insolation had nothing whatever to do with the loss of sight; while from historical and scientific records it appears extremely doubtful whether the disease ever has any permanent effects on the sight.

The frequent allegations of patients "losing their sight during a sunstroke," or of "a dimness coming over their eyes," are simply descriptive of the incipient stage of unconsciousness and are untruthful in a scientific point of view. These recollections become in later years the basis of pension claimants' assertions that their vision was seriously affected by sunstroke.

Dr. Spalding expressed the opinion that these were false, and hoped that the members would support expert examiners against the insults of politicians and claimants' friends in refusing to grant pensions for asserted blindness fifteen or twenty years after a sunstroke.

A CASE OF PROBABLE QUININE AMAUROSIS,

by DR. D. B. ST. JOHN ROOSA, of New York.

The patient was a young lady who had been living in a malarious district. While in Washington she had an attack of intermittent fever. Some time after this she was seized with convulsions and unconsciousness. It was believed to be a case of malarial coma, and thirty grains of sulphate of quinine were administered by the rectum on four occasions. On the

third day consciousness was restored, but she was then unable to distinguish light from darkness. The pupils were dilated. She had been taking quinine and iodide of potassium before I saw her, which was October 18, 1886. Vision was slightly recovered and she could count fingers at four feet. On ophthalmoscopic examination the optic papillæ were found small, the vessels very small, but no exudation was seen. Quinine three times a day with a hypodermic injection of strychnia was given. The dose of strychnia was gradually increased to 1.24 of a grain and kept at that for some time. Vision gradually improved. It was at first excentric, but by December 10th she had centric vision of $\frac{20}{LXX}$. The papillæ was still white and the vessels small. The treatment was continued. She returned to her home and now states that she can see almost as well as she ever could. The urine was tested in this case several times with negative results.

DISCUSSION.

DR. EMIL GRUENING, of New York. In the latter part of June I saw a lady, fifty years of age, who had been given thirty grains of quinine in one dose. When she awoke in the morning she was blind and deaf. She was deaf for about twelve hours and absolutely blind for twenty-four hours. I saw her about five days after the attack. The fundus was apparently perfectly normal in both eyes. Central vision was normal, but the field was much contracted in all directions. It does not seem to me that the ischæmia which has been described in the more severe cases, should necessarily be present in the lighter cases of quinine amaurosis.

CLINICAL CONTRIBUTIONS TO THE STUDY OF RING SCOTOMA,

by SWAN M. BURNETT, M.D., of Washington.

The speaker gave the histories in full of two cases of ring scotoma which he had followed for the space of two years. In one case there was a history of syphilis and in the other not; in both there was choroiditis with vitreous opacities. In one case there were no gross changes in the choroid, in the other the changes did not correspond with the defect in the visual field. In one case only one eye was affected, in the other the affection was binocular. In one case the trouble began as a typical right hemianopsia with left semi-annular scotoma. The central clear spot more or less oval in form, 10° to 20° , was never through all the changes diminished in size. All who have written on the subject (a full bibliography was appended to the paper) have placed the pathological process inside of the eye, though in none have the changes in the choroid, manifest under the microscope, been sufficient to warrant such a conclusion, and in none have the changes in the form of the visual field been followed so closely or so long as in these cases, eighteen diagrams of the fields at various times being exhibited. The course of the nerve-fibre in the tract chiasm and nerve, as demonstrated by Bunge, Lamel-soker, Leber, Vassius and others, particularly in the somewhat analogous condition of central scotoma which in nearly every instance coincided in form and size with the central clear space in these cases seems to justify the assumption that the fibres supplying the intermediate parts of the retina were hindered in their function either from a localized neuritis or by pressure of the adjoining parts.

DISCUSSION.

DR. HENRY D. NOYES, of New York. A young lady, aged seventeen, came to me complaining of pain and dimness of sight in one eye. The ophthalmoscope showed no material lesion, but with the perimetre I discovered a ring scotoma. There were no local lesions, no symptoms of brain trouble, and no evidence of hysteria. Further examination showed signs of orbital neuritis. I based this view chiefly on the fact that pressure of the globe backward elicited unquestionable pain. This continued for at least two weeks. The ring scotoma subsequently entirely disappeared, and vision was restored to the normal. I am satisfied that ring scotoma may have an ex-ocular origin. When we search for these cases more carefully I think that we shall find that they are not so extremely rare as has been supposed.

DR. C. S. BULL, of New York. Some time ago I reported a case which would come under the same category as those of Dr. Burnett. The patient, a man of thirty-six years of age, when two years of age, injured the right side of the skull by a fall. Vision of right eye was impaired, and a convergent squint followed. He could count fingers at two feet with the right eye. In 1878 he had a compound depressed fracture over the left parieto-occipital region of the skull. Trephining was resorted to. This was followed by convulsions which have since grown less marked. He noticed that he could not see through a part of the field of the left eye. The ophthalmoscope shows a neuro-retinitis of low grade in the left eye. The field was normal for twenty degrees around the point of fixation, then there was an irregular defect in the field for fifteen to twenty-five degrees all around, and outside of this the field was normal.

DR. W. F. MITTENDORF, of New York. Attention has recently been called to the fact that peripheral annular scotomata are often present in cases of chronic glaucoma. I have examined five or six cases of glaucoma with this in view, and have found it in one instance.

DR. O. F. WADSWORTH, of Boston. A case which I recently published seems to show that the lesion in these cases may be situated in the nerve. A young man, aged twenty-three, was run over by a heavy wagon, one wheel passing over his chest. I saw him forty-eight hours later. There was slight haziness of the retina and some slight, thin hemorrhages in the right retina. There was a central scotoma. In a short time the scotoma resolved itself into a ring scotoma. This condition continued for at least two years afterwards. There was absolutely no ophthalmoscopic change to be detected.

THE SO-CALLED ORTHOPÆDIC TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES,

by DR. CALEB S. BULL, of New York.

Reference was made to the fact that the use of galvanism in the treatment of paralysis of the ocular muscles was unsatisfactory, on account of the impossibility of localizing the current to the affected muscle. The method of Prof. Machele was then described. In this plan the muscle is seized with fixation forceps and the eyeball moved backwards and forward in the direction of the ordinary action of the affected muscle. This procedure produces some pain and slight irritation. The pain is largely relieved by the use of

cocaine. The speaker had employed this method in twenty-one cases of ocular paralysis, due to various causes. The paralysis was entirely cured in eight cases; partially relieved in seven cases, and in six cases the treatment was entirely valueless.

RECURRENT PARALYSIS OF THE MOTOR OCULI,

by DR. O. F. WADSWORTH, of Boston.

Pauline and Frances were twins, born of healthy parents. In June, 1874, when the twins were three years of age, they had scarlet fever, and this was followed by a discharge from the ear. In each case a slight discharge from one ear continued. In 1877 Frances began to complain of headache, which recurred frequently until three months later, when she had a convulsion. The convulsions were repeated. Six months after the first convulsion she complained that she could not see. Examination showed well-marked optic neuritis. The headache and convulsions gradually ceased, but she remained blind. She was again seen in 1879, and found to be in good health, with the exception of the blindness.

Pauline, after the attacks of scarlet fever in 1874, had headache recurring every month or so. On February 24, 1879, she was brought to the hospital with the history that she had suffered with daily pain in the head for two weeks; this was referred to the supra-orbital region. It would commence about noon, then intermit, recur again about five o'clock, and continue for several hours. There was vomiting on the first two days of the attack, and there was a slight discharge from the right ear. She was seen one month later. The headache had recurred every two or three days. There was then paralysis of all the branches of the right motor oculi nerve with ptosis and divergence of the right eye. By February, 1887, the headaches had diminished in frequency, and for the last few years she has had three or four attacks a year, the more severe being accompanied by ptosis and dilatation of the pupil. It was subsequently learned that with each severe attack there was a free discharge of ill-smelling fluid from the right ear. On May 1st, the right ear was examined and a polypus filling the meatus found and removed. The writer had been able to find only fifteen cases of this affection on record. Of this number four were males and eleven females. The period between the attacks was variable and irregular. In several instances there was evidently a persistence of a certain amount of paralysis between the attacks. This was noted in the case just described. There has been no instance of permanent relief, and three of the cases have terminated fatally.

As to the cause of the affection, the results of the autopsies point to a basal origin. In one case plastic exudation surrounded the right motor oculo-nerve; in another case the right oculo-motor nerve was pressed upon at its point of emergence from the crus cerebri, and in the third case there was a fibro-chondroma which had developed in such a way as to separate the fibres of the right oculo-motor nerve without destroying them. In the case reported, the speaker thought that there was an evident association of the paralysis with the chronic aural trouble.

HYPERÆMIA IN MUSCULAR INSUFFICIENCY,

by J. A. LIPPINCOTT, of Pittsburgh,

The speaker reported several cases of localized hyperæmia of the eye, which he thought were due to

weakness of the muscles. The grounds on which he based this view were the form and location of the spot of hyperæmia and its disappearance along with other evidences of the muscular insufficiency.

The Society then adjourned until eight o'clock in the evening.

EVENING SESSION.

CASES OF ACUTE PRIMARY GLAUCOMA; OF HEMORRHAGIC GLAUCOMA, AND OF SECONDARY GLAUCOMA,

by DR. W. F. NORRIS, of Philadelphia.

The first case reported was that of a married woman, aged fifty-two years, who was admitted to the Will's Eye Hospital with acute glaucoma of the left eye. The attack was of twelve days duration. Vision was much impaired. The right eye was entirely quiet, and presented a narrow iridectomy upwards. In August, 1875, a severe attack of glaucoma had suddenly occurred in the right eye, and on the fifth day, iridectomy had been performed. Since then the eye had given no trouble. When admitted to the hospital, the patient was in a feeble condition. She was put to bed, a leech applied and eserine instilled. The eye improved and became quieter. The cloudiness of the cornea and the other symptoms remaining, iridectomy was performed twenty-eight days from the commencement of the attack. A year later, she had a severe attack of pain not relieved by eserine, and sclerotomy was performed. The eye continued to give trouble from time to time, and it finally became necessary to enucleate it.

Primary Hemorrhagic Glaucoma. Miss B., age seventy years, was seen in February, 1867, with marked hemorrhagic retinitis and incipient cortical cataract. She stated that she had a sudden loss of vision two years previously. The present attack of loss of vision came on suddenly ten days before, when the patient was stooping. Examination showed numerous hemorrhages into the retina. One month later, the right eye was more cloudy, the tension increased, and there was some hemorrhage into the anterior chamber. Iridectomy was then performed. The wound did well until the fourth day, when there was a sudden attack of pain. On the ninth day, apparently without exciting cause this symptom recurred. After this there would be an exacerbation every few days. The eyeball was subsequently enucleated, the patient dying a year or two later with apoplexy.

Secondary Glaucoma. After successful operation for cataract. A man aged sixty-six, had been operated on for cataract in both eyes some time before coming under observation. This had been done in England, both operations having been successful. Some eighteen months later, the right eye had been operated on as a needle operation, and since then it had not been free from irritation. When seen, the right had lost the perception of light, and the left eye presented signs of sympathetic irritation. The right eye was enucleated, and this relieved the irritation in the left eye. The patient now sees fairly well.

A number of micro-photographs showing sections of the eyes removed in these cases were exhibited by means of a lantern.

DR. B. ALEXANDER RANDALL, presented the notes of a case of

SARCOMA OF THE EYE-LID,

simulating a meibomian cyst, occurring in a man about

forty-one years of age, who came under observation in 1885, with the history of two operations in the previous three years for the removal of a cyst. The tumor had the position, size, color and apparent fluctuation of a chalazion, but a vague grayness, suggested pigmentation, and led to its total removal by a V-shaped incision through all the tissues of the lid. Section proved the tumor to be a solid encapsuled sarcoma of large spindle cells. The patient passed out of sight for two years, and then returned with recurrence very like the original, which had been treated in the interim as chalazion. The outer half of the lid had now to be removed, and the tumor was found to be of the same nature as before, and again encapsuled. The meibomian glands at both operations seemed to be entirely normal, and the tarsus was entirely uninvolved.

Dr. Randall also presented some of the ophthalmoscopic cases of Cilio-Retinal vessels, with the remark that they were far from rare, and that the occurrence of such an origin of even a principal artery or vein, supplying different quadrants of the retina, had come to notice. As to the origin of these vessels; in two cases they could be distinctly seen to join the network of the choroid. The reported cases examined anatomically have been seen to arise directly from a short ciliary vessel. Photo-micrographs of such a case in the collection of Dr. W. F. Norris, were shown.

Dr. Randall also called attention to the Hohl-schnitt of von Jaeger in cataract extraction, as differing in no essential from the modified linear operation, except in the knife with which it is made. He asked attention to the knife, with the claim that with it almost all the usual modifications of the linear extraction could be made, but that no aqueous need be lost until the completion of the incision, and consequently that the cut could be made more safely and smoothly than was possible with the Graefe knife. As illustrative of the perfection of the healing, he demonstrated a photo-micrograph of a Hohl-schnitt executed by von Jaeger himself, which he had prepared in Professor Alt's laboratory about a year after the operation.

DISCUSSION.

DR. H. KNAPP, of New York. I have used Jaeger's knife, but I have not found the advantage which the author has claimed. I think that it is simply a modified small Baer's knife. In my experience it has been more difficult to pass a larger knife through the anterior chamber than it is to pass a Graefe knife. By practice, the section can be completed in one cut by the Graefe knife, but I do not consider this necessary.

DR. H. D. NOYES, of New York. I agree with the last speaker as to the greater facility in passing a narrow knife. A narrow Graefe knife gives better control of the movements necessary in making a proper section than any other knife which I have tried.

DR. S. THEOBALD, of Baltimore. It is probable that the greater facility in the use of the narrow knife over the triangular knife may be due to the fact that in using the latter, we are doing two things at once. We are attempting to pass it across the anterior chamber, and at the same time, to complete the section. With the Graefe knife we transfix the eye and then make the section.

(To be continued.)

AMERICAN NEUROLOGICAL ASSOCIATION.

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

FIRST DAY, JULY 20, 1887.—MORNING SESSION.

DR. CHARLES K. MILLS, the retiring President, addressed the members present, remarking that heretofore the number of members of the Association had been limited to fifty, but by an amendment of the constitution the number had been extended to one hundred; which he thought would augment still further the usefulness of the Association. The speaker stated that he had received a letter from Benedict, of Paris, in reference to the brains of criminals and idiots, which he (Dr. Mills) had presented at the meeting last year, as Dr. Benedict feared he had been somewhat misunderstood in regard to his views upon the subject.

DR. LONDON CARTER GRAY, of Brooklyn, N. Y., the President of 1887 and 1888, was then presented, and made an address in which he drew attention to the steady march of science in neurology, contrasting the work done in this line by the American physicians with those of Europe and other countries, and showing that American physicians were in advance in forming societies for the advancement of the study of neurology and scientific discussion on the subject.

He stated that Germany had only one society, France had not any by that distinctive name, and it was only one year ago that one was formed in England. Italy, in the broad sense of the word, had none. The speaker called attention to the increased use of electricity in nervous disorders, and also the advantages afforded by the microscope in the study of the brain; drawing attention to the fact of chairs being established almost generally in our colleges for this branch of medicine, whereas in previous years a few lectures alone had been deemed sufficient.

DR. E. C. SPITZKA, of New York, read a paper

ON SOME POINTS REGARDING THERAPEUTICAL AND OTHER INJURIES OF THE BRAIN.

The speaker drew attention to the impunity with which portions of the brain could be removed, even without antisepsis, and no evil results follow; also the use of the trephine and the insertion of the trocar and hypodermic needle for the exploration of the brain in tumor or abscess; the methods of localization in case of disease of this organ.

He remarked that uniformly he had, during experiments upon dogs, been able to abuse the brain to an extent which some years ago would have been incredible; the doctor quoted a case in which a diagnosis was made of tumor of the brain, and in which the patient was trephined and an exploring needle inserted, but without result. The button of bone was replaced and the man made a good recovery from the operation, but died three months after; the autopsy proved the correctness of the former diagnosis. Under the microscope the prepared specimen at the seat of trephining showed three thin bluish lines where the needle had been inserted three months before, showing that it had not been inserted quite deep enough to reach the tumor. The button of bone was slightly movable, union not having taken place in its entire circumference. Unfortunately, the specimen had not been retained. From this he thought it evident that in young persons, even under discouraging circumstances, as wounding of the dura by the saw, parietal hernia and

lifting of the button, the dura makes successful efforts to agglutinate the reinserted button and restore the integrity of the calvarium. The speaker considered there was less danger of hernia of the brain if a fair-sized-piece of bone were removed, than a small piece; quoting a case of Dr. Graeme Hammond to illustrate the statement. He drew attention to the fact that in experimenting on dog's brains by injecting poisonous or anti-septic fluid into this organ, that abscess or disease was not necessarily created at the seat where the injection was made.

In the experiments made, coarse and fine needles had been used and coarse substances injected with great impunity, in one instance ordinary street mud was used, but the dog recovered without any untoward symptoms. The dog was finally shot four months after because of *mange*; on examination of the hardened brain two masses of mud were found but no trace of the channel where the needles were inserted.

In two other dogs where the operation had been performed, the channel of the needle remained patent and the injected hemispheres had become atrophied; this he could not account for, but thought it valuable to bear in mind. During these experiments upon dogs he had found that the more the dog's brain is abused the more it can bear the operation; that is to say, the second trephining is less dangerous than the first, and a third less so than the second. In two cases he had found the growth dwarfed, and symptoms of imbecility; unfortunately, these two died during his absence from the city, owing to neglect.

From the writer's experience with the human and experimental pathology mentioned, he was induced to draw the following conclusions:

(1) That exploratory needles should never be introduced in the internal capsule, the contiguous ganglia, or the lateral ventricles, merely for exploratory purposes unaided by positive clinical evidence of the location of disease.

(2) That exposure of large surfaces are not feasible in persons with feeble vascular walls, owing to the danger of intra-cranial hemorrhage.

(3) That buttons of bone re-inserted under aseptic precautions are, even in the event of non-union, entirely harmless.

(4) That in young persons buttons of bone may become re-united to the calvarium, even though perfect coaptation may not be assured.

He would add that he had very recently observed how desirable it is, in the event of trephining for the relief of cortical irritation, that on removal of the latter the button of bone be replaced.

DR. G. HAMMOND remarked that he thought in all cases of trephining the button of bone should be re-inserted. He quoted a successful case of Dr. Weir, in which a large piece of bone had been removed, and afterwards re-inserted with the most desirable results; the portion replaced having united firmly to the skull.

DR. LLOYD asked Dr. Spitzka if he had ever punctured the brain of a child for hydrocephalus, as some time ago he had a patient brought to him for this purpose.

DR. MILLS thought it perfectly right in some cases to re-insert the button of bone, but at the same time the condition of the dura must necessarily guide us in the matter as to the extent of inflammation exhibited. He quoted one case in which the piece of bone removed was four by three inches, but there was a cen-

tral depression in the bone removed, and it was deemed necessary in order to re-insert the bone that this depressed portion be removed; the bone, however, was not replaced. In regard to the remark made by Dr. Spitzka as to the animal brain being more resistant after surviving the first operation, that had been corroborated by his own experience. The speaker mentioned a case in which the portion of bone removed was the largest he had seen, and also with considerable loss of blood, the patient made a good recovery from the operation, but afterwards died from pneumonia. He considered Dr. Spitzka's paper an exceedingly interesting one, and worthy of thorough discussion.

DR. SPITZKA, in closing the discussion, said that in those cases where it was not deemed advisable to reinsert the bone removed, there was a method, he believed due to McEwen, of sprinkling the exposed surface of the dura with bone-grafts. He thought that even should a bone-graft drop into the brain substance it would do harm, as the bone dust in trephining in some cases has not been entirely removed, but has caused no disturbance.

As to the question asked by Dr. Lloyd regarding puncture of the brain for hydrocephalus, he would not hesitate to insert a large trocar into the brain substance. Although he had not performed the operation, he had seen Dr. Detmold do so, and he had himself tapped large tumors of the brain with the most satisfactory results.

DR. JAMES J. PUTNAM, of Boston, read a paper on

NOTES OF A RARE CASE OF DYSTROPHY OF THE FACE AND HEAD.

The case, he remarked, was one probably of hyperostosis of the cranium, occurring in a young woman twenty-one years of age. Her health was apparently good, and there was no history of syphilis. Her mother, however, suffered with her head. The patient's first symptom was severe and intense pain in the head. Enlargement and protrusion of the eye and also of the head was first noticed about two years after the beginning of the headache. Three years ago her teeth began to fall out, and at the time the speaker saw her she had but one remaining tooth. Two years since a purulent discharge from the ears appeared and she could not distinguish the sound of a tuning-fork. Two years after the first symptom of the disease appeared she had a miscarriage, and one year later menstruation ceased. The writer presented photographs of the skull of the patient, showing both front and profile views, plainly exhibiting the extent to which the abnormal growth had reached, noticeably above the ears. There was œdema of the left eyelid, the eye extremely protruded, so that more than half the globe projected. There was no evidence of any paralysis of the nerves, except that the tongue moved slightly to one side; there is a well-defined opacity in the upper part of the lens of the left eye, which may be of importance.

DR. PUTNAM then made a few remarks on a

SARCOMATOUS TUMOR OF THE BRAIN ATTACHED ON ONE SIDE TO THE SPHENOID BONE,

which had come under his observation.

The patient had had periodical attacks of headache for eighteen months previously, which he thought perhaps might be ascribed to this cause. During the

time he had seen her she suffered from intense headache and neuritis, and then eventually a slight degree of facial paresis on the opposite side. In the last two months had complained of pain in two fingers of the left arm, the side of the tumor. At the autopsy, on examination of the brain, there was exhibited a shining black mass representing a flattened tumor; this contained blood with a small number of cysts, the brain being compressed in a remarkable manner, and in spite of this extreme compression no distinctive symptoms presented themselves until within the last two months before death. It is an interesting surgical question as to whether in this case an exploratory operation would not have been justified.

DR. SPITZKA remarked, that in one case where the numbness in the fingers occurred, as mentioned by Dr. Putnam, a tumor had been discovered in the brachial region. He also called attention to the specimen held in one of the English museums, in which the orbital cavities were almost entirely obliterated, owing to the excessive hyperostosis, which was of a somewhat spongy character.

DR. PUTNAM said the autopsy was confined to the head alone; he thought Dr. Spitzka's remark just; as he could call to mind a case in which a tumor of the brain was pressing on both hemispheres, and it presented no symptoms but pain and numbness in one wrist; but in the case first mentioned the pain was not in the ulnar nerve, it was only in the two middle fingers; the speaker mentioned Charcot as making this observation many years ago.

(To be continued.)

Recent Literature.

Dose and Price Labels of all the Drugs and Preparations of the U. S. Pharmacopœia of 1880. With many unofficial articles that are frequently called for as medicines or used in the arts. For Pharmacists, Physicians, and Students. Second edition. By C. L. Lochman. Bethlehem, Pa.: 1887. \$1.25. 200 pages.

The most appropriate use of such a work as this, is to cut out the labels from their pages, which are printed on one side only, and paste them on bottles or on other suitable places in a dispensary.

The labels have nothing on them which might not be found in a dispensatory or similar book, but the information they afford is reached quickly, and is of a practical nature, suggesting in many, if not all cases, essential points regarding the properties of the substances, and some of the precautions to be taken in their use.

Under hydrochlorate of apomorphine, for example, we are told that: "It is the salt of an artificial alkaloid prepared from morphine." Then follows its dose as an emetic and as an expectorant. "The solution should always be freshly made. Soluble in 6.8 parts of water, and in 50 of alcohol." The lettering and two exclamation points are intended to suggest that it is an active substance. A space is left for the prices.

The work seems to have been done with care, and the author must have devoted a good deal of time to its compilation. For a student's collection of drugs, it would be excellent.

THE BOSTON
Medical and Surgical Journal.

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REPORT OF THE SEYBERT COMMISSION.

THE preliminary report of the Commission appointed by the University of Pennsylvania to investigate modern spiritualism, in accordance with the bequest of the late Henry Seybert, has lately been published. It will be remembered that Mr. Seybert, who, during his lifetime, was known as an ardent defender of modern spiritualism, left a bequest to the University of Pennsylvania to found a chair of philosophy in that University, and to the gift added a condition that the University should appoint a Commission to investigate the claims of modern spiritualism. A Commission of ten men was accordingly appointed, and it is safe to say that ten better names could hardly have been chosen. The medical profession is represented on the Commission by William Pepper, Joseph Leidy, George Koenig, James W. White, Calvin Kuerr, and S. Weir Mitchell; Dr. Pepper, as Provost of the University, being Chairman, and George S. Fullerton, Secretary.

The Commission has spent several years in investigating phenomena appearing under the mediumship of the best exponents of modern spiritualism, whose services they could command at any reasonable price. Among these was the noted Henry Slade, whose performances in Germany, several years ago, so befuddled Zoellner and three of his associates, Weber, Fechner, and Scheibner, and were the basis of a book subsequently published by Zoellner, which has had a very wide circulation, and is much cited by believers in spiritualism.

The American investigators, after putting these mediums to severe tests (in which, however, with due fairness, they were careful to comply with the usual "conditions,") and having matched Slade's performances with those of certain prestigitators (as the juggler, Kellar), and to the advantage of the latter, conclude that, as far as their studies and researches, now extending over more than three years, are concerned, the mediums have failed to make good their claims to anything more than consummate fraud and deception.

In conclusion, they say: "We beg to express our regret that thus far we have not been cheered in our investigations by a single novel fact; but, undeterred by this discouragement, we trust to continue them with what thoroughness our future opportunities may allow, and with minds as sincerely and honestly open as heretofore to conviction."

In an appendix, are given full details of the interview of one of the members of the Commission with Professors Fechner, Scheibner, and Weber, the surviving colleagues of Professor Zoellner in his experiments with Dr. Henry Slade. There would seem to be evidence that Zoellner was of unsound mind at the time of those celebrated experiments; that Fechner was old and feeble and partially blind, and relied upon Zoellner's observations; that Scheibner was also affected with imperfect vision, and not entirely satisfied in his own mind as to the phenomena; and that Weber was advanced in age, and did not even recognize the disabilities of his associates. "No one of these men had ever had experiences of this sort before, nor was any one of them acquainted with the ordinary possibilities of deception."

There is also an interesting account of an investigation of the power of mediums to answer the questions contained in sealed envelopes, the result of which goes to show that these mediums are not too honest to resort to such tricks of opening and reading sealed letters as rendered famous that arch humbug of the days of Marcus Aurelius, Alexander, of Abonotichus, whose clever deceptions are recorded by Lucian. The marvels of "Materialization Séances" are made sufficiently ridiculous in the report of Rev. Horace Howard Furness, with which the book ends. On the whole, we should think that this little volume would be anything but pleasant reading to many who have committed themselves to this superstition; that it will have a wholesome, helpful effect on many others, we do not doubt.

THE DOCTRINES OF "CHRISTIAN SCIENCE" AND "MIND-CURE."

THE Rev. J. M. Buckley, D.D., a prominent preacher of the Methodist Episcopal Church, and at present editor of one of the most important of the denominational religious journals of this country, has published, from time to time, articles on the subjects of mind-reading and other psychopathic phenomena, to one of which we have before referred, characterized by a clearness of judgment and a robustness of common sense which have not always been found in gentlemen of his cloth in the treatment of such subjects. A few months ago, an article in the *Century* by this author treated clearly and dispassionately of the so-called "Faith-Healing and Kindred Phenomena," and in the July number of the same magazine is a paper by him on "Christian Science and Mind-Cure." The value of the latter paper consists in part in the fact that it contains many extracts from the writings of

the exponents of the systems themselves, who may be supposed to give the principles of the science with as much cogency as such statements are capable of receiving.

The extracts, which are numerous, indicate, on the part of their editor, an expenditure of time and study which few people are able to give to the subject, outside of those who are working it for what they can make out of it. We are reminded, in this connection, that it takes eight hundred dollars to hear from the very *pontifex maxima* herself, the thirty lectures in which the entire subject is covered, and whereby one may become an adept in this art.

There are teachers who will "fit" you for less money, even for one hundred dollars, and whomever you go to, the others assert you are not getting the real thing. Occasional suits for infringement of the copyright of one teacher by another tend to further the increase of various "schools" in the art, between which schools the vital point at issue, is whether the money shall go into the pocket of Mrs. A. or Miss B., in either case, the founder and chief member of the "school."

Among the fundamental principles of the mental healers, as expressed in their own words, space permits us but a few extracts:

"Anatomy, Physiology, Treatises on Health sustained by what is termed material Law on the husbandmen of sickness and disease . . . when there were fewer doctors and less thought was given to sanitary subjects, there were better constitutions and less disease."—"We are told that the simple food our forefathers ate assisted to make them healthy; but that is a mistake."—"Because the muscles of the blacksmith's arm are strongly developed, it does not follow that exercise did it, or that the arm less used must be fragile. If matter were the cause of action and muscles without the co-operation of mortal mind could lift the hammer and smite the nail, it might be thought true that hammering enlarges the muscles. But the trip-hammer is not increased in size by exercise. Why not, since muscles are as material as wood and iron?"

"Suppose the patient should appear to grow worse. This I term *chemicalization*. This the upheaval produced when Immortal Truth is destroying erroneous and mortal belief. Chemicalization brings sin and sickness to the surface, as in a fermenting fluid allowing impurities to pass away. Patients unfamiliar with the cause of this commotion and ignorant that it is a favorable omen, may be alarmed. If such is the case explain to them the law of this action."

Perhaps, however, the cream of the whole article is the following, which constitutes a portion of a prayer, printed *verbatim*, capitals and all, from a textbook on a "Mind-Cure," issued by the President of the "New York School of Primitive and Practical Christian Science," who states that his school will be free from "eccentricity, pretension, and fanaticism."

"PRAYER FOR A DYSPEPTIC."

"Holy Reality! We BELIEVE in thee that thou art EVERYWHERE present. We *really* believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. WE BELIEVE. Believing that thou art everywhere present, we believe that Thou art in this patient's stomach, in every fibre, in every cell, in every atom, that Thou art the sole, only Reality of that stomach. Heavenly, Holy, Reality, we *will* not try to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou art everything and that Thou art not sick, and, therefore,

that nothing in this Universe was ever sick, is now sick or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we wasted our valuable time which should have been spent in Thy service, in worrying for fear that our stomach should grow worse, in that we have disobeyed thy blessed law in thinking that some kind of medicine would help us. . . .

"Lord help us to believe that ALL Evil is utterly unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no dyspepsia, that we never had Dyspepsia, that we will never have Dyspepsia, that there is no such thing, that there never was any such thing, that there never will be any such thing. Amen."

MEDICAL NOTES.

—A performance of "The Golden Legend," personally conducted by the composer, Sir Arthur Sullivan, and rendered by the most eminent musical talent in London, took place the 13th ult., in aid of Middlesex Hospital, and netted quite a sum for that institution.

—Dr. Russell, medical officer of Glasgow, is reported to have said, that, during the last ten years over a million of articles (from persons affected with every kind of contagion known in this country) have passed through the Glasgow laundry, and that he has never known a case of interchanged disease, although the women engaged in the laundry have occasionally suffered from handling the linen before the boiling process.

—Dr. Castro, of Italy, states (*Annal. d'hygiène publ.*, ser. 3, t. xvii. pp. 48-50) that he recently had occasion to inquire into the presence of scars as the result of leech bites. He made thirty-seven experiments on different individuals, with the result that in several cases it was impossible to discover a scar by the naked eye. But in such cases the scar became evident after rubbing the skin with tincture of mustard, which reddens the skin surrounding the scar leaving the scar white.

—Dr. Van Harlingen, in the *Polyclinic*, answering the question, "What forms of skin diseases leave scars?" thus recapitulates his observations: "cysts, wens, the deeper forms of dermatitis, furuncle, anthrax herpes zoster, acne, ecthyma and tinea favosa may at times and under certain circumstances give rise to the formation of scars. Scrofuloderma and syphiloderma in some forms, the various forms of lupus, carcinoma and sarcoma almost inevitably lead to scarring. Another class of diseases which may indirectly, though not directly, give rise to scars through scratching are the pruriginous affections *par excellence*, that is, pruritus and eczema. These may be followed by cicatrices and other results of scratching when the lesions themselves might not leave anything which could be called a cicatrix."

—In the *Practitioner* for May, 1887, Mr. R. C. Holt published notes of five cases of meningitis occurring in children, in three of which cases success fol-

lowed the employment of an ointment containing ten per cent. of iodoform rubbed into the shaven scalp. In the three successful cases the bones of the head had not coalesced, and in all the cases the treatment was not commenced until the disease was well marked. The results appear to encourage the further trial of this treatment, and as soon as possible after the diagnosis is made.

—Dr. H. T. Griffith gives in the *Lancet* the result of 600 consecutive observations as to the position of the nipple in relation to the ribs. They were all taken, the patient being in the recumbent position. The *fourth space* is shown to be the average position in male and female adults, the range being from the third to the fifth rib in adult males, and from the third to fifth ribs in adult females. In children the range was the same as in adult females, but the average position was at the *fourth rib*.

—According to a Western contemporary, a church in Wisconsin was built under considerable stress for money, and it was found that the cellar was damp, no drain having been put in to remove the ground-water. A parishioner remedied the difficulty by giving the church a large number of champagne bottles from his own cellar. The bottoms were knocked deftly off and the necks shortened. The neck of one bottle was placed in the bottom of another and so until a drain was constructed, which has kept the church "extra dry" ever since. The same method is said to have been used in England.

—An unfortunate medical quarrel has been ventilated through the public press in Washington. The trouble as stated is as follows: Last spring Dr. Sowers, of Washington, criticised, through the newspapers, the President's manner of living, from a medical point of view. Surgeon-General Hamilton, of the Marine Hospital Service, preferred charges against Dr. Sowers before the Medical Association in Washington for unprofessional conduct. These charges were not sustained by the majority of the committee appointed to investigate Dr. Sowers' case, although a minority report was prepared convicting him of unprofessional conduct. Dr. Sowers has now filed charges with the Association against Dr. Hamilton. He states that Dr. Hamilton has violated two articles of the Association regulations in having shown to ex-Representative Hazelton the charges which he was about to prefer against Dr. Sowers last April. This was done, it was charged, with the full knowledge that Mr. Hazelton and his family were patients of Dr. Sowers, and was intended to lower him in the estimation of his patients.

—*Science* publishes the following set of test questions in "Physiology," given to the classes of boys and girls from eight to ten years of age in the public schools of a "prominent Eastern city."

1. How can it be proved that nicotine is a poison? 2. Why are cigarettes especially harmful? 3. Is alcohol a food? 4. What is the effect of disuse upon a

muscle? 5. Under what names is opium sold? 6. Under what names is alcohol drunk? 7. What is the difference between a food and a poison? 8. Is anything gained by changing from one narcotic to another? 9. What is the effect of beer as a drink? 10. How does cheerfulness help the muscle? "This is the examination-paper at the end of the first year's elementary instruction in physiology. Of ten questions, eight relate to drinking and smoking: the physiology is a mere side issue. These children, who ought to have about as much knowledge of such matters as they should of the methods in vogue at the stock exchange, remarks our contemporary, are actually forced to learn by rote the details of human vice; and that, too, under the name of 'physiology,' the only science which they learn. Unconsciousness, *naïveté*, is the symbol of childhood. The fact that physiology, even if well taught, tends to destroy this trait, is the chief objection to its early study. Instruction such as the above implies, crushes the most valuable trait in the child, directs its curiosity to what is morbid, and forces into precocious development all its dangerous elements. Not enough that the newspaper and the dime novel proclaim in glaring colors the story of crime and sin: some notion of the perversity of human nature must be mixed with the food of babes."

—"Without the doses three times a day, the service would not go on; they unite the attention of doctor, patient, nurse, and friend in a periodic series of efforts, something not unlike those little yells a group of sailors make in turn when they are hauling hard on a cable, without which it appears the cable would never come along, though there is no apparent force in the noises they make. A doctor without physic is like a priest without a creed, or a poet without rhyme."

"Classification of Disease. — He cannot classify diseases, because what he knows of them is not comparable knowledge. For while one disease is a pain in the leg, and another a growth in the stomach, and another a spider in the skin, the classification of them is worse than mixing incompatible — it is mixing things indifferent. It is like trying to mix the solar spectrum and the key of C major with essence of peppermint."

"Advice gratis. Three kinds. Sympathetic — Let me help you. Apathetic — Do as you like. Antipathetic — Get thee and hang thyself."

"Knowledge is not power. Power arises by training in the use of knowledge. Consider the difference between training and teaching. The teacher carries over the things he knows, and fixes them in the learner's memory; the trainer takes what is in the memory, and converts it into an organ for the pupil's own use." — *Extracts from Pilocereus Senilis (an old man cactus) a series of papers by Walter Moxon, F.R.C.P.*

NEW YORK.

—During the second week of the extra summer service of the Board of Health 4,170 houses and 30,441 families were visited by the physicians of the

corps, who treated 1,036 cases of illness and gave 1,022 prescriptions. Eleven additions have been made to the corps, this bringing it up nearly to the desired number of fifty.

—In enforcing the new regulations requiring the removal to the hospital of all diphtheria cases which cannot be properly isolated at home, the sanitary authorities recently found it necessary to call in the aid of the police, in order to remove two children suffering from the disease, from a crowded house in Broome Street, as the father and friends of the patients attempted to interfere with the officers sent for the purpose.

—The father of a child which died of diphtheria and the undertaker who had charge of the funeral of the child have both been held in \$300 bail, to await trial for violating the law relative to burials of those dying of contagious diseases. The arrests were made on the complaint of a sanitary inspector of the Board of Health, who had warned the parents of the sick child to keep it isolated and have a private funeral in case of its death. His warning was disregarded, however, and the body was exposed at the funeral in a room crowded with people. The case occurred in a tenement-district, and there were more than ten families living in the house. At its last meeting, the Board of Health ordered that a notice calling attention to the sections of the Sanitary Code in reference to persons dying from contagious disease should be printed on the back of all burial permits.

—At the Chambers Street Branch of the New York Hospital, a patient suffering from sunstroke who had a temperature of 108.8° and had had violent convulsions for twelve hours, was recently bled to the extent of eighteen ounces, with the effect, apparently, of saving his life; although twice afterward the temperature went up as high as 105°. A case very similar in character which was brought to the same hospital some time since, and in which bleeding was not resorted to, terminated fatally.

—During the first six months of the present year the number of deaths reported in Brooklyn was 7,938, an increase of 821 over the mortality in the corresponding period of 1886. The number of deaths from phthisis was 1,042, from pneumonia, 838, and from diphtheria, 394.

—The British ship *Arklow*, which arrived at Quarantine July 26th, after a passage of forty-four days from Rio de Janeiro, was found to have four cases of small-pox on board, the steward, two seamen, and a passenger. During the voyage three children had died of the disease, and were buried at sea. The steamship *Hipparchus*, which arrived on the 27th, from the same port, also had small-pox on board. The disease broke out soon after the vessel left Rio de Janeiro, and three passengers whose ages ranged from five to fifteen years, died during the voyage. Four other children suffering from it were removed to the

small-pox hospital on North Brother's Island on the arrival of the ship at Quarantine.

—The Board of Health has adopted some new rules in regard to the work of sanitary inspectors in its service, and among them is one which requires that they must devote seven hours a day to the work except on Saturdays, Sundays and legal holidays. The working-hours are from 9 A. M., to 4 P. M., and during this time no private practice can be attended to. On Saturdays the hours of service are reduced to three. When not otherwise employed, they will be expected to make house-to-house visits among the tenements, and each inspector will be held responsible for the sanitary condition of his district; so that the special work of the Board of Health's summer corps of physicians will be maintained to a considerable extent throughout the year.

—The 22d Regiment, which went on duty at the State Camp at Peekskill, July 28th, introduced an innovation by marching the greater part of the distance from New York to the camp. They bivouacked over night on the road.

Miscellany.

TOMMASI-CRUDELI ON MALARIA.

THE *Lancet*, July 9th, contains a review of the elaborate "note" recently submitted by Dr. Tommasi-Crudeli to the Royal Academy of the Lincei, entitled, "Stato attuale delle nostre Conoscenze sulle Natura della Malaria e sulla Bonifica dei Passi Malarici" ("On the present State of our Knowledge as to the Nature of Malaria, and as to the Reclamation of Malarious Countries.") The paper is a reply to the author's many critics, and his fair and courteous tone is quite as remarkable as the trenchant force of his dialectic. Without entering into the arguments with which he seeks to remove objections, or to add confirmation to his position, it appears that he has shown reasonable cause for adhering to the conclusions set forth in his now well-known treatise on the "Climate of Rome." As a working theory of the origin of malaria and its remedy, his doctrine still holds the field, while he can claim the independent investigations of pathologists like Mosso of Turin, as yet further reinforcing that doctrine. The concluding section of his paper refers to the treatment—the prophylaxis, rather—to be adopted in malarious countries, and he still holds to his belief in the preventive utility of arsenic, as "augmenting the mean resistance of the human organism to the invasion of the malarious ferment." Often enough he confesses this end is not obtained because in many cases the "specific resistance" has already sunk below the "mean resistance" either through defective or deleterious alimentation, or through long-continued depression, moral as well as vital, or through previous malarious attacks. Dr. Ricchi, medical supervisor of the South Italian Railways, and now of the Adriatic network, has, at the instance of Tommasi-Crudeli, set himself for some time to obviate these adverse conditions; and to aid the preventive virtue of the arsenic, he has prepared an aliment

which has been found materially to answer that end. It consists of a powder, impalpable, soluble in water, in coffee, in broth, and such like, prepared with the "sterilized" and desiccated blood of calves, and now known to commerce under the name of "Trefusia." The composition, quite accessible to the very poor, "has served," says Tommasi-Crudeli, "to render resistant to malaria, those whose organisms, already deteriorated, were not susceptible of protection by the arsenical treatment alone." He further reiterates his confidence in the decoction of lemon as a prophylactic and even as a remedy, in cases in which quinine and arsenic have failed. In testimony of this he adduces, the experience of Professor Colasanti and of Drs. Taussig and Ferraresi of Rome, and of Dr. Shakspeare of Philadelphia, all of whom have noticed the efficacy of the decoction in every stage of malarious disease.

Correspondence.

TEMPORA MUTANTUR.

MR. EDITOR,—The following examples of what in their time were deemed pernicious tamperings with food, and such as should be put down by the strong arm of the law, have I think, a certain interest as showing the changes in opinion wrought by time and increased knowledge.

Yours very truly, BENNETT F. DAVENPORT, M.D.

YEAST.—"About the end of the 17th century, the bakers of Paris began to substitute yeast for leaven. The practice was discovered and exclaimed against. The faculty of medicine in 1688, declared it prejudicial to the health, and many years elapsed before bakers were able to convince the public that bread raised by means of yeast is better than that fermented by leaven."—*Dr. T. Thompson's Chemistry of Organic Bodies, Vegetables*, p. 1029.

HOPS.—"They were at first considered a dangerous thing as most good things have been, and the planting of them was forbidden in the reign of Henry VI. In 1530, Henry VIII issued an order forbidding the servants of his household to add hops to his beer. Later than this the common council of London, petitioned Parliament against the use of hops, "in regard that they would spoil the taste of drinks, and endanger the people."—Page 220 of *Dr. E. Lankester's Lecture on Food, delivered at South Kensington Museum*.

EXCESSIVE SUMMER HEAT THE EXCITING CAUSE OF TUBERCULOSIS.

EVERGREEN, BALTIMORE COUNTY, MD., July 29, 1887.

MR. EDITOR,—It has long been a theory of mine, supported by facts too numerous to narrate, that excessive summer heat is the active producing cause of tuberculous phthisis pulmonaris, including of course, tubercle in whatever other structures or tissues it may be found, since it has been laid down as a law to which there is but one exception, that is, whenever tubercles exist in any part of the body, they may always be found in the lungs. The tubercular meningitis of childhood, characterized by the "tache meningite" of Chomel and other well-known signs, furnishes in some instances the only exception to the universality of the foregoing law.

That heat plays the leading part in the etiology of tubercular phthisis, there is ample proof in the fact that true acute consumption, a disease lasting from fifteen to thirty days at most, from its commencement to the always fatal termination, occurs during or immediately following a heated term of greater or less duration. In the last fifty years, I have seen thirteen cases, the average duration of which was

eighteen (18) days. In a majority of them the first sign noticed was anhelation from exercise or slight exertion of any sort. To the ear and hands the signs were negative, nothing being heard but an occasional sibilant or sonorous rale. In these cases hundreds of tubercles are deposited in every lobule of both lungs, no single part of the pulmonary parenchyma escaping. But, as a rule, when the nervous system is depressed by heat, tubercles are deposited most generally at the summit of one or both lungs. There they remain dormant until cold weather sets in, when the patient begins to cough, or in one out of five cases he may raise a little blood, which symptoms are noted as the beginning of the attack, when, in fact, the seed, giving rise to these symptoms, had lain dormant there ever since the heated term of the previous summer. And, therefore, the best way for those predisposed, through heredity or otherwise, to escape phthisis, is to avoid as far as practicable exposure to excessive heat.

Yours very truly, TH. H. BUCKLER, M.D.

AN "M.D." IN NINE MONTHS.

DENVER, COL., July 26, 1887.

MR. EDITOR,—In the "news" column of a recent number of the *Medical Record*, I read:—"The Medical Department of the University of — held its thirty-fourth annual commencement at — on July 15th. Fifty-three candidates received degrees."

Of the fifty-three candidates I am acquainted with one, and with his preparatory training; and, because it seems to me that the Medical Department referred to, is lax in its requirements, and not intending in any way to reflect upon the young man in question, whose zeal to become an M.D., may, perhaps, be commended, I give his history:

On the 7th of October, 1886, Mr. X, Matriculated at the Medical Department of the University of Denver. His previous training had been as a clerk in a drug store, and he possessed a certificate from a board of examiners authorizing him to practice pharmacy in the District of Columbia.

He attended the full course of lectures for the Session of 1886-87, at the Denver University; applied for examination in chemistry and materia medica, which he was permitted to do because of his training in pharmacy, and passed in these branches.

About the 25th of March, 1887, armed with a card stating that he had attended one lecture course, and a certificate of having passed a satisfactory examination in both materia medica and chemistry, he went East to attend the lecture course at the University of —, where he was graduated on July 15th. That is, starting upon his medical studies on the 7th of October, 1886 — on the 15th of July following he was born into the noble profession of medicine, and was recommended by the University, whose diploma he bears, to the public as one qualified to practice medicine.

Let me say right here, that this University is not a Western one, which, urged on by a desire to have a list of graduates and a body of Alumni, is willing to hasten on its labors; but it has already celebrated its thirty-fourth commencement. It is situated amongst the hills of New England, and it numbers among its Faculty men of reputation in the profession.

In these days when a suitable training in medicine is taken to mean the expenditure of years in preparation; when the profession are urging a system of legislative protection and State Boards are being organized on all hands; when ambitious students are not content with the advantages offered in this country, but must seek a foreign experience — surely no one will contend that a nine months training is adequate to the demand.

It does not seem to me that any responsibility can attach to the University of Denver in the case here cited. The young man had attended one full lecture course and was entitled to a certificate to that effect.

Protection to the people must come, and should be demanded, from those giving diplomas.

The University that granted this diploma professes to require for graduates (Medical Education and Medical Colleges in the United States and Canada, 1765-1883. Edited by the Illinois State Board of Health, p. 121) :—

(1) Twenty-one years of age; (2) three years study; (3) two full courses of lectures in different years, of twenty weeks each; (4) good moral character; (5) satisfactory examination before the Faculty and State Medical Board of Examiners.

It is also stated that the lecture-course begins the first Thursday in March and continues twenty weeks.

Certainly, twenty weeks is none too long for a lecture-course, and it should not be abridged, as in the present case, four weeks, and still be counted as a full course.

To sum up the whole matter, the reason for my writing this communication is to call attention to a system that I think is faulty, objectionable, and which, in justice to the

profession and the public, should be corrected. I have used the case cited simply as a caption to my article. I have known others, occurring at the same University, of a similar nature, though not quite so aggravated in degree. But if the system employed is pursued, there is no reason why instances like this one should not be multiplied indefinitely. Then any drug clerk in the country or any office boy to a reputable physician, can start upon a course of lectures at the Denver University, or at the Albany Medical College, or at the Long Island College Hospital, or at the Bellevue Hospital Medical College, or at a score of other medical colleges in this country, and after taking the regular winter course of lectures, he can go to the University of ——— and in nine months from the time of beginning his studies or ten months at the outside, he can come forth a full fledged M.D.

Instead of besieging legislative halls for legal enactments, let us first seek protection from those in our own ranks. Very truly yours, SAMUEL A. FISK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 23, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhoeal Diseases.
New York	1,481,920	—	—	—	—	—	—	—
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,103	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	294	162	39.10	8.50	1.70	—	34.68
Boston	400,000	236	133	47.38	9.56	.84	1.68	30.66
New Orleans	242,750	101	29	4.95	13.86	—	.99	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	156	70	23.04	7.68	1.92	1.28	16.00
Pittsburgh	210,000	168	49	48.30	3.45	2.07	2.07	33.81
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	122	82	40.18	2.46	.82	—	36.90
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	45	16	33.33	6.66	3.33	7.14	20.00
Charleston	60,145	64	25	9.36	1.56	1.56	—	4.78
Portland	40,000	13	6	23.07	30.76	—	—	23.07
Worcester	68,383	29	15	41.40	6.90	—	—	41.40
Lowell	64,051	37	21	45.90	2.70	2.70	2.70	32.40
Cambridge	59,660	26	17	50.00	7.70	—	—	50.00
Fall River	56,863	52	35	65.68	9.60	—	—	65.68
Lynn	45,861	24	10	29.12	37.44	—	—	29.12
Lawrence	38,825	20	9	10.00	20.00	—	—	10.00
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	25	15	20.00	12.00	—	—	16.00
Somerville	29,992	14	8	64.26	—	7.14	—	49.98
Salem	28,084	13	6	30.76	—	—	—	30.76
Holyoke	27,894	10	8	70.00	10.00	—	—	60.00
Chelsea	25,709	13	10	61.52	—	—	—	61.52
Taunton	23,674	5	3	40.00	20.00	—	—	20.00
Haverhill	21,795	4	1	—	50.00	—	—	—
Gloucester	21,713	9	3	22.22	11.11	—	—	22.22
Brockton	20,783	4	3	—	—	—	—	—
Newton	19,759	4	1	25.00	25.00	—	—	25.00
Malden	16,407	—	0	—	—	—	—	—
Fitchburg	15,375	6	0	—	—	—	—	—
Waltham	14,609	6	2	33.33	—	—	—	33.33
Newburyport	13,716	7	3	42.84	—	—	—	42.84
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,507: under five years of age 742; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 511, consumption 122, lung diseases 48, diarrhoeal diseases 422, whooping-cough nine, measles 12, cerebro-spinal meningitis 12, diphtheria and croup 12, typhoid fever 18, malarial fever 11, puerperal fever nine, scarlet fever six. From cerebro-spinal meningitis, District of Columbia and Milwaukee three each, Lowell two, Pittsburgh, Somerville, Holyoke and Taunton, one each. From measles, Boston four, Pittsburgh three, Baltimore two, District of Columbia, Lowell and New Bedford one each. From malarial fever, New Orleans four, Baltimore, District of Columbia and Nashville two each, Charleston one. From whooping-cough, Boston, six, Baltimore two, Nashville one. From puerperal fever, Pittsburgh seven, Nashville two. From scarlet fever, Pittsburgh four, Baltimore two.

In the 20 cities and greater towns of Massachusetts, with a population of 1,034,088 (population of the State 1,941,465) the total death-rate for the week was 27.41 against 26.37 and 27.12 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,009, for the week ending July 2d, the death-rate was 19.6. Deaths reported 3,475: infants under one year of age 1,007; diarrhoea 267, measles 152, whooping-cough 149, scarlet fever 54, fever 27, diphtheria 22.

The death-rates ranged from 11.4 in Nottingham to 32.1 in Preston; Birmingham 17.9; Blackburn 23.2; Bradford 14.9; Hull 15.6; Leeds 19.7; Leicester 21.5; Liverpool 22.2; London 19.9; Manchester 24.0; Sheffield 19.3; Sunderland 13.3.

In Edinburgh 18.6; Glasgow 17.8; Dublin 26.6.

The meteorological record for the week ending July 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, July 16, 1887.																				
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, ... 17	29.65	70.0	74.0	66.0	86.0	86.0	88.0	87.0	N.E.	S.E.	S.E.	5	13	3	O.	O.	O.	5	.06	
Monday, ... 18	29.69	66.0	70.0	63.0	90.0	97.0	85.0	91.0	S.	E.	N.E.	7	18	6	O.	O.	O.	7	.04	
Tuesday, ... 19	30.11	67.0	73.0	62.0	76.0	88.0	92.0	85.0	N.E.	E.	S.E.	4	8	3	O.	O.	O.			
Wednes., ... 20	30.16	67.0	73.0	64.0	85.0	76.0	80.0	80.0	S.	E.	S.W.	4	9	10	O.	O.	C.			
Thursday, 21	30.08	66.0	73.0	61.0	84.0	76.0	85.0	82.0	S.W.	E.	S.W.	6	12	12	O.	O.	C.			
Friday, ... 22	29.92	69.0	76.0	65.0	90.0	98.0	88.0	92.0	S.E.	S.	S.W.	7	11	10	R.	O.	C.	6	1.07	
Saturday, ... 23	30.00	75.0	81.0	71.0	93.0	85.0	95.0	91.0	S.W.	S.W.	S.	12	11	8	O.	O.	O.	10	.85	
Mean, the Week.	30.001	68.6	74.0	65.0				88.3										28	2.02	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 23, 1887, TO JULY 29, 1887.

MAGRUDER, D. L., colonel and surgeon. Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

Par. 13 S. O. 167, A. G. O., July 21, 1887, assigns Lieutenant Colonel A. Heger, surgeon, to duty as member of Army Retiring Board, convened at Governor's Island, New York Harbor, N. Y., vice Colonel Charles Sutherland, surgeon, hereby relieved.

CALDWELL, D. G., major and surgeon. Order relieving him from duty at Fort D. A. Russell, Wyo., and assigning him to duty at Fort Assiniboine, Mont., is revoked. S. O. 168, A. G. O., July 22, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to Fort Assiniboine, Mont., instead of Fort D. A. Russell, Wyo. S. O. 168, A. G. O., July 22, 1887.

COWDREY, S. G., captain and assistant surgeon. Granted one month's leave of absence to take effect on or about July 24th. S. O. 79, Department of Texas, July 13, 1887.

BURTON, H. G., captain and assistant surgeon. Sick leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

GARDNER, E. T., captain and assistant surgeon. Ordered for duty at Fort Reno, Ind. Ter. S. O. 170, A. G. O., July 25, 1887.

BLACK, C. S., first lieutenant and assistant surgeon. Ordered for duty as Post-Surgeon, Fort Bliss, Tex., during the absence on leave, of Capt. S. G. Cowdrey, assistant surgeon. S. O. 79, Department of Texas, July 13, 1887.

McCaw, W. D., first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Riley, Kans. S. O. 78, Department of Missouri, July 25, 1887.

OBITUARY.

OSCAR FITZWILLIAM FASSETT, M.D.

Dr. O. F. Fassett, of St. Albans, Vt., died July 22, after a lingering illness from cancer. He was born at Enosburg Falls, February 28, 1827. After passing through the public schools of his native village and the academy at Bakersfield, he chose the medical profession, and graduated with high honors at the Vermont Medical College at Woodstock in 1851. He subsequently took a course of medical studies in New York City, and commenced to practice medicine at East Berkshire, where he remained twelve years. He came to St. Albans in 1865, and here he has since continued in the discharge of his professional duties. He was eminent in his profession, and, as a physician and a gentleman, his reputation stood deservedly high throughout the State. He was the President of the Vermont Medical Society for two years, and took a deep interest in the organization.

BOOKS AND PAMPHLETS RECEIVED.

Massachusetts College of Pharmacy. Twenty-first Annual Catalogue, 1887-88.

Syphilis. By Jonathan Hutchinson, F.R.S., LL.D. With eight chromo lithographs. (Clinical Manuals for Practitioners and Students of Medicine.) Philadelphia: Lea, Brothers & Co.

Annual Announcement of Trinity Medical School, Toronto. Session 1887-8.

Recent Advances in Preventive Medicine. By George H. Rohé, M.D., of Baltimore, Md. Chicago, 1887. (Reprint.)

Thirty-Second Annual Report upon the Births, Marriages, and Deaths in the City of Providence, for the Year 1886. By Edwin M. Snow, M.D., City Registrar.

Duty of the State in Public Health. By F. B. Stephenson, A.M., M.D., United States Navy, Member Titulaire de la Société d'Anthropologie de Paris. 1887. (Reprint.)

A Unique Case of Bi-Lateral Athetosis. By C. H. Hughes, M.D., St. Louis, Neurologist on the Staff of St. Louis Protestant Hospital, Lecturer on Nervous Diseases, St. Louis Medical College, etc. 1887. (Reprint.)

On the Pathology and Treatment of Gonorrhoea and Spermatorrhoea. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Octavo, 484 pages. Illustrated. New York: Wm. Wood & Co.

The Curability of Insanity and the Individualized Treatment of the Insane. By John S. Butler, M.D., Hartford, Conn., Late Physician and Superintendent of the Connecticut Retreat for the Insane, etc. New York and London: G. P. Putnam's Sons. 1887.

Insanity and Oöphorectomy. By William M. Leszynsky, M.D., Instructor in Mental and Nervous Diseases at the Post-Graduate Medical School and Hospital, Attending Physician in the Nervous Department of the Demilt Dispensary, etc. 1887. (Reprint.)

A Third Contribution to the Study of Localized Cerebral Lesions. By E. C. Seguin, M.D., Clinical Professor of Diseases of the Mind and Nervous System in College of Physicians and Surgeons, New York, etc. New York: J. H. Vail & Co. 1887. (Reprint.)

The Mineral Waters of Vichy and the Diseases in which they are indicated. Followed by a Sketch of some of the Principal Excursions in the Environs. With Two Colored Maps. By Dr. C. E. Cormack, Laureate of the Faculty of Medicine of Paris, etc. London: J. & A. Churchill. 1887.

Heredity in Tuberculosis. President's Address. At the Meeting of the American Climatological Association, May 31, 1887. By Frank Donaldson, M.D., Clinical Professor Throat and Chest, University of Maryland, Fellow of American Laryngological Association, etc. Baltimore, Md., 1887. (Reprint.)

Importance and Value of Experimental Research. Doctorate Address Delivered at the Graduating Exercises of the College of Physicians and Surgeons, Chicago, Ill., February 21, 1887. By N. Senn, M.D., Milwaukee, Wis., Professor of Principles and Practice of Surgery and Clinical Surgery. 1887. (Reprint.)

A System of Gynecology by American Authors. Edited by Matthew D. Mann, A.M., M.D., Professor of Obstetrics and Gynecology in the Medical Department of the University of Buffalo, N. Y. Volume I. Illustrated with Three Colored Plates and 201 Engravings on Wood. Philadelphia: Lea Brothers & Co. 1887.

Three Lectures delivered at the Hospital for Sick Children, Great Ormond Street. By Robert J. Lee, M.D., F.R.C.P. Lectures I and II. On the Transmission of Syphilis; with Cases arranged to illustrate the Relations between the various Symptoms of Hereditary Syphilis in Children and the Parental History. Lecture III. On the earliest Record of Whooping-Cough. London: Baillière, Tindall & Cox. 1886.

Original Articles.

CARLSBAD.

BY HORATIO R. BIGELOW, M.D.

It appears at first sight a work of supererogation to add to that which is already of record, touching upon Carlsbad and upon disordered livers generally. Yet it seems to me that this little Bohemian village is far too little appreciated, and what has been said about it, and what has been written in its praise, have not exhausted the subject in any perceptible degree; they have only whetted the appetite, as it were, for more. I do not know to what extent I may impose upon the forbearance of the editor of this journal, neither can I gauge the measure of charity possessed by its readers. But I must put both to the test, if I would do even the most limited justice to the subject. It smacks a little bit of the "meeting-house," and the "Cotton Mather" school, that I should divide my article into several heads, but I come righteously by certain characteristics of the Puritan, and the processes of heredity are overmastering. With this much as preface, I submit the following points for discussion:

I. Why I came to Carlsbad.

II. The springs of Carlsbad.

III. Diseases in which indicated. Cardialgia, ulcer ventriculi, catarrhal conditions of the stomach, dilatation of the stomach, chronic constipation, chronic intestinal catarrh, congestion of the liver, fatty liver, cirrhosis of the liver (first stage), polycholia, gallstones, splenic tumors, gravel, catarrh of the bladder, prostatic hypertrophy, anæmia, gout, adiposis, diabetes (?), etc. Some dermatological and gynecological diseases.

IV. Contra-indications.

V. Modus operandi of the cure.

VI. Hygienic and dietic regulations.

VII. The baths.

VIII. The situation of Carlsbad; its environs, climate and approaches.

IX. Expenses, pensions, hotels, etc.

I. WHY I CAME TO CARLSBAD.

Upon the recommendation of Dr. Säger, of Leipzig, who diagnosed a considerable enlargement of the liver in a member of my family, with some catarrhal condition of the gall ducts, conjoined to some old inflammatory deposits in the peritoneal cavity as a result of para and peri-metritis. The patient's complexion at all times more or less icterus, was at times, especially during the menstrual period, markedly icterode. The face was spotted here and there with brown plaques, always more pronounced on the forehead. To palpation the liver was hard and resisting. The lower lobe extended nearly three fingers breadth to the left of the middle line, and downward to within two fingers breadth of the crest of the ilium. There was one exquisitely sensitive spot in the middle line just above the umbilicus. There was faulty digestion, and a long train of aches and pains, depending upon many causes which I need not detail here. We left Leipzig at noon, March 15th, and as, during this season the regular through trains do not run, we did not arrive in Carlsbad until midnight, and then were greeted with a snow-storm which continued persistently for three or four days.

II. THE SPRINGS OF CARLSBAD.

Name.	Temperature. R. F.	Name.	Temperature. R. F.
1. The Sprudel	59.5° 166°	10. Schlossbrunn	43.5° 126°
2. Hygiea-Quelle		11. Marktbrunn	40° 122°
3. New Hygiea-Quelle		12. Kaiserbrunn	39° 120°
4. Bernhardsbrunn	53° 150°	13. Elisabethquelle	37.5° 116°
5. Carlsauquelle	52° 147°	14. Hochbergerquelle	35° 106°
6. Neubrunn	50° 143°	15. Kaiser-Karl-Quelle	31° 101°
7. Felsenquelle	48° 138°	16. Russische Knequelle	29° 96°
8. Theresienbrunn	48° 138°	17. Sprudelsauerling	23° 85°
9. Mühlbrunn	45° 133°		

The Commissioners of the Government after a series of very careful analyses, demonstrated 41.42 of solid constituents in one pound (16 ounces) of Carlsbad water. Prof. Ragsky, in 1863, made the following analysis:

Solid Constituents Contained in 16 Fluid Ounces.	Sprudel.	Mühlbrunn.	Schlossbrunn.
Sulphate of potash	1.2564	1.7172	1.4645
Sulphate of soda	18.2160	17.9610	17.2455
Chloride of sodium	7.9156	7.8690	7.5282
Carbonate of soda	10.4593	10.8679	9.5620
Carbonate of lime	2.2870	2.0236	3.0658
Carbonate of magnesia	0.9532	0.2641	0.3870
Carbonate of protoxide of iron	0.0215	0.0230	0.0176
Carbonate of protoxide of manganese	0.0046	0.0053	0.0053
Carbonate of strontia	0.0061	0.0069	0.0046
Phosphate of aluminum	0.0030	0.0025	0.0023
Phosphate of lime	0.0015	0.0016	0.0030
Fluoride of potassium	0.0276	0.0268	0.0291
Siliceous earth	0.5590	0.6190	0.7365
Total of solid constituents	41.7090	41.3870	40.1523
Free carbonate acid { in grains,	5.8670	7.3260	10.2940
in cubic inches.	11.8820	14.8370	20.6200

and Ludwig, of Vienna, in 1879, published this analysis made by himself:

10,000 Grammes of the Water Contain.	Sprudel.	Mühlbrunn.	Schlossbrunn.
Carbonate of protoxide of iron	0.030	0.028	0.001
Carbonate of protoxide of manganese	0.002	traces	traces
Carbonate of magnesia	1.665	1.613	1.615
Carbonate of lime	3.214	3.266	3.337
Carbonate of soda	12.980	12.790	12.279
Carbonate of strontia	0.004	0.004	0.004
Carbonate of lithia	0.123	0.118	0.136
Sulphate of potash	0.862	1.188	1.930
Sulphate of soda	24.053	23.911	23.158
Chloride of sodium	10.418	10.288	10.047
Fluoride of potassium	0.051	0.046	0.046
Borate of soda	0.040	0.029	0.039
Phosphate of lime	0.007	0.009	0.004
Siliceous earth	0.004	0.005	0.005
Silicic acid — anhydride	0.715	0.735	0.703
Calcium, rubidium, bromine, iodine, arsenic, antimony, zinc, selenium, thallium, formic acid	traces	traces	traces
Total of solid constituents	55.168	54.730	53.304
Carbonic acid, half combined	7.761	7.672	7.593
Carbonic acid, free	1.898	5.169	5.822

Small quantities of iodide of sodium, bromide of sodium, lithia, boracic acid, rubidium and calcium, are also found. All the surface waters of the Carlsbad region, including the river Tepl, penetrate the granite rocks and soil to great depths. They do this the more easily, owing to the disintegrated character of the granite formation. Carlsbad lies in what must have been a volcanic region. The geological formations, and the peculiar conformation of the land all point to this conclusion. It would require no imaginative deduction to relegate the present site of this town to the crater of an extinct volcano, or if not so, we should not be far amiss in asserting that it rested upon volcanic debris, thrown down by a volcano which has

been extinct for ages. In its downward course this surface water becomes impregnated with the granite constituents, which Göttl has shown to be soda, lime, potash, siliceous earth, aluminum, magnesia, iron, manganese, arsenic, chlorine, fluorine, sulphur, sulphuric and phosphoric acid. From the soil, it becomes heavily charged with carbonic acid. Owing to the action of this acid, and a counter atmospheric pressure, it dissolves, both by chemical and physical action, the solid mineral and extracts the salts, which are held in solution by carbonic acid gas. Knowing that the temperature increases, as we go down into the earth, and having learned exactly, in just what ratio such increase occurs, it is not difficult to locate the depth of the basin which supplies the springs, beneath the earth's surface. This is estimated to be 8000 feet. As all of the Carlsbad springs contain almost identically the same ingredients, they must have one reservoir in common. The difference in temperature of course is due to the length of time taken to reach the surface. The spring which takes the most direct route, will manifest itself first, and will be the hottest. The heat which the surface waters draw from the strata in their descent, sets free the carbonic acid gas, and it is this strongly propelling force which forces them back as spouting springs. The whole face of the country, the nature of the springs, the intermittent character of the supply, and the influence of earthquakes, and active volcanoes at a great distance upon the amount of the water, seem to point to volcanic origin, beyond all question of a reasonable doubt. Eidmann and Göttl found electro-magnetic currents (negative) in some of the warmer springs—a fact without much significance, when we remember the constituents of the water. The bicarbonates, which are held in solution by the carbonic acid, become precipitated by exposure to the air, and encrust, with beautiful effect, everything with which they come in contact. The solid constituents of each spring are about the same. They all belong to the saline alkaline springs, and are like the "Glauber's salt waters" of Stubnya and Beitrich. Sulphate of soda, carbonate of soda, and chloride of sodium, are the chief ingredients. These of themselves are not wonderful as remedial agents. Any one can make an artificial solution at home, or can take the bottled imported water, or a dose of glauber's salt, or Dr. Kinnicutt's formula of 50 parts of sulphate of soda, 20 parts of bicarbonate of soda, and 10 parts of chloride of sodium, or sulphate of soda with sulphate of magnesia in Apollinaris water, as recommended by Jacobi, but the "Carlsbad Kur" will not follow any such line of treatment. It is not the glauber's alone, it is not the carbonic acid gas alone, it is not the temperature alone, it is not the diet and the exercise alone, but it is a combination of all under the direction of an intelligent physician which effects the results that have made Carlsbad so celebrated. A patient who is so determined upon getting well, as to make the journey here, will, ten chances to one, more religiously conform himself to doctor's orders than he ever did at home. There is, too, potentiality for good, in these waters taken at their natural temperature, with their proper admixture of carbonic acid. A potentiality which no imitation can possibly obtain, and which, even the bottled waters will fail to accomplish. Chemical combinations become changed, not only in their molecular formation, but in their therapeutic action,

by the action of heat. Clinical evidence of this can be had here daily. Proof also is not wanting that cases in America, under the most intelligent handling, and favorable circumstances, failed to respond to a therapeutical system based upon a knowledge of the ingredients of the Carlsbad waters, to rebound, as if by magic, first to convalescence, and then to restored health, after a four or six weeks' course at Carlsbad. I have heard that an attempt will be made to establish a "Carlsbad Kur" at Atlantic City. I predict its failure. It is simply impossible to reproduce the waters.

III. DISEASES IN WHICH THESE WATERS ARE EFFICACIOUS.

Diabetes. There lately appeared in an Hungarian medical journal (an abstract of which is also to be found in a late number of the *London Lancet*) an article by a certain doctor in Carlsbad. He avers that he has treated over two thousand cases of diabetes successfully by using saccharine. Now this same doctor has only been in Carlsbad for two years, and during this time there have not been more than eight hundred to one thousand diabetic patients here. Dr. Grünberger or Dr. London, who have the best practices here, rarely see more than forty such patients during a year. Another point: The first intimation of saccharine that the author of this remarkable paper had, came from a physician whom he had summoned to attend his daughter, who was ill, and he it was who recommended saccharine to disguise the taste of quinine. There are doctors and doctors, and let him who comes to Carlsbad beware. To make both ends meet, the struggling wayfarer must bring himself into notice in some way, either by fair means or foul. I should consider any one fortunate who counted himself a patient of Dr. Grünberger, or Dr. London, or Dr. Kraus, or Dr. Neubauer. To the former I am under obligations for the most successful and intelligent handling of the patient, whose illness brought me to Carlsbad. His quick grasp of the situation, the accurate diagnosis born of an almost unequalled experience, his kind but firm demeanor stamp him at once as the courtly gentleman and reliable physician. Now, I do not quite see what effect Carlsbad waters have upon the sugar diathesis, and I am sure that Dr. Grünberger is also somewhat sceptical in this direction. Dr. Kraus does not share in this scepticism, for he writes: "The influence of Carlsbad mineral waters on diabetes is highly beneficial, according to the unanimous opinion of medical men in general, and of those practising in Carlsbad in particular, and is based on the experience of the last fifty years. In every case of diabetes, even of the greatest severity, a marked improvement in the desolate condition begins after a few day's time. . . . The question whether diabetes may be entirely cured by the Carlsbad mineral waters, or by some other remedies, remains undecided at present, and according to the experience hitherto attained, is not likely to be answered in the affirmative." He then cites two cases in his own practice, which he considered "as perfectly cured." Hufeland called Carlsbad "the great hospital for diabetes." Braun and Seegen both report cases which were alleviated. Leichtenstern says that the so-called cures are due to strict attention to anti-diabetic diet.

Many experiments have been made (P. Gultmann, Riess & Külz), showing that the "use of the Carlsbad

water has not the least power of diminishing the amount of sugar in the urine in diabetes mellitus." I see no reason to believe that the waters themselves can have the least possible influence in controlling the amount of sugar in the urine. We have no analogous data to support such a theory, and those who defend it, must know just how the change takes place. Carlsbad water *plus* Carlsbad rule will alleviate all but the very bad cases, but Carlsbad water *minus* restraint is *nil*. Still I am convinced that the very cases that do badly at home, that grow worse instead of better each month, would respond more vigorously to common sense rules in Carlsbad. The reasons are subjective and objective. The patient has faith that the long journey and the celebrated Carlsbad waters will benefit him, and he not only determines to do all in his power to profit by the experience, but he puts his system in the best condition possible for such an experiment. Then he obeys the doctor's strict injunctions more faithfully here than was his wont at home. He lives in the sunlight, he keeps good hours, his mind is free from strain, and his diet is regulated to a nicety. It is pure nonsense to talk about the curative value of saccharine. It is a useful adjuvant. It takes the place of sugar and supplies a want, but more than this *it is not*. Carlsbad is unquestionably a good place for diabetic patients because they learn to *obey*, and just in proportion as they faithfully observe the precepts taught, will their measure of well-being follow.

Adiposis. When I came to Carlsbad, I weighed between 186 and 190 pounds (American). As I am only five feet, six-and-one-half inches tall, this was too portly, even for a London alderman. Dr. Grünberger thought there might be a tendency to fatty degeneration of the heart, and advised the *Kur*. I began with two glasses (March 16th) of Marktbrunnen daily, to which was added, on March 20th, one glass of Mühlbrunn. This was never increased during the eight weeks of my cure. The water was sipped gradually; then, after an interval of fifteen minutes, the second glass was taken, and so the third. After that, a walk of from one to two hours, and then breakfast. A cup of tea or coffee (with milk and sugar), two rusks, and two soft-boiled eggs, then a climb of two or three hours, and home to dinner — a piece of rare meat and one vegetable, with an occasional glass of Hungarian wine. Then another long walk, followed by supper at seven, consisting of tea, rusks, and cold meats. I took a few warm and vapor baths, especially when in Berlin, to which city I was called upon business, being absent ten days. While away, I kept up my diet rules most strictly, but not being able to exercise as vigorously, I indulged somewhat in Turkish baths. Latterly, I have given up coffee, and take no milk in my tea. At first, the waters caused a natural, but rather active movement from the bowels; then, for two or three weeks, the discharges were more frequent (twice, and sometimes three times per day), and then came an interval of constipation. My weight fell as follows:

March 20th	84.200 kilogrammes	184.13 Pounds (American).
March 27th	83.000 "	182.0 "
April 4th	81.700 "	179.4 "
April 10th	78.700 "	172.7 "
April 17th	77.500 "	169.13 "
April 24th	75.250 "	164.14 "
April 27th	74.240 "	162.9 "
April 30th	73.750 "	161.9 "

I now weigh (May 26th) about 155 pounds with winter flannels. My weight, naked, at the Cur Haus

bath-rooms was, on May 23d, 67 kilogrammes = 134 German pounds, or 148 American pounds. I exercise about three or four hours daily, and observe a rigorous self-denial in matters of diet. It will be seen that from March 4th to March 10th, I lost nearly a pound *per diem*, but during this time I am sure that I walked between twenty and twenty-five miles daily. At no time have I felt unpleasantly. At times, the more especially after hot baths, and sometimes in the early morning, I fancied that I was a little groggy in the legs. I have not been as sprightly upon setting out upon my walk as I might be; still these were natural symptoms, and soon wore off. It seems to me that I am better, stronger, and more free from headaches than I have been for years. I can make the longest and most trying walks without undue fatigue, and my mind grasps an idea more quickly, and can unravel a theory more satisfactorily than formerly. The share of the waters in this rôle must be considered as a small one. The slight purgative effect assists digestion, and, in this way, may contribute in some small way to the general result. The absorbents are stimulated, and the fatty deposits diminished, more, I think, by reason of the high temperature of the water. Clinicians hold that, absorbed by the blood, the waters remove the fat in subcutaneous areolar tissue and in other organs, but they do not give us any physiological proof of this. One of the latest works on this subject in German advocates most strongly the internal use of hot water as a means of reducing adipose. The salts may act indirectly by depriving the excess of adipose of its rich and elaborate nutrition, since the use of Carlsbad waters not only lessens the richness of the blood-supply, but it also changes the whole character of absorption.

Diseases of the Liver. (See Frerichs' work, and those of Oppolzer, Bamberger, Ducheck, and Fiedler, etc.) In *passive congestion* caused by emphysema, stagnation in the mesenteric vein, constipation, and other functional disorders of the abdominal viscera, *fatty liver*, the first stage of *cirrhotic liver*, *polycholia*, *catarrhal jaundice*, and, according to Leichtenstern, in *chronic gastro-intestinal hyperæmia* and *catarrh*, dependent on anatomical changes in the liver, these waters, by increasing peristaltic action, and "facilitating the flow of blood through the liver," are of the most pronounced service. "Their curative effects in catarrhal jaundice depend on the favorable influence they exert on catarrh of the duodenum, and removal of obstacles to the flow of bile caused by the swollen mucous membrane. The waters have no specific effect upon the bile itself, but merely render it thinner and more abundant, and increase its flow, as any other water would do." (Page.) But these waters certainly act in another way. *They change the condition of the blood*, regulating and increasing both venous and arterial circulation, and relieving the overweighted mesenteric vein. The changed blood-supply sets up altered nutrition, and this effect is intensified by the changes going on in the mucous membrane of the stomach and of the intestinal tract. Oppolzer relates the complete cure, in an Austrian officer of cavalry, of supposed carcinomatous tumor of the liver by the use of these waters.

Gall-stones. Page says (*Medical Record*, October 30, 1886): "According to Leichtenstern, it has been often proved that saline soda-waters, in public and private practice, as well as at renowned watering-

places, assist in the removal of gall-stones.' By some, this is attributed to the dissolving power of the water, which is supposed to saponify the cholesterine, so that the stone breaks up into detritus, though supposed alkalescence of the bile produced by the waters has not been proved. Moreover, those stones which have a covering of carbonate of lime cannot be thus affected. Seegen states that the method of cure in these cases is not known, and favors the idea of the waters being preventive, rather than curative, and agrees with Leichtenstern in the opinion that, owing to the increased flow and pressure of bile, and increased activity of the gall-bladder, due to general reflex peristalsis, a cure is effected by expulsion of the stones, instead of their being dissolved."

Dr. Kraus says: "There is no decided proof whatever to support the opinion that the beneficial results brought about by the use of the Carlsbad waters in these cases are due to any dissolving action on their part. I have repeatedly, and for some considerable time, exposed gall-stones to the action of hot Sprudel water (60° R. = 167° F.) without noticing any mechanical changes whatever; besides, it is, *a priori*, quite incomprehensible how the mineral water should act in a direct way on the concretions formed in the gall-bladder or the biliary ducts. On the other hand, the possibility of the bile itself acting in a destructive manner on the concretions, after becoming alkaline to a certain extent, cannot be denied altogether; at least, it is certain that we frequently meet with corroded concretions of a porous construction, and sometimes, even crumbled to pieces, in patients who have been drinking the waters for a considerable time. . . . At any rate, the disappearance of the stones is not due to their being dissolved, but it may safely be asserted that their elimination is caused by the mechanical action of the waters; their importance, moreover, is evidently shown by the thinner and normal condition of the bile showing itself during their use; thus the formation of fresh concretions is evidently prevented." The almost universally favorable results in these cases from drinking the waters depend upon the "flushing," as it were, of the gall-ducts, the regulation of the action of the bowels, and by restoring the bile to its normal consistency. I have seen many remarkable cases here, and have heard of scores of equal interest, all of which were entirely cured. I met, this season, a gentleman connected with the Northern Pacific Railroad, who was sent over last year by Dr. Loomis. He had suffered terribly for years. Last year, he remained seven weeks. Returned to New York, and up to April 15, 1887, he had but one attack, and that a slight one. I saw him a few days ago, just as he was arranging to return. He looked remarkably well, and told me that he did not remember when he had been in such exuberant health. Had I a patient afflicted with gall-stones, I would urge his immediate trip here, even at the cost of the greatest personal sacrifice. It pays to come. At first, the attacks of colic after taking the waters are severe and frequent, because the stones are being eliminated, and perhaps, incarcerated. Then comes a jaundice, more or less severe. In some cases, the patients grow worse and worse. They return home after four weeks, are seized with agonizing pain, pass a lot of stones, and go on to a perfect recovery.

(To be continued.)

UTERINE HÆMORRHAGE: A CONSIDERATION OF SOME OF THE LESS COMMON CAUSES AND THEIR TREATMENT.¹

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HÆMORRHAGE from the uterus, whether menorrhagia or metrorrhagia, may be, as regards its cause, either active or passive; that is, it may result, in the first place, from the presence of something in the cavity of the uterus which directly attracts blood, causing active congestion; or, in the second place, from obstruction to the return of the venous blood, causing passive congestion. The importance of carefully distinguishing these two forms cannot be too strongly insisted upon, inasmuch as the treatment will be radically different as one or the other cause predominates.

It may be broadly stated that active hæmorrhage is due to causes inside the uterus itself, while passive hæmorrhage is due to causes outside the organ. As an example of the first, a submucous membrane may be instanced, and of the second, pelvic cellulitis. It will be readily seen, however, that in not a few cases both classes of causes may be operative. For example, a thickening of one or both broad ligaments may so interfere with the circulation as to induce congestion of the uterine membrane, and consequent menorrhagia. The prolonged congestion may lead to proliferation of the tissues and to so-called hyperplastic endometritis, or the development of polypoid growths, which themselves may actively determine an unusual flow of blood. The general distinction may, however, be maintained, and our treatment, in the one case, should be mainly intra-uterine, and in the other, directed to conditions outside the organ. This applies, of course, only to radical treatment, for we are often driven by the alarming severity of the flow to temporarily, at least, resort to the most effectual means, regardless of the predisposing cause.

Most uterine hæmorrhages are intermittent, the periods of severe, and possibly alarming, flowing being followed by intervals of either complete cessation, or very nearly so. When the flow is at its maximum, little more can usually be done than to check it, reserving a more thorough examination to determine its cause for the interval of comparative quiescence.

It is certainly a mistake to neglect such an examination. If the hæmorrhage occurs only at the time of the menstrual period in a young girl, general hygienic and tonic treatment should be tried before resorting to a vaginal examination; but if it occurs in the intermenstrual period, whether the woman be married or single, and in any case in a married woman, its cause should be sought for by every means in our power. Too often the failure to do this in a case of beginning epithelioma, for instance, allows the favorable moment for the performance of a radical operation to slip by, and when the delayed examination is made, the disease is found to be so far advanced as to admit of only palliative treatment.

This caution applies particularly to hæmorrhages occurring between forty and fifty, or at the time the menopause is expected. Irregularities in the amount of the menstrual flow in women of that age excite little alarm, for they are considered by the women

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, April 20, 1887.

themselves, and too often by the physician, as the natural accompaniment of the "change of life."

Certain statistics with regard to the comparative frequency of the various causes of uterine hæmorrhage, and the age at which they most frequently occur, will illustrate the importance of this warning. Dr. Sneguireff, of Moscow, has written a monograph on uterine hæmorrhage, in which he gives a table prepared from all the data which he could collect, which shows the following facts: By far the most frequent cause of hæmorrhage from the uterus is cancer, constituting twenty-five per cent., or a quarter of all the cases we meet with. The next most common cause is fibroid, nineteen per cent.; then metritis, ten per cent.; endometritis, eight per cent.; abortions and subinvolution, five per cent.; and twenty-two other less frequent causes, ranging from three per cent. to one per cent. each.

A second table gives the relative frequency of the different causes of uterine hæmorrhage at the different ages. From this, we see that nearly ninety per cent. of cases of hæmorrhage from cancer occur in women over thirty-five, and fifty-eight per cent. in those over forty-five; that nearly fifty per cent. of hæmorrhages from fibroids are in women over thirty-five, and twenty-five per cent. in those over forty-five, showing that nearly half of all cases of metrorrhagia that we meet occur in the years about the menopause, and are due to the two grave affections, cancer and fibroid. In striking contrast to these statistics, is the fact that less than one per cent. of such cases can be referred to the menopause as the sole cause; that is, where nothing else to account for it can be found.

Of especially grave import are irregular "flowing spells" occurring after the menopause is once established. No reluctance on the part of the patient to submitting to an examination should induce the attending physician to fail to insist upon its importance.

Another class of cases which is too often neglected is that where the menstrual flow is excessive. Many a woman is kept in a condition of enfeebled health from the monthly drain upon her system, in whose case a little care would so moderate the flow as to enable her to thoroughly recuperate in the intermenstrual period. I am convinced that there are cases, not a few, where the women are better off for not menstruating at all. They can ill afford to lose any blood, and if nature has not pointed out the true remedy by a state of amenorrhœa, any flow of blood should be looked upon as a hæmorrhage, and be treated as such. In such cases, rest in bed and frequent hot-water douches will often reduce the flow to a minimum, or stop it altogether.

On the other hand, it is often a difficult matter in cases where the menstrual flow is profuse, to decide whether it is excessive, and needs to be checked or not. I have a patient who has always flowed a great deal, using on an average thirty napkins, and passing numerous clots besides. When she was regaining her strength after an operation, I feared the drain upon her system was too much, and diminished the amount of the flow after the first three days, by ergot and hot water injections. But severe headaches, increased backache, and bearing down followed, and I became convinced that in her case this large amount was none too much. There must be a great difference in the blood-making capabilities of different women, otherwise we cannot account for so great a monthly loss of

blood in one case being not only not followed by bad consequences, but even necessary to a comfortable degree of health, while a third of the amount in another woman is a severe drain, from which she does not recover in the intermenstrual period, but grows steadily weaker.

Hæmorrhage during menstruation, or menorrhagia, rarely calls for active local treatment at the time, as the amount of blood lost can usually be controlled by internal medication, rest in bed, and hot douches. Occasionally, however, the vaginal tampon is necessary. But a great deal can be accomplished by treatment during the intermenstrual period both in the way of relieving congestion by local measures, and particularly by regulating the habits and mode of life of the patient. I have several times seen severe menorrhagia in young girls who were studying too hard, and taking too little exercise, where removing them from school and from the excitements of city life, and insisting upon out-door exercise, with some ferruginous tonic has resulted in immediate diminution of the amount of blood lost. A vaginal examination is often not necessary in these cases. Where I have made one, I have usually found a small flabby anæmic uterus, cervix conical, and possibly anteverted, and an absence of leucorrhœa. Here the bleeding seemed to be directly due to the atonic condition of the uterus.

By far the greater number of cases of hæmorrhage, both during the catamenia and in the interval, are associated with a congested, enlarged, and sensitive uterus, and there is considerable leucorrhœa when the bloody discharge ceases. Sometimes we find nothing but the above conditions on local examination, and are forced to interrogate other organs, at a distance, as heart, lungs, or kidneys, or to look for some morbid diathesis as a predisposing cause. In this connection some observations lately published in the *British Medical Journal*,² are of interest. In investigating some questions with regard to phthisis, Dr. Handford found confirmation of the following maxims:

First. Early or excessive menstruation is an important and common predisposing cause of phthisis.

Second. The female children of phthisical parents tend to menstruate unduly early and excessively.

In support of these views, in addition to some cases of his own, he quotes Dr. Grailly Hewitt, who says: "According to my experience, young women in whom there are signs of a tendency to, or an actual development of tubercle are very frequently the subjects of profuse menstruation, the cause being the defective and vitiated state of the blood."

It may be considered doubtful whether, as Dr. Handford states, menorrhagia is a *common* predisposing cause of phthisis, yet in view of these facts it certainly should be looked upon as a suspicious circumstance, when a child of phthisical parents flows early and excessively, and we should use all the means in our power to check it.

As a rule, the vaginal examination will reveal some definite cause for the increased congestion, and the consequent hæmorrhage, and this must be the object of our treatment. To enumerate the pathological changes which give rise to uterine congestion would be to go over pretty much the whole field of uterine disease. It may be of interest, however, to notice rather more in detail a few of the less common causes.

I have alluded above to atony of the uterus. I

² Article, Menstruation and Phthisis, January 22, 1887.

have occasionally found menorrhagia associated with a condition of antelexion, usually of the neck, sometimes of both body and neck, in an anæmic woman, with flabby muscles, weak action of the heart, poor appetite and delicate digestion, and I have been rather at a loss to satisfactorily explain the logical sequence of events. I am inclined to agree with Grailly Hewitt in attributing the symptoms we find in these cases to malnutrition. He goes further than I would in considering malnutrition to be the most common cause of all uterine displacements, and their immediate results, but here I agree with him that the first factor of importance in these cases is an abnormal softening of the uterus due to too little food. When at the time of puberty the uterus develops, the body, which up to that time has been smaller than the cervix, fails to attain its proper size and remains small and flabby, while the cervix bends forward on its axis at the internal os, and in time becomes permanently fixed in a condition of antelexion, long conical, and pointing in the axis of the vagina. In these cases the menorrhagia, which is, to be sure, often only relatively profuse, is, as has been pointed out before, due to atony, and may best be treated by general hygienic and tonic treatment. Perhaps a more common cause of uterine hæmorrhage, and one which is quite frequently overlooked, is retroflexion of the uterus, especially when bound down by adhesions. Here the interference with the circulation is more marked, so that in addition to a profuse menstrual discharge, there may be a slight but constant flow in the intermenstrual period. This often is hardly more than enough to necessitate the use of perhaps one napkin a day, and in some cases a profuse leucorrhœal discharge, at times brownish or tinged with blood, may be the only sign of congestion.

In the early stages the changes in the endometrium are very slight, but if the stasis be long continued, there may result hyperplasia of the lining membrane, which in turn becomes a secondary and even more active cause of hæmorrhage than the original displacement. If treatment, however, be directed to the condition of the endometrium, either by astringent applications or by curetting, though temporary benefit may be attained, yet the diseased condition is likely to reproduce itself as long as the organ is in its abnormal position.

Treatment to be effectual should be primarily directed to the misplacement, and as adhesions are generally present in these cases, packing the vagina regularly with glycerine cotton tampons is the method most likely to be followed by success. This form of treatment fulfils several indications. In the first place, it is in my judgment the surest and safest method of overcoming the adhesions and restoring the organ to its normal position; in the second place, it usually is effectual in controlling the hæmorrhage; and in the third place, the glycerine from its affinity for water depletes the tissues, and relieves congestion.

The following case will serve to illustrate this form of uterine hæmorrhage, and its treatment.

Mrs. S. was first seen January 25, 1886. She was twenty-five years old, married three and a half years, has had two children, the oldest two and a half, the youngest fifteen months. She nursed her children, and the first menstruation since the birth of the last child came on in July, six months previous to my seeing her. This was normal in amount. The next cat-

amenia flow was a week over time (the delay as she thinks having been occasioned by her going in bathing on the day her menses were expected), and she flowed profusely for a week. The same thing occurred in September. In October and November there was some improvement. December 8th, the sickness returned, and from that time until I saw her, a period of six weeks, she had only short intervals of a few days respite. At times there were smart hæmorrhages, but naturally the flow was moderate, and the patient kept about most of the time. She suffered considerable pain in back and right side, and the constant drain was beginning to tell on her strength. When she was not flowing there was a good deal of leucorrhœal discharge. Bowels were usually constipated. On examination, I found an enlarged and congested cervical portion, pointing in the axis of the vagina, the uterine body behind, and apparently fixed by adhesions in a position of retroversion with slight flexion. She was then flowing considerably.

I first carefully curetted the uterus with a dull wire curette, and removed a small amount of hyperplastic mucous membrane, and then tamponed the vagina tightly with glycerine cotton. This failed to control the hæmorrhage completely, some blood finding its way through the packing by the next day, but the amount was decidedly diminished. I removed the tampon the second day, and this time added a uterine plug of iron cotton to the vagina packing, which was successful in checking the hæmorrhage. Hoping that the curetting would be all that was immediately necessary, and thinking it would be wiser to delay the reposition of the uterus until the patient was stronger, no further local treatment was given, and, in fact, there was no return of the hæmorrhage for three weeks.

It then came on, and before I was called she had lost a great deal of blood. As this corresponded to the time of the catamenia, efforts were at first directed towards modifying, rather than completely checking the flow. Ergot, ergot and hamamelis, and gallic acid were tried, and hot-water injections were given. The effect, however, was not what was desired, and a firm tampon of both uterus and vagina was resorted to, with good result. As it seemed evident that the ultimate cause was to be found in the displacement of the uterus, this time the systematic packing of the vagina was kept up during the intermenstrual period, and the uterus was already in a much better position by the time the next menstruation was expected. This, though more profuse than was natural, did not call for any interference, and before the next sickness the uterus was in normal position, and the menstruation was of the ordinary amount. There has been no trouble since.

There is a form of hæmorrhage which is not very common, coming on in the early months of pregnancy. The history of the few cases I have seen is this: Somewhere from the second to the fourth month, usually without warning, there is a sudden gush of bright blood. This may be repeated a few times, the whole amount of blood lost not being very great, and this is followed by a slight, but persistent, bloody discharge, which lasts for weeks. At this time it is rarely bright, fresh blood, but of a dirty, brownish color. Usually there is no pain, and the patient feels perfectly well.

In one case which came under my observation,

there was the history of there having been a fall from a carriage some three weeks previously, and I found, on examination, retroflexion of the pregnant uterus. The uterus was replaced bimanually, and held in position by a pessary, but, as the flowing persisted, she was kept in bed for some weeks, hot-water injections given three times a day, and at the end of six weeks it stopped, and pregnancy went on uninterruptedly to full term.

Many of these cases, if left untreated, and the patient allowed to go about and exercise as usual, would result in miscarriage. The hæmorrhage seems to be the result of congestion, and though the cause may not always be so apparent as it was in the case referred to, yet the rest should be as rigidly enjoined.

Hæmorrhage following miscarriage due to the presence of a portion of the placenta should be energetically attacked, by thoroughly emptying the uterus. If the miscarriage occurred between the second and fifth month, at which period of pregnancy the placenta is most likely to remain, I should not wait more than a few hours before taking measures to remove it. The dangers of delay are renewed hæmorrhage and septicæmia from decomposition, while the advantages of prompt action are that the cervix is usually so relaxed that the retained after-birth can be easily removed, and the patient is not in the weakened and exhausted condition which a continuance of the hæmorrhage or the onset of fever would occasion. In my experience, if the placenta does not all come away with, or soon after the fetus, it will not come spontaneously, and I have usually found it adherent over a small area at the fundus, the free portion coming down in the cervix and protruding. This is deceptive, for it gives the impression that it is detached, but held in the narrow cervix, and hopes of its being spontaneously expelled are aroused, which are quite sure to be disappointed. The finger, placental forceps, or various scoops which have been devised should be vigorously used under ether, until all of the placenta possible has been removed, leaving a roughened, shreddy surface where it was adherent.

A few words as to the value of, and indications for, internal remedies: The ones most commonly used are ergot, gallic acid, hamamelis, hydrastis canadensis, and iron.

With ergot I have been disappointed, except in a few cases of fibroid during the time when the tumor seemed to be growing toward the interior; that is, changing from the interstitial to the submucous variety. When it had once got within the cavity and had become pedunculated, the ergot seemed to lose its effect. It has also proven of use in cases of subinvolution; but where the trouble is seated in the mucous membrane, as in cases of hyperplastic endometritis, for example, I have usually seen very little benefit, as regards the hæmorrhage, from its use.

Hamamelis alone, or with equal parts of ergot, I have also frequently given, but have been disappointed with the result. The mixture is exceedingly disagreeable to take, and has very little effect on the hæmorrhage.

With gallic acid I have been better pleased. Five to ten grains given in a wafer every three or four hours has often checked the flow, especially in cases where there is a great deal of passive congestion from some misplacement or inflammatory condition about the uterus.

A good deal has been written lately in favor of hydrastis, and especially in Germany, surprisingly good results have been claimed in cases of menorrhagia due to endometritis and other pathological conditions of the lining membrane of the uterus. I have tried it only in one case, and then with no apparent benefit. It deserves a more thorough trial.

I have alluded to iron in speaking of atony of the uterus, and have often found it of great value in young women whose only complaint is excessive menstruation, and in that rare class of cases, chlorosis with menorrhagia. The tonic effect of the iron seems to be all they need.

The subject of uterine hæmorrhage is so wide a one, that I have been rather embarrassed by the variety of aspects under which it might be considered. Many points of great interest have necessarily not been alluded to, and the consideration of those which have been touched upon has had to be brief. Still, some light may have been thrown on some of the more obscure causes of uterine hæmorrhage, and I trust that the discussion will add much more of interest to this familiar subject.

NOTES OF PROGRESS IN PHYSIOLOGY.

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UNEXPECTED but not altogether inexcusable hindrances have of late prevented that regularity and fulness in these reports which ought to have been observed by the different writers. There are, in consequence, some important extensions of knowledge calling for mention, which are no longer absolutely new to some, although they are not as yet generally familiar to those who do not have special opportunities to keep thoroughly posted in physiological matters. This consideration will, I trust, excuse such an aroma of antiquity as may be detected by delicate nostrils in this report.

THE MECHANISM OF DEGLUTITION.

Some interesting additions have been made in the past few years to our knowledge of deglutition. Formerly this act was described as a comparatively simple peristaltic movement by which the substance swallowed was carried along gradually through the œsophagus. It was said, for example, that "the normal process of swallowing is accomplished by a series of contractions, beginning at the fauces and ending at the stomach. Each portion of the mucous membrane receives in turn a stimulus from the contact of the food, followed by excitement of the corresponding muscle; so that the alimentary mass is carried rapidly downward by reflex action. Section of the pneumogastric nerves destroys sensibility and motive power in the œsophagus, and consequently interferes with deglutition."¹

The movement seemed to begin by the action of the tongue in shoving the substance to be swallowed into the pharynx, assisted perhaps by some suction, whereupon the muscles of the pharynx and those of the œsophagus, by a succession of movements, would complete the transference of the bolus from the mouth to the stomach. It was also considered by some, that the force of gravity was a material aid. A number of researches carried on by Kronecker and his pupils (notably Meltzer), have radically changed this idea of the

¹ Dalton's Physiology, Seventh Edition, 1882, p. 487.

process and have shown it to be a most interesting and complicated proceeding.²

Several considerations serve to make it clear that a peristaltic movement of the ordinary slow and progressive character could not be the important factor in the act. When a swallow of a very cold liquid is taken, the impression of the cold arises in the stomach too soon to be explained by the peristaltic action of the œsophagus. It had also been observed in cases where caustic substances had been swallowed, that the corrosion occurred in spots or patches and not over the entire surface of the œsophagus, as would be expected were simple peristalsis in play. As to any important part being played by gravity, it should be remembered that many animals swallow well and constantly against this force; and in the experiments with the human œsophagus, the experimenters found that they swallowed with equal speed uphill, that is, with the head down.

It became evident, then, that the important force in swallowing must be produced by the quick action of striped muscles. Falk had shown that with the act of swallowing, a marked rise of pressure occurs in the pharynx. He demonstrated this by slipping a flattened tube along the surface of the tongue, so that it lay below the soft palate. The external end of this tube was connected with a water manometer, which shows a pressure of at least twenty centimetres for each swallow. The new view of deglutition thus founded, was much extended and experimentally established by the ingenious and irksome experiments of Meltzer, made chiefly upon himself. Meltzer found that on auscultation of the stomach, or more exactly just to the left of the xiphoid process, when a liquid or soft mushy food is swallowed, two very different sounds may be heard. In some few cases a clear hissing sound, as though the liquid were squirted directly down into the stomach. This squirt sound (*Durchspritzgeräusch*) is heard immediately after the act of swallowing begins. Far more frequently, but by no means always, a quite different sound is heard as though air or a liquid were pressed slowly through a contracted sphincter. This squeeze sound (*Durchpressgeräusch*) occurs six to seven seconds later than the squirt sound. The two are not heard together, although occasionally a dull sound or a very slight squirting is followed later by a fairly clear squeeze sound. The squirt sound is heard most readily in cases with a disposition to vomiting or eructations, and is clearly not the normal condition. These sounds are an interesting confirmation of the earlier experiments of Meltzer, which must now occupy our attention.

² The most important and readily accessible articles are:

Falk (and Kronecker): Ueber d. Mechanismus der Schluckbewegung. *Verh. d. Berl. physiol. Ges.* 14, Mai 1880. Du Bois-Reymond's *Archiv für Physiologie*, 1880, 296.

Other short reports by Kronecker and Meltzer are to be found these *Verhandlungen* as given in the *Archiv f. Physiologie*, 1880, 299, 346; 1881, 465.

Kronecker and Meltzer: On the Propagation of Inhibitory Excitation in the Medulla Oblongata. *Proc. Roy. Soc.*, xxxiii., 27.

Meltzer: Schluckgeräusche im Scrobiculus cordis und ihre physiologische Bedeutung. *Centralbl. f. d. med. Wiss.*, 1883, 1.

Meltzer: Zu den Schluckgeräuschen. *Berl. klin. Wochenschr.* 1881, No. 30.

Kronecker: Die Schluckbewegung. *Vortrag geh. in der Ges. für Heilkunde*, Berlin, 1881, also in *Deutsche med. Wochenschr.*, 1883, No. 16, 24.

Meltzer: Die Irradiationen des Schluckcentrum und ihre allgemeine Bedeutung. *Arch. f. Physiol.*, 1883, 269.

Kronecker and Meltzer: Der Schluckmechanismus, seine Erregung und seine Hemmung. *Arch. f. Physiol. Supplementband*, 1883, 328.

Ewald: Ueber die Bedeutung des sog. zweiten Schluckgeräusches. *Verh. d. Berl. Physiol. Ges.*, *Arch. f. Physiol.*, 1886, 376.

Quincke: Ueber Luftschlucken und Schluckgeräusche. *Arch. f. exp. Path. u. Pharm.*, 1887, xxii., 385.

At first, experiments were made by placing a recording apparatus in the œsophagus of a dog, and determining the speed with which the contraction passed along this organ. This method proved to be impracticable and Meltzer then made use of his own œsophagus. He found that he could introduce rubber tubes into his pharynx and œsophagus and, after some practice, retain them quite well. The use of cocaine would probably render a repetition of these experiments much pleasanter than Meltzer found them to be. The tubes carried little balloons of thin rubber which could be blown up when the end of the tube reached the part whose movements were to be noted. The open external ends of the tubes were connected with Marey drums, and thus a graphic representation of the time and character of the various movements of the œsophagus in swallowing was recorded upon a revolving cylinder. Having then one balloon lying in the pharynx, and so little distended as not to interfere with the respiration, the commencement of the swallow could be exactly noted. The balloon of the second sound was placed in the œsophagus at various depths. Whatever the position of the second or œsophagus balloon, it was found that swallowing of a liquid compressed it at almost the same instant as it did the balloon lying in the pharynx. Even the deepest attainable part of the œsophagus showed this movement after an interval not greater than one-tenth of a second. The movement has a sharp and quick beginning, like the rapid contraction of a striped muscle. In other words, a liquid is swallowed directly or squirted at once from the pharynx to the lower end of the œsophagus. This was also demonstrated by swallowing acids; it was found that a piece of litmus paper lying in the opening of the sound just above the diaphragm, and which could be easily drawn up inside the sound, was colored by the acid almost instantly, that is, long before a peristaltic movement could have carried the liquid to this point. Then, too, the compression of the balloons was greater for larger amounts of liquid, so that it was actually caused by the passage of the swallow. The movement of the pharynx balloon is really a double one, for the sharply ascending first portion is caught in the early part of its quick descent and transformed into a flatter curve, which falls off much more slowly. The explanation of this, as we shall see presently, is that, while the first movement of swallowing is short, sharp, and quick, as from the action of striated muscles sending the swallow through the entire œsophagus, there follows upon this in the pharynx the contraction of the constrictors, and the movement of this group of muscles begins to manifest the slow character of peristalsis, although the muscles are striped.

In the œsophagus, on the other hand, the rapid first movement is followed by a perfectly distinct second movement taking place after an interval which increases as the sound is shoved farther down. This second compression has a much more distinctly peristaltic character; the curve rises very gradually, has a long flat top and falls off slowly, behaving exactly as though caused by smooth muscles. The duration of this second peristaltic movement increases as the measurement is made in a lower part of the œsophagus. While there seems to be a gradual increase for each centimetre passed over, very marked differences are observed in several regions. It was found that the upper portion of Meltzer's œsophagus, about six cen-

timetres of it, compressed the balloon for two to two and five-tenths seconds; in a second division, about ten centimetres long, showed a wave of compression whose length was six to seven seconds; and in the third division, of rather uncertain length, the compression lasted nine to ten seconds. This is in general accord with those researches (Gillette), which have shown that the œsophagus may be considered to have three portions in which the muscles are striped, mixed, or altogether smooth. Not only do these three divisions show this peculiarity of the duration of contraction, but a similar difference is observable in the interval between this and the preliminary curve caused by the passing swallow. In the upper six centimetres of the œsophagus, the second curve begins for all points at nearly the same time, or about one and two-tenths seconds after the beginning of the first curve. At eight centimetres from the top of the œsophagus this interval is about three seconds and remains nearly the same for the entire second section. Measured at a point eighteen centimetres from the beginning, the interval becomes six seconds or slightly more, and increases very little for the remainder of the œsophagus, the third division. A moment's reflection will convince the reader that although the act of deglutition contains movements which have a peristaltic character, the act as a whole is really much different from ordinary peristalsis. The swallow is thrown down the gullet by a vigorous muscular contraction, after which the pharynx and the sections of the œsophagus contract in succession. Each division contracts after its peculiar interval, and remains contracted until the division below has taken up the movement, thus ensuring that all substances which have not passed on shall be pushed downward, the path upward being completely shut off. The peculiarity of contraction in each segment is due to its structure, the succession depends upon the nervous system.

Meltzer was unable to put a balloon lower than a point about two centimetres above his diaphragm and obtain legible curves. The action of the cardia could not, therefore, be studied by this method. In the rabbit, it is easy to expose the cardia and watch it. Its normal condition appears to be one of complete rest. Irritation of the superior laryngeals sets up the action, and in about two seconds the cardia is seen to contract and to roll inwards into the stomach. The cardia behaves, then, as a section of the deglutitive tract, only the movements here occur much more rapidly than in man. This behavior of the cardia remains the same as to character and time, even though the cardia be cut away from the rest of the œsophagus. The movement, then, is not due to simple muscular continuity, and the cardia has the same independence which Mosso had shown for various segments of the œsophagus. When, however, the vagi are cut, the stimulation which causes the movements above is not followed by any action of the cardia.

The auscultation of the process of deglutition, then, admits of the following interpretation: When the swallow of liquid or of a semi-liquid mass is thrown down the gullet, it stops in the neighborhood of the cardia, which is normally closed. If, however, its muscular tones is faulty, the liquid may be thrown at once into the stomach, and the squirt-sound is heard almost immediately after the movement of the larynx, which indicates the beginning of the swallow. Meltzer found an interesting confirmation of this view in

the circumstance that those persons who had a good squirt-sound lost it when appropriate treatment had improved the closure of the cardia, and lessened their tendency to vomit easily. Normally, however, the swallowed material is retained before the cardia, until, in due time, the contraction of the lowest division of the œsophagus pushes the mass through the orifice; this takes place from six to seven seconds after the swallowing begins, and, therefore, the squeeze-sound is heard after this interval, and not immediately, as the squirt-sound is. Any one who has ever watched a "beer duel," or participated in one, will appreciate this difference in the behavior of the cardia.

The question is now naturally suggested as to what combination of muscles produces the throw of the swallow through the entire œsophagus. Various considerations and experiments make it evident that mylohyoids are the chief factor in this movement. It cannot well be attributed to the constrictors of the pharynx. The position and relations of the superior constrictor seem to preclude its action, and the middle and lower constrictors are apparently too feeble to cause so vigorous a movement. Moreover, Meltzer cut these muscles, in dogs, and found the act of swallowing unaffected, although the effectual closure of the glottis appears to have been hindered. The constrictors, then, are reserve muscles which come in to aid and complete the first movement, but do not cause it. It is, also, not easy to see what muscles of the tongue itself should do much more than to press the tip of the tongue against the hard palate. The movement which must be made is the lifting up of the middle of the tongue, and this neither the muscles of the tongue proper, nor any of the associated muscles, except the mylohyoids, seem to be able to do.

The palato-glossus is absent in many animals which swallow well, and the styloglossus may be cut in the dog with no alteration of the movement. The view that the mylohyoids play an important part in the process is as old as Magendie, and had been accepted by some other physiologists, although the true nature of the movement was not apprehended. Meltzer had cut the *nn. mylohyoidei* in a dog, and found his ability to swallow solids and liquids very much lessened. He learned rapidly to snap at food in such a way as to carry it at once into the pharynx, but had especial difficulty in drinking. Some muscles which are supplied by the *n. hypoglossus* are also essential for the act, and these seem to be the longitudinal muscle of the tongue (pressing the tongue against the palate) and the hyoglossus. The activity of the latter, as well as of the mylohyoids, is easily accessible to demonstration with the fingers. Meltzer then details the first part of the act of deglutition in these words: "By pressing the tip of the tongue on the palate, the exit forwards is shut off; then the mylohyoids contract, so that the mass to be swallowed is put under high pressure and forced in the direction of least resistance, that is, backwards. Almost at the same time the *mm. hyoglossi* also begin contracting and, especially those portions which are attached to the cornua of the hyoid, cause the free surface of the tongue, which at rest looks upwards and backwards, to move backwards and downwards upon the epiglottis, and close it mechanically. The rapid narrowing of the space between the mylohyoids and the palate which is thus brought about also raises the pressure there rapidly.

This effect is increased by the pull of the *mm. hyoglossi*, which gives the tongue a backward and downward movement. Thus liquids and soft foods are squirted down the entire pathway to the stomach before contractions of the pharyngeal or œsophageal muscles can manifest themselves. Fragments which happen to remain in the pharynx are sent down later by the succeeding contraction of the constrictors and with a slowness peculiar to these muscles."

The nervous relations of the different portions of the path are very interesting. We must suppose that the innervation is controlled by six groups of ganglion cells, arranged in a row. The first group gets its stimulus from the periphery, and communicates its signals to the others in turn, these having no sensory communication with the outside world, except through the first group, but each group has motor fibres for the muscles which it controls. In each group of ganglion cells, the movement, although probably progressive, is very rapid, while the passage of the signal from group to group is slow, and grows slower as we get further from the first. Only the third group occupies a peculiar position, and has some sensory relations of its own. This is evident from the fact that when an eructation occurs, although no swallowing movement of the mylohyoids or constrictors takes place, a regular movement of the œsophagus begins, and continues just exactly as though the impulse came from the mouth, as in an ordinary swallow. Nothing resembling an antiperistaltic movement was observed. This peculiar relation of the third group of ganglion cells seems also evident from Quinke's recent experiments. He introduced water or air into the œsophagus of a dog through a sound whose opening lay from five to fifteen centimetres above the cardia. In this way a succession of contractions in the œsophagus was originated, but no proper swallowing occurred; that is, the upper segments of the tract (mylohyoids, pharynx) remained at rest.

Very curious, too, is another relation existing between these ganglion groups, for the second swallow taken shortly after the first inhibits the secondary contraction of the first swallow, and none occurs until the proper interval after the second swallow has elapsed. Indeed, a number of swallows may occur, one after the other, and the secondary, "peristaltic" movement will not occur until after the last swallow. According as the balloon lies in the first, second, or third section of the œsophagus, the interval between swallows may be nearly one-and-one-fifth seconds, three seconds, or from five to six seconds, respectively, without the secondary movement for the section proving itself. At the same time, a record is made showing that with each swallow the liquid is sent down. Kronecker and Meltzer seem to think that the liquid is held back until the final squeeze comes, although they apparently admit that the tone of the cardia appears to be weakened, and that after a succession of swallows, the squirt-sound is more readily heard. Ewald believes that the liquid works through the cardia (gravity?), and that air, perhaps, remains behind and is squeezed through when the secondary movement comes, the latter acting as a sweeper of the œsophagus. On the other hand, Meltzer especially notes that the contraction of the cardia (rabbit) may be inhibited by a succession of swallows, and that when these are over and the contraction does come, it is more intense, and lasts longer, than after an ordinary swallow, and

Quinke saw on an opened stomach (dog) that the liquid was squeezed through noiselessly in from four to five seconds.

Both Ewald and Quinke maintain that the admixture of air is necessary to the production of, at least, the squeeze-sound, and that the time relations of this do not prove that the liquid swallowed remains in the œsophagus until it is squeezed through by the later movement. They also consider that the quantity and quality of the contents of the stomach materially affect the second sound. Evidently, much more must be done before this point is settled, and before much diagnostic value can be attached to it.

Very important too, are Meltzer's observations on the relations of the centre for deglutition to other nerve centres. His article is so full of meat as to be ill adapted for abbreviation and only the principal results can be noted here. The act of swallowing is a reflex act, it goes on independently of the will. We may will to contract the mylohyoids and lift the tongue against the palate and thus start the swallow reflex. Irritation of the central end of the superior laryngeal sets up the movements with great precision, indeed, "the mechanism of swallowing is one of the most exact and best controlled reflexes in the entire animal organism." The centre lies in the medulla oblongata, and the movements are complete in narcosis or when the brain is cut off, or when the medulla oblongata is separated from the medulla spinalis. This swallowing centre, in the floor of the fourth ventricle, has important relations to other centres, and the study of these opens up an instructive view of the association of inhibitions and suggests valuable therapeutical applications.

As we have seen, each reflex stimulation to swallowing sets up first an inhibitory action and then a discharging action in the centre for these movements. But there is also an effect on the inhibitory centre of the heart, for the heart-beats increase in frequency when we swallow and the increase grows greater with the increasing number and frequency of the swallows. This period of quickening is followed by one during which the heart-beats are slowed, but the slowing is not as marked as the quickening. There also appears to be an affection of a vasomotor centre, for the blood pressure as indicated by the fulness of the arteries sinks. Unfortunately, the conditions are not favorable for an exact direct measurement of the blood pressure on animals. When the swallowing centre is active the respiratory activity is lessened. This is not merely due to a mechanical interference on account of closure of the glottis for it is manifest in animals breathing through tracheal cannulas. It is found that the breath can be held more easily when small quantities of an indifferent liquid are repeatedly swallowed.

Very remarkable, too, is the fact that similarly we can, by repeated swallows, inhibit the contractions of the uterus, at least in the earlier stages of parturition, and the erection of the penis. Commonly, to be sure, the centres for these intimately related activities are supposed to be in the lumbar region of the spinal cord, but another centre for parturition has been found in the medulla oblongata, and there are other grounds for supposing that there may also be a higher centre for the erection. Less precisely established is the influence of the inhibitory process in swallowing upon various muscular contractions. The possibility of

stopping hiccough (spasm of the diaphragm) by small and frequent swallows, is not merely a popular notion—and spasmodic action in the glottis (from “swallowing the wrong way”) can be quieted (inhibited) by continuing to swallow.

We have then the important general truth that summation and radiation are not merely observable of reflex movements, but the same general laws are applicable to reflex inhibitions as well. Therapeutically, too, these results are very suggestive, but the very simplicity of the means to be employed will probably continue to prevent their use. Perhaps we have in frequent small swallows of water a better and more efficient means of stimulating a feebly-acting heart and relieving a fainting fit than the ordinary treatment affords. Numerous other applications will readily suggest themselves.

Before leaving this subject, it may be mentioned that Prof. Harrison Allen³ has suggested an ingenious device for registering the movements of the soft palate. I will add, however, as a matter of historical interest that this is essentially the plan proposed by Czermak,⁴ about thirty years ago, which in turn was an adaptation of a method made known by Debrun at a much earlier time.

Debrun (1841) had introduced a probe through the nose and observed the movements of the external tip incident to the movement of the other end resting upon the soft palate. The mention of this in the German translation of “Donder’s Physiology,” (1856) led Czermak to devise a modification of the method. Using an iron wire 200 mm. in length, he turned over one end so as to make an eye (Oelise) 12 mm. broad, which he filled and covered with wax. At the other end the wire was bent at a right angle to the same side and in the same plane as the eye. This was so introduced that the narrow edge of the eye came to lie upon the soft palate, whose rise and fall would then be indicated by the rotation produced in the pointer before the nostril. Czermak says that he could not at the time have any of the devices made which occurred to him as likely to render the reading of the rotations easier; he does not seem to have returned to the investigation later.

Professor Allen uses a plain straight wire with a bulbous end to rest upon the soft palate. Just in front of the nose is a vulcanite support for a wire running up to a holder, which is merely a portion of a head mirror. Thus a fulcrum is obtained to produce movement of the external end of the rod, which has a fine flexible termination for writing upon the smoked paper of a revolving cylinder. Such lateral movements as occur may be registered by working with a horizontal drum.

—“Theism” is no longer to be understood merely in its old-fashioned philosophical sense. The word has been rehabilitated and is applied by an eminent medical contemporary to the complexus of symptoms caused by excessive tea-drinking. *Thea* as well as *Theos* claims a philological parentage in Theism.

Clinical Memorandum.

REPORT OF A CASE OF EXTRA-UTERINE PREGNANCY, THE FŒTUS BEING RETAINED FOR THIRTY YEARS AND BECOMING A LITHOPÆDION.¹

BY W. H. FALES, M.D.

In giving the history of this case, I hoped to quote from the records of the physician who attended Mrs. A., during her illness and who, as I understand, took extensive notes, but I am unable to do so, owing to his death a few years since, and the subsequent destruction of his records.

I am fortunate, though, in that such information as I have, comes from a twin sister who is still a remarkably vigorous woman both mentally and physically, and whose statements, as far as they go, are undoubtedly correct.

Mrs. A. was married September 24, 1844. Never had any miscarriages. She was delivered of a perfectly healthy child January 29, 1848.

Early in January, 1856, she became, as events proved, pregnant again, though her condition at the time was merely surmised, as menstruation continued to be present and in fact existed, with more or less regularity, throughout her entire pregnancy.

It was not until the middle of May that the attending physician made a positive diagnosis of pregnancy, basing his opinion on fetal movements which became manifest at that time.

Early in March of the same year while visiting friends, she fainted, vomited and complained of considerable epigastric pain. There was no flowing at this time. The following day she rode home, a distance of four miles.

Directly after this, she had three so-called inflammatory fevers characterized by abdominal pain, excessive tympanites and uncontrollable nausea and vomiting. During one of these attacks an abscess formed just above the pubes, which opened but did not discharge much.

Counting from the middle of May, when fetal movements began, October 1st would be the probable date of her confinement. About that time the physician was summoned, not on account of labor pains, as she never had these, but for excessive and painful movements of the child. These were always very marked, and caused her the utmost inconvenience. As she expressed it, she felt more life with this child in two hours than during her entire previous pregnancy. October 13th, the physician was again called, for the same reason. At this time “something was rubbed on the abdomen,” after which the movements grew less and less, and finally ceased. For the next ten years she was an invalid, though nothing very explicit could be obtained as to her condition. She was generally miserable and had a number of attacks of abdominal pain, sometimes accompanied by icterus.

During this period the tumor very gradually decreased in size, finally remaining stationary and causing no trouble except a feeling of weight when standing or walking too long.

Her subsequent health was good until about two years ago, when a malignant growth attacked her larynx, which eventuated in her death December 24, 1886.

¹ Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, April 20, 1887.

³ Harrison Allen. On a new method of recording the motions of the soft palate. Extracted from the Transactions of the College of Physicians of Philadelphia. Philadelphia, 1884.

⁴ Czermak. Ueber d. Verhalten des weichen Gaumens beim Hervorbringen der reinen Vocale. Wiener akad Sitzungsberichte, 1857, und Moleschott’s Untersuchungen. In Czermak’s Gesammelte Schriften Leipzig, 1879, I. p. 423.

The autopsy was performed September 26th, Drs. Bill and Metcalf assisting.

The body was very much emaciated. The tumor was apparently situated about in the median line, but on palpation was found to extend downwards and to the left, the contained fœtus occupying a sacrum-left-anterior position, but entirely out of the pelvic cavity, the base of the skull being on a level with the umbilicus. On making the incision the tumor was found to be adherent to the abdominal wall, and it seemed as though it would soon have made its way through, either from pressure or ulceration, so thinned had the structures become at the point of its adherence.

It was almost lying loose in the abdominal cavity, the only points of attachment being the one just referred to, the pedicle, and some small adhesions to the intestines.

The intestines were ranged round the tumor — none in front of it — and were one mass of adhesions, forming with the abdominal walls the sac, as it were, containing the tumor.

The pedicle passed directly downwards, enclosing the uterus and then fading out gradually into the peritoneum. Nothing that would answer for a placenta, or the remains of one, could be found.

With the tumor I extracted the fundus, fallopian tubes and ovaries, which furnished no points of interest. Any further examination was denied. The autopsy suggested an extra-uterine pregnancy of the abdominal variety, but the history points rather to a ruptured tubal becoming an abdominal.

To epitomize the various dates:

Mrs. A. was married in 1844; first child four years later; second pregnancy eight years later; probable rupture of tube and subsequent attack of peritonitis at third month; death of fœtus at ninth month; death of Mrs. A. from cancer of the larynx thirty years later, the fœtus having become converted into a lithopædion.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

APRIL 20, 1887. DR. JAMES R. CHADWICK in the chair.

DR. F. H. DAVENPORT read a paper entitled

UTERINE HEMORRHAGE.¹

DR. FARLOW said, I was very glad to hear Dr. Davenport's remarks about the necessity of more carefully investigating cases of hemorrhage which occur at the time of the menopause. The physician is too often satisfied with having made a diagnosis of "change of life" and allows the disease of the patient to go without proper examination. In regard to retro-version or flexion with adhesions, it is not the old chronic cases which give rise to hemorrhage, but the acute or subacute inflammations which occur from time to time in the chronic cases.

With reference to remedies, I have often found ergot unsatisfactory, though sometimes of considerable value. I have never used gallic acid. Aromatic sulphuric acid has proved of service in many cases in

which ergot had failed. I have been much interested in the paper of Dr. Wilcox on the Use of Hydrastis Canadensis. I have used it in only half a dozen or so cases, and have not yet sufficient data from which to form an opinion.

DR. SWIFT said that hemorrhage was not confined to chronic cases of retro-displacement with adhesions. Besides the acute cases caused by falls, etc., he had seen cases of a subacute character where the hemorrhage began with an increased flow at the menstrual periods, going on to metrorrhagia. The uterus in these cases is freely movable, and by replacing it and adjusting a pessary the hemorrhage is stopped.

He had been using hydrastis lately in cases of profuse menstrual flow, with good results. It does not work well in all cases, and he could not say, at present, in what class of cases it would prove most efficient.

DR. INGALLS said, to obviate disappointment from the effects of ergot, I have always considered it best to give it in infusion, prepared at the time it is required.

Edes says, "the active principle of ergot is volatile and is easily decomposed," if we use the fluid extract, which is the best preparation next to the fresh infusion. The reputation of the maker should be of the highest.

DR. L. V. INGRAHAM mentioned the following case. In July, 1885, I saw a young married woman, then three months pregnant, who had a sudden and profuse hemorrhage. She had been standing for about an hour and was tired and faint, other than this she had made no unusual exertion; there was no history of a fright or any injury, and she had always been well up to this time, with the exception of dysmenorrhœa for a year previous to her pregnancy. The flow was quite profuse for three days, then lessened markedly except during, and for about an hour after micturition or defecation, when the flow was very copious. She had nearly ceased flowing at the end of the third week from the time she was taken, but was advised to stay in bed until after the next menstrual epoch. At this time, although she was not imprudent to my knowledge, the hemorrhage came on as freely as at the third month and lasted four or five days. At the end of two weeks the flow had nearly ceased again, and she insisted upon getting up at all hazards. At the end of the fifth month there was another free hemorrhage for four days after, when the discharge became thin and brownish. At each succeeding menstrual epoch there was a copious hemorrhage lasting from three to five days, and during the intervals the thin brownish discharge continued. At the ninth menstrual epoch, labor began on Friday night a little before midnight, and after an easy labor her child, a boy weighing three pounds, was born. Through the fault of a messenger I did not see the lady until Sunday night. The physician in charge told me that he employed Crede's method in the third stage of labor, but without success; he then used placenta forceps but failed, and the patient being very much exhausted he made no further effort until Sunday afternoon, when after etherizing the patient, with the aid of two able assistants he removed the placenta. It was entirely adherent. The placental site was at the fundus uteri. At no time during the pregnancy were any clots passed; at the times when the flow was profuse the patient complained of "cramp in the abdomen," and she steadily lost in weight and was very much emaciated when her

¹ See page 124 of the Journal.

child was born. She has never been well since. Her child is living and is well.

DR. CALL asked if any members had noticed a tendency to profuse menstruation in patients with organic heart disease. Dr. Bowditch had told her he thought that subjects of the latter were prone to menstruate too freely. He then spoke of a case of exceedingly profuse uterine hæmorrhage in a young girl who had no local pelvic trouble, but who had serious organic disease of the mitral valve, probably congenital.

DR. CHADWICK. It seems to me that I have obtained better results from the continued use of ergot for a number of weeks, substituting for it some of the mineral acids at the time of the hæmorrhage. In the treatment of fibroids, I have, in some instances, obtained much more marked effects in reducing the size of the tumors, from combining with ergot the muriate of ammonia, as first recommended by Atlee.

In the use of Chian turpentine for uterine cancer, I soon recognized its inefficacy to arrest the progress of the disease, but found it a powerful hæmostatic. I consequently extended its use to uterine hæmorrhages from other causes, with occasional surprising effects in otherwise intractable cases. I recall one young girl who brought me a letter from Dr. Barker of New York. She had been flowing most of the time for two years, despite the persistent treatment in the Free Hospital for Women, and elsewhere, by astringent applications, by curetting, dilatations of the cervix, and all the customary internal medications, without avail. The Chian turpentine arrested the hæmorrhages immediately, and they never recurred. In a young lady of twenty-six years, now under my care, whose ovaries were removed by me last spring for rapidly growing and hæmorrhagic fibroids of the uterus, after three months' interruption profuse hæmorrhages recurred, but have been repeatedly arrested by the injection into the uterine cavity of strong acetic acid. As this acid does not coagulate the blood, its use does not expose the patient to the danger of septic infection. I have been able by this means to keep my patient in perfect physical condition.

DR. W. H. FALES reported

A CASE OF EXTRA-UTERINE PREGNANCY, THE FÆTUS BEING RETAINED FOR THIRTY YEARS, AND BECOMING A LITHOPÆDION.¹

DR. FITZ said the specimen shown by Dr. Fales represents a longer interval of time than any he remembered to have seen. Older examples are known to occur, but their number is few. The cavities of the head and trunk are well defined and easily differentiated. He thought it not unlikely that the earthy salts deposited in these fœtuses might subsequently be absorbed to a greater or less extent, and parts of the fœtus be discharged externally. A specimen in the Warren Museum favored this view, as it showed a completely calcified head and trunk, but with extremities which were partly calcified and partly macerated. As the age of the latter specimen was seven years, it indicated the degree of calcification which might take place in this time.

Dr. Fitz said, in reply to Dr. Chadwick's question, that the diagnosis of lithopædion evidently depends upon the presence of an abdominal tumor following the history of pregnancy, but without the delivery of

the fœtus. With such a history, the longer the tumor persisted without undergoing enlargement, the greater was the probability of its being of the above nature.

DR. Z. B. ADAMS said that a peculiar interest attached to this case, in his mind, because the physician who attended the woman in 1834 was Dr. Enos Hoyt, of Framingham, and his grandson, Dr. Enos Hoyt Bigelow, of that town, had lately reported in the *Boston Medical and Surgical Journal* a case of abdominal pregnancy, occurring at or near the time of the death of the subject of this lithopædion.

With regard to Dr. Bigelow's case, he would like to ask the opinion of members as to the best method of dealing with the placenta in any operation to remove the child. Of course, the placenta can be let alone, and this would be obligatory in a case where this organ was, as shown at the autopsy, firmly fixed upon a large surface of the parietal peritoneum. It had occurred to him that some attempt might be made by ligature and cutting away, but the hæmorrhage would probably be uncontrollable. If left behind, no drainage would be likely to avert death from septicæmia.

Considering this difficulty, Dr. Adams, while advising abdominal section, did not strongly urge it. The fact that the case reported to-night was known and discussed by Dr. Bigelow's patient and her family, influenced them to oppose operation. It may appear strange that these cases should be so difficult of diagnosis. It should, however, be borne in mind that symptoms of pregnancy are chiefly subjective, and are, in a hysterical woman (as was the case here), of doubtful value. A uterus bound down by adhesions, the abdomen greatly distended by fluids and gases, with tenderness, the absence of fetal heart-sounds or motion, and a previous history of abdominal pain and peri-uterine inflammation, gave in the present case occasion for doubt.

DR. CHADWICK. This lithopædion is a beautiful specimen of a very rare condition. It is curious to speculate upon the conditions causing the calcareous deposits in one case, and not in another. We seem to have data to guide us in determining the commencement of the stowage of an extra-uterine fœtus. You may remember the mounted skeleton of the mature fœtus that I presented to the Section last winter. It had died at full term, and been carried by the woman without serious inconvenience for nine years. It was encysted and packed solidly in the remains of its own soft tissues, which had undergone a fatty degeneration, so as to be what is called adipocere. The diagnosis of extra-uterine fœtation is of extreme importance, but often fraught with great difficulty. In another case that I had last year, I was able to make a correct diagnosis at the ninth week from the history and physical signs. This was confirmed three days later by the examination by Dr. Fitz of the decidua, and by finding, by means of the uterine sound, that the uterine cavity was empty, and measured four inches in length. The treatment was directed to killing the fœtus by the electric current, which was successful, as proved by the extraction of the bones through the vagina by Dr. P. J. Murphy, of Washington, five weeks after she left my care. This is the first case on record in which the efficiency of this method of treatment has been absolutely demonstrated by the subsequent extraction of the fœtus.

DR. A. F. HOLT showed to the Society two interesting morbid specimens, one showing a remarkable

¹ See page 131 of this number of the Journal.

degree of post-mortem softness where the stomach and diaphragm had been perforated, and the pleura covering the lower part of the left lung destroyed. These organs were from the body of a girl fourteen years of age, who died of meningitis. The autopsy was twelve hours after death. The other showed an extraordinary inhalation of soft mud by a new-born child. The trachea and larger bronchi were nearly filled with this substance, and it had even penetrated the smaller air-passages in some parts of the lung. This child was born in an out-house, and was immediately carried by the mother to near the edge of a neighboring mud-hole, where she buried it.

AMERICAN NEUROLOGICAL ASSOCIATION.¹

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

JULY 20TH.—AFTERNOON SESSION.

Dr. DANA, of New York, read a paper on
HEREDITARY TREMOR.

The writer remarked that he thought this subject had not been given the attention it deserved; stating that the child can even be born with it, and mentioning one case where it occurred in all the members of a family, in another case where it appeared in a watch-maker, yet he could adjust the finest works of a watch, as the tremor can be controlled by the will temporarily; ordinarily the health is good, and the tremor ceases when the patient sleeps. The grandfather had been very intemperate; there were nine of his own family, one was insane, and another fond of drink; all of them lived to advanced life, seven of them had thirty-four children, and all of these had the tremor, in some epilepsy developed, so that in this instance the tremor developed in three generations, the total number in which it appeared being forty-four. In another family there were three cases, and in another there were two. In the family of three children, the father was of good habits, a son thirty-five years of age had had the tremor since infancy; he is rather addicted to the use of alcohol and tobacco; his brother, who is also afflicted, is a man of very steady habits.

In this disease the head and neck are not affected as in senile tremor; it also seems to occur more in men than women, it appears to be distinct from paralysis agitans.

DRS. PUTNAM and DERCUM mentioned cases coming under their notice, the same symptoms as described by Dr. Dana being visible.

Dr. HAMMOND asked Dr. Dana if he considered this the only form of hereditary tremor. He remembered a case in which the patient could not sit in a chair. The tremor was similar to chorea in its manifestations; he could only trace it back to the mother in this instance; a brother and sister of this patient had it, and also a niece; it did not appear in this man until he was thirty-five years old, and toward the end of his days mental failure commenced, delusions, hallucinations, etc.

Dr. DANA replied he was not aware it was hereditary; the tremor he had described in his paper was by no means rare, and he was surprised at it not being found in literature.

A paper was read by Dr. GEORGE W. JACOBY, of New York,

ON MICROSCOPICAL STUDIES IN A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS.

The author considered that although much had been done in regard to the primary affections of the muscles as regards diagnosis, it still remains rather obscure and vague from our clinical field of vision, and in order to understand it we must bring its pathology more prominently forward. The histological changes he regarded as not settled definitely.

The first case reported by the reader was a typical one of this disease. The patient was fifteen years of age, seven children in the family, two died, one being paralyzed, the latter probably from diphtheria; no family taint. Patient walked at thirteen months; had convulsions, repeated every four days, after which was unable to walk for four weeks, but afterwards walked as well as ever. At the age of nine years he had a severe fall, confining him to his house for eight weeks. The first symptoms were noticed at the age of twelve years.

On examination by Dr. Jacoby, no atrophy of any muscles could be discovered, his condition was typical of the disease. Two pieces of muscle about the size of a bean were secured and prepared for microscopical examination; the muscle fibres were found to be but half the normal number under the glass, and were also smaller than natural; no hypertrophic fibres were found, although some observers claim they are always there. The speaker remarked that these perhaps could be found in some other muscles of the body. The connective tissue was more than twice the amount in the normal subject. Dr. Jacoby here showed photographs of his dissections illustrating the condition represented in the subject; the question, however, arises as to whence comes this augmented connective tissue. Erb, Friedrich, Buss, Schultze and others have endeavored to describe it. The reader remarked that the fact that the muscle fibres were decreased in number as well as in size, was in itself suggestive of the source of the augmented tissue, and all his specimens went far to prove that the connective tissue had grown to a great extent at least, at the expense of the contractile substance, the medullary corpuscles having originated from the muscle substance itself. In many places the transition occurring can be observed. The writer described carefully the line of investigation followed out which resulted in the confirmation, with few exceptions, of the views of such writers as Charcot, Hettler, Eulenberg, Friedrich and others.

From these investigations he remarked, that if now he could be allowed to draw conclusions without, at the same time generalizing, he should, in a measure, differ from some observers; being convinced that in many patients the disease is essentially a chronic inflammation, invading *both the perimysium and the muscle tissue*, he considered it impossible to say what the cause of this process might be unless sought for in a congenital malformation of the muscle tissue itself; such malformation being indicated by the small size of the sarcomeric elements, as we are accustomed to see them in the earliest stage of embryonal development. But, however this might be, the pathological process consists of a gradual reduction of the muscle fibres into medullary or inflammatory corpuscles, which in turn go to build, partly fibrous, partly cartilaginous, and partly fat connective tissue. The process, which is extremely slow, gradually leads to an augmentation

¹ Continued from page 113.

of myxomatous or other varieties of connective tissue at the expense of the muscle tissue. He would here say that he could not agree with Gower and Buss, that proliferation of the connective tissue is the primary, and the disease of the muscular tissue the secondary process. Either the reverse of this is true, or the process is simultaneous, both in the muscle and the perimysium.

The writer did not hesitate to place the whole process as seen in his specimens in the same category with the process termed *myositis ossificans progressiva*; had he to describe it in a few words he would call it a *myositis progressiva hyperplastica*. Of the various investigators of the subject during the last few years, he thought Georger was the only one who also considers the process a myositis; but he looks upon it as an intestinal myositis alone, and says that he is not prepared to give an opinion regarding the changes in the muscle fibres themselves.

The speaker thought the more frequently careful microscopical examinations are made of the muscular tissue, in the various dystrophies, the more are we obliged to come to the conclusion either that from a microscopical examination alone, we cannot always make a distinct diagnosis between the various affections, or that they are as largely admitted to-day, all varieties of one and the same process which unperceptibly blend one with another.

What particularly impressed him in this connection, was that his examination differed so decidedly from descriptions of pseudo-hypertrophic muscles, as given by others, yet notwithstanding the case was clinically a perfectly clear one, it agreed almost entirely in the description given by Friedrich, of the muscle from a case of progressive muscular atrophy. (Case X, page 37) which affection, as is well known, he classed as a primary myopathy, and considered the process to consist of a chronic progressive myositis.

DR. DERCUM stated that he had examined some typical cases last fall occurring in the adult. Also a case in which there were some signs of inflammatory changes in the corpuscles and connective tissue element, in these cases there was an interstitial myositis, but whether it was secondary to the myositis proper it was hard to say.

DR. SACHS, of New York, presented a paper

ON ARRESTED CEREBRAL DEVELOPMENT WITH SPECIAL REFERENCE TO ITS PATHOLOGY.

The writer referred to the special interest this condition of the brain had to the pathologist, as the opportunities for investigation are few and far between; he drew attention to the histological changes occurring in the cortex; the pathological conditions are extremely varied. A case was mentioned of a child which was perfectly formed in its limbs; before birth, however, the mother was thrown from a carriage; there were symptoms also of mental weakness on the side of the parents. The child would lie on its back and never attempt voluntary movement, objects placed in its hands would fall out; as it grew mental vigor did not increase and finally total blindness set in. The child never uttered a sound except a low gurgling noise if left alone. There was no rachitis, no history of syphilis, and the child finally died from pneumonia; post-mortem the skull was found to be thickened, and there was a large clot in the longitudinal sinus; the brain weighed two pounds, the bloodvessels appeared

to be normal. Referring to Mr. Mills' paper last year on "Brains of low Type," he, (Dr. Sachs) thought this brain resembled those at that time exhibited, in many points; he drew attention to the exposure of the island of Reil in his present specimen, also to the retraction of the first temporal convolution, there was a general narrowness of the convolutions; in the right hemisphere the island of Reil was but little exposed. From this and careful microscopical examination he considered it a clear case of retarded development, and not to be attributed to inflammatory conditions.

DR. MILLS considered the histological and pathological conditions of the case were a hard matter to discuss as regards causation; he thought there might be a few cases on record, and this added to them might be of value.

DR. AMIDON remarked he had seen two cases very much like this, in which there was no lesion apparent but there were signs that hæmorrhage had occurred at some time before. He thought hæmorrhage might occur without leaving any trace at the autopsy, and he would ask Dr. Sachs whether it occurred to him that it might have been the same in his case.

DR. SACHS replied that he had, and also of the accident occurring to the mother in her fifth month of pregnancy, but he thought if hæmorrhage had occurred there would be thickening of the cortex. The child, at birth, was brighter than later on in life. He did not think it was owing to traumatism, but the general circulation may have been disturbed; he thought it more plausible that it was a disturbance of nutrition.

JULY 21, 1887. — SECOND DAY. — MORNING SESSION.

DR. LLOYD read

NOTES ON A CASE OF THE INSANITY OF DOUBT.

The form of mental disease which has been described by some French writers as the insanity of doubt, has presented itself to my notice in a number of cases, to one of which I will briefly call your attention.

These cases are characterized as a special form of delusion which differs radically from those of grandeur or persecution. These latter rather impel to action, the delusions of doubt restrain from it. The systematized delusion has something rather positive, aggressive and self-assertive. The delusions of doubt are not so firmly fixed; they are changeable, negative, vulnerable, and confessed with timidity and mortification. They are somewhat allied to melancholic conditions, but are not characterized by depression of spirits, (psychalgia), so much as by confusion and perplexity of mind, which exasperate the patient and from which he would be only too glad to escape. He is apt to recognize the perfect character of the morbid states and will willingly take measures to counteract and cure it; sometimes when taxed with it will even joke about it, and it might require a stretch of conscience to pronounce him a lunatic under the law. Hence, it is a species of reasoning mania. Some cases hardly amount to delusions in the narrow sense, the patient does not so much believe a false thing as he is impelled to solve innumerable problems which present themselves to his mind, and which may be as useless as they are perplexing, both to himself and others, and equally imperative. They are exaggerated states of that intense impulse, to solve a problem or discover a mystery which is not infrequently seen in a healthy

mind, hence they are analogous to healthy processes, as is the case always in insanity. Hence, again, they are intellectual in character, although this might be disputed by some in favor of an amorphous moral insanity (so-called) because the follies and perplexities of these cases claim a superficial attention, and are not sufficiently investigated and detailed. A surface view of such a case would not reveal its essential psychiologic features.

This particular state, doubt, perplexity, probably lies at the root unconfessed, forming the motive of a certain number of eccentricities and aberrations which are ascribed by some to mere perversity of moral character, and by others are attempted to be shielded under the ample but dark cloak of moral imbecility. Other cases approach nearer a systematized delusion; they present a certain morbid association of ideas which produce luxuriantly various crops of indecision. These patients link their fate to trivial happenings; they will be lost if some unimportant and impertinent fact obtrudes itself suddenly upon their diseased imagination. The vacillation of their minds becomes amusing to the ignorant, but tragic to the immediate family, who suffer, while it is both vexatious and exhausting to the patient, and highly instructive to his physician. All these operations of the so-called intellectual sphere shade into one another and into others; in fact, they form an inextricable network of error, just exactly as broad as the human mind. This condition, however, is not to be confounded with confusional insanity, for these patients have their wits about them, they are not incoherent, but quite connected in their ideas and speech; as indeed is necessary for them to accomplish the amount of hair-splitting and wool-gathering of which they are capable. There is, however, some likeness to the imperative conception, for these patients are compelled quite irresistibly to engage in their morbid penance or dialectic gymnastics in order often to deliver themselves from the limbo of their own thoughts; if one spirit of doubt is laid, a dozen arise to take its place.

Mrs. A. B., a resident of a distant city was brought to Philadelphia, and placed in a hospital for the insane. During the preceding year she had shown change of character and habits, developing symptoms of *folie du doute*, and exhibited it in a variety of ways; had been known to get out of bed twenty times during the night because under the impression that she had not performed the act right, and unless it were performed in a precise manner, it would cause disaster to her. So, again, she obliged her husband to remain in her room with her until she had put on and off again a number of times, one of her skirts, from the same impulse. She reads no papers nor visits her friends for fear of receiving impressions which will haunt her. When dressing, she obliges her husband to hold a pin for her which she must seize just the right moment, otherwise the toilet must be made again. She has sometimes insisted upon his rising in the night, going down stairs, and lighting a certain gas-burner and extinguishing it again in just a certain way, because this was necessary to absolve her from some of her morbid doubts and associations; has not been content until her husband has humored her; on returning to bed he would be subjected to a long cross-examination on the subject. At night she has seen printed sentences before her eyes, suggesting disagreeable and depressing subjects; but these are not true hallucinations, as she

does not believe in their reality, yet they are a suspicious symptom.

When she reached Philadelphia her husband placed her in a hotel instead of an asylum, and then told her of his intention to put her in restraint; the lady protested against this indignantly, and bade her husband and the medical profession defiance. A few hours later I visited her; she was a young woman thirty years of age, of not good color and complexion, of sound muscular system, but not well-developed; suggesting physical impairment rather than mental. She had refused to have a physician sent for, but when assured that no wrong would be done her she was once more herself. She conducted her share of conversation on general subjects quite rationally, also speaking of her notions, stating that she knew they were morbid. The patient was very candid and courteous to the writer but could not be persuaded to go voluntarily to the hospital. It was the opinion of the writer after a long conversation with this lady, that it would not only be injurious to take her to an asylum against her will, but that it would probably create a public scandal. Dr. C. K. Mills was called in consultation and also concurred in the same opinion.

It is important to add that this lady had an insane first cousin, and her father had been an excessive drinker. The several cases I have seen presenting these and similar cases, have all probably been of the neurotic or constitutional type.

It has not been the intention in this paper to attempt the naming of a new species of mental disease, but simply to describe certain symptom groups which are no doubt not isolated in any one case, but would probably be associated with other manifestations of disease in any case, which was followed through a long period of time.

Dr. MILLS thought the paper would help solve the question as to the disposal of these cases, by an interchange of opinion between the members of the Association. As stated by Dr. Lloyd, he had seen the patient mentioned, and concurred in Dr. Lloyd's opinion. In some cases, it would best serve the patient to be sent to an institution, but extreme care and judgment should be used, remarking that few cases gave such trouble to families as these; and were the doctor to condemn them to be submitted to restraint, were the case to be brought to court, but few juries would concur with the doctors, as the patient appeared to be sane on the especial point at issue, and it would be doubtful if the community at large would judge the patient insane, or even necessary to discipline.

Dr. GRAY remarked that, in these cases, he had no doubt as to their being insane, and should not hesitate to put them under restraint, but would not do so unless he well knew the antecedents of the case. In his experience, he had found them exceedingly dangerous cases, as some of them will go a long time without manifesting dangerous symptoms, when, some day, they will commit some terrible deed. The speaker quoted a case, in which the woman had been in that apathetic condition for some time, who had, by actual count, washed her hands four hundred times in one day, and yet, for all medico-legal purposes, would have been considered sane. She had become debilitated, owing to neuralgia and some uterine difficulty, but her mind seemed to recover somewhat under careful medical treatment. He, however, decided to send her to Bloomingdale, and so informed her, stating the

result he hoped to attain in her case; but the day before she was to go, she unfortunately quarreled with her mother on some trivial matter, and set fire to her own clothing, having secretly procured and hidden matches about her person, the sulphurous portion even under the finger-nails, paper being secreted under her arm-pits. This illustrates the danger of these cases. I deem them especially dangerous when left with children; we must take the risk in sending them to an asylum. We must settle this question from a scientific point of view, rather than the medico-legal sense.

DR. LLOYD, in conclusion, stated that he did not wish to be misunderstood on that point, as he appreciated that there were proper cases for restraint, if they can be taken to an asylum without creating an unfavorable impression upon the patient, and increasing their malady; but in the case he quoted, the husband did not wish the wife to be removed, laboring under the impression that she then had, and as she was capable of reasoning upon that point, claiming that it would cast a stigma upon her (which was reasonable) if she were taken to an asylum. He had pursued the course stated, and which, he was happy to say, Dr. Mills concurred in. In these cases, the surroundings required, he thought, careful consideration.

(To be continued.)

AMERICAN OPHTHALMOLOGICAL SOCIETY.

TWENTY-THIRD ANNUAL MEETING.

THURSDAY.—SECOND DAY.—MORNING SESSION.

CASE OF GLIOMA OF THE RETINA,

by H. D. NOYES, M.D., of New York.

The patient, a child, was first seen when fifteen months old. The eye was enucleated, and microscopic examination confirmed the diagnosis of glioma, which was made prior to operation. The patient was again seen fourteen-and-one-half years later, when sixteen years of age. An artificial eye had been worn. There was not the slightest evidence of a return of the disease.

PSEUDO-GLIOMA.

This case is reported on account of the interest connected with the diagnosis. It was difficult to say positively whether or not there was an intra-ocular tumor. The case was examined by Dr. H. Knapp and myself, and we made a diagnosis of inflammatory trouble, but enucleation was advised, on account of the doubt as to the correctness of the diagnosis, and even if the affection were purely inflammatory, enucleation was the wisest plan, in view of future possibilities. The patient was a boy, aged five years, who, in November, 1886, was thrown from his velocipede, the handle of the machine causing a wound of the left cheek, under the orbit. There was no apparent injury to the eye, and during the winter there was no trouble. On May 4, 1887, he was brought to the author. There was, at this time, a cicatrix one inch below the border of the left orbit. No irregularity of the orbital edge could be detected. Pressure on the globe caused no pain. The movements of the eye were normal, and the pupil active. The iris had a slightly greenish hue. An extremely vascular growth was seen with ease. This appeared to fill the fundus. After consultation, it was deemed advisable to enucleate the eye. This was done, the wound healing promptly. Examination

showed that there had been cyclitis with inflammation of the vitreous, with the production of a mass of inflammatory tissue, extending across the eye behind the lens, forming a perfect septum. The retina was totally detached, and the choroid was partially detached. There was, also, marked hypertrophy of the tissues at the base of the orbit. It was thought that the original process had been an injury to the floor of the orbit.

PROLAPSE OF THE LACHRYMAL GLAND.

DR. NOYES also reported the case of C. S., aged twenty years, who consulted him on account of a swelling in the upper lid of the right eye. This had been growing for nine years. It could be freely moved over the globe, and moved with movements of the eyeball. There was no history of injury or of inflammation of the eye. The mass was removed, and found to be a displaced lachrymal gland. The removal has been followed by no unpleasant effects. Four cases of displacement of the lachrymal gland are on record.

OPERATION FOR THE RELIEF OF ENTROPION OF THE LOWER EYELID.

While, in theory, the operations for the relief of this condition are very simple, yet, in practice, they often fail to accomplish the desired end. The author described an expedient which he had employed four years ago. He excised a piece of skin below the border of the lid, and then dissected up a flap, leaving an open wound. He next freshened a spot on the outer border of the lower lid, taking out a piece of conjunctiva. He then turned the flap upward, and attached it to the freshened surface. This little flap served to hold the lid in a position of eversion. In one week the stitches were removed. The patient then disappeared, and was not seen for four years. It was then found that the lid remained in a natural position. The little bridge of skin still was present, and under it there was a sinus, through which a probe could be passed. The piece of skin was divided, and the result was perfect.

DISCUSSION.

DR. SAMUEL THEOBALD, of Baltimore. In connection with the case of glioma, I would mention one that has gone nine-and-one-half years without a return. The only weak point in the case is that no microscopical examination was made. The microscopical appearances were, however, characteristic. The operation was done when the boy was six years of age. The boy is still perfectly well, and there is no suggestion of the return of the disease.

DR. H. KNAPP, of New York. Until lately, I have held the view that there was such a thing as the permanent cure of glioma, but now I am very doubtful if this is ever accomplished. There are exceptional cases, which do not terminate fatally until ten or fourteen years after operation. They then die from a return of the local disease, or else from a generalization of the condition. Graefe said that all of these cases died.

DR. J. S. PROUT, of Brooklyn. I have had one case of plastic exudation in the eye of a child, which went on to rupture of the eyeball and the death of the patient. I believe that life might have been saved if the eyeball had been removed.

DR. B. E. FRYER, of Kansas City. In the diagnosis of small intra-ocular tumors, I have, in several in-

¹ Continued from page 111.

stances, derived much advantage from the use of the electric light.

DR. H. KNAPP, of New York. In the illumination of those eyes which are blind, I have used sunlight. The light is admitted through a hole in the shutter, and thrown into the eye by a large concave mirror. This is of advantage in the diagnosis of glioma and of sarcoma, where the fundus is often very dull.

DR. EMIL GRUENING, of New York. I have seen two cases in which there has been an apparent immunity from the return of glioma. The first case was operated on in 1875. The patient was a girl, five years of age. The optic nerve was not involved. The girl is still under observation, and in perfect health. The second case, a child one year old, was operated on May, 1880. It was a case of true glioma, with no involvement of the optic nerve. The child is still perfectly healthy. Both of these patients have been wearing artificial eyes since the operation.

DR. JOHN GREEN, of St. Louis. I have found most of the operations for entropion of the lower lid unsatisfactory. I have, in a general way, followed Panas's recommendation of making an incision below, and bringing the lid down by the use of sutures. I have extended this operation by the following procedure: After inserting the sutures, I make a cut a little inside of the border of the lid, carrying it through the whole thickness of the tarsal fibrous tissue. When this is done the sutures are much more effective, and I find that there is no tendency for cicatricial contraction to occur in the process of healing. The results obtained by this method have been eminently more satisfactory than those obtained by any other procedure.

DR. EMIL GRUENING, of New York. In the treatment of entropion of the lower lid, I have employed the method of Hotz. I have exaggerated this a little by passing the sutures through the whole thickness, not only through the orbital tarsal aponeurosis, but also through the conjunctiva. I have now under observation six cases which have been operated on during the last six years, and the result has been satisfactory.

A PHENOMENAL PULSATION OF THE INTERIOR OF THE EYE,

by DR. W. F. MITTENDORF, of New York.

The patient, fifteen years of age, came under observation for asthenopic trouble. He showed no signs of disease. The tension of the eye was normal, and the fundus was normal. There was no pulsation of the arteries or veins, but pulsation could be induced by pressure. A short distance above the disk, there was a grayish-white band, stretching from one vein to another, and looking like a little sac filled with fluid. In the middle, this band presented a little point. This band presented a distinct pulsation, which corresponded with the cardiac pulsations. The patient was seen a number of times, and the appearance was always the same. A little higher up, and more to the nasal side, there was a similar band connected with an artery. This did not pulsate, except when pressure was made. It was thought that the band was composed of connective tissue, which was thrown into vibration by the meeting of the vibration of the two veins with which it is connected.

DISCUSSION.

DR. EDWARD JACKSON, of Philadelphia. I recently saw, in a case that presented no spontaneous

pulsation, a little band extending from the perivascular sheath, which was thrown into vibration with each radial pulsation. This condition occurred in both eyes.

INCREASE OF BLINDNESS IN THE UNITED STATES,

by LUCIEN HOWE, M.D., of Buffalo.

Attention was called to the fact, that while the population during the ten years from 1870 to 1880, increased at the rate of 30 per cent., blindness during the same time increased over 140 per cent. By means of a diagram this percentage of increase in each State separately, was shown. The statistics also show that blindness increased in an almost constant ratio from north to south in the United States, and that it decreased in the same way from east to west. This was also shown by colored maps. The cost of sustaining this army of over fifty thousand blind was estimated on the lowest basis of cost, and of wages which would have been earned, at over sixteen million dollars in 1880, or over twenty-five million in 1887. As for the causes, contagion was found to exercise the most important influence; this was found by a special examination made for the purpose of 128 pupils at the Batavia asylum for the blind, by the statistics collected by Magnus, and by the record of over forty-eight thousand cases treated at the Manhattan Eye and Ear Hospital. Immigration was also considered as an important factor, in view of the large number of contagious diseases of the eye introduced every year into the country, and the laxity or absence of quarantine regulations regarding them. As for the prevention, suggestions were offered:

First, As to the care of new born children.

Second, The isolation of suspicious cases in residential schools and other institutions, even for adults also.

Third, The instruction of the public as to the advisability of guarding against contagious forms of disease.

Finally, It was advised that the entire matter be referred to a committee to examine again the statistics, and report more complete methods for the prevention of blindness.

DISCUSSION.

DR. SWAN M. BURNETT, of Washington. I have been much interested in the statistics of Dr. Howe, particularly in those with reference to the greater percentage of blindness in the southern portions of the United States as compared with the middle and more northern portions. This brings up the important question of the influence of race. The larger part of the population of the South is, of course, negroes, and the larger part of the blindness must be among that race. It has been my experience that negroes do not suffer to any degree from trachoma. In a study of several thousand cases of eye troubles among the negroes, I have found only one genuine case of trachoma and that occurred in a mulatto. The conjunctival diseases, which in other races cause a large part of the blindness, must be thrown out in considering the negro. The negro, however, suffers much more from serofulous disease of the eye, particularly of the cornea, than do the white race. Negroes also suffer largely from ophthalmia neonatorum, and many cases of blindness due to that cause have come under observation.

DR. W. F. MITTENDORF, of New York. I am not surprised to hear that blindness in the United States is increasing. I think that the most prolific cause of this is the overcrowding of young persons in

institutions. An examination of a large institution in the neighborhood of New York has shown a large number of contagious ophthalmic cases in that institution not known, or neglected. In our large dispensaries we meet almost weekly with persons who have become blind from neglect and from contracting diseases of this kind in such institutions. It is very difficult to get an idea of the exact number of blind persons. The great majority of blind children are not counted in these statistics. They are kept at home and provided for there. One of the most important things is to stamp out these diseases in large institutions, and the best way to do this is to prevent overcrowding. Instead of placing the children in large buildings, they should be sent to the country and placed in small numbers in cottages.

DR. PETER A. CALLAN, of New York. The whole question turns on this, what can we do? We are very backward in that respect. In London they have a Society for the prevention of blindness, which does good work. The spread of the disease is often due to neglect and often to the use of improper applications in ophthalmia neonatorum on the part of the mother or nurse. Ought we not in every State to organize societies and instruct the people what they should do and what they should not do?

DR. MYLES STANDISH, of Boston. It has been my experience that the most troublesome cases of trachoma and the like occur in persons who have been in this country only two or three weeks. When they arrive in the country the disease is usually at its height and they are in a condition to spread the affection among those with whom they come in contact.

In connection with this matter, Dr. Howe offers the following:

Whereas, The census reports indicate that there has been an increase in the number of blind in the United States, more than four times as great as that of the total population, and

Whereas, An inquiry as to the causes of this, shows that it is largely due to contagious diseases of the eye, therefore

Resolved, That a committee of three be appointed to examine further as to this apparent increase, and recommend means for its prevention.

Resolved, That the President of the United States and the Secretary of State be respectfully requested to furnish this committee with whatever letters or other recommendations may be necessary to further their investigations in this country or elsewhere.

Resolved, That the officials in charge of residential schools and similar institutions also be requested to assist the committee to any extent in their power.

These resolutions were adopted, and the President announced Dr. Lucien Howe, of Buffalo, as chairman of the committee, the other members to be appointed subsequently.

(To be continued.)

— At the meeting of the American Dental Association, held at Niagara Falls, August 4th, the following officers were elected: President, Frank Abbott, New York; First Vice-President, C. R. Butler, Cleveland, Ohio; Second Vice-President, F. S. Waters, Baltimore; Corresponding Secretary, F. A. Levy, Orange, N. J.; Recording Secretary, G. H. Cushing, Chicago; Treasurer, G. W. Keeley, Oxford, Ohio.

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ACADEMIC AND PROFESSIONAL COURSES OF STUDY.

SOME months since we referred to a proposition made by the Medical Faculty a year ago, to the Academic Council of Harvard University, relating to a modification of the academic course in the interest of the professional schools and the graduate department. It was then shown that, with the raising of the standard of admission, the development of elective studies, the relaxation of the former parental oversight of the students, the age of graduation had been and was steadily advancing, until a point had been reached where the efforts of the professional school, and especially of the Medical School, to encourage an academic course as a preliminary to, or to increase the length of their own courses of study, were seriously antagonized. So seriously in the estimation of not a few friends of the Medical School, that an average age of graduation from the Academic Department of twenty-three, or even of over twenty-two years, constituted an absolute barrier to that school's establishing a compulsory four years' course as far as support from the College of its own university was concerned.

Since the proposition of the Medical Faculty was submitted, the Committee of the Council, to whom it was referred, have held five meetings, at which all the members were present, and a very full and free oral discussion of the subject took place. Moreover, most of the members presented in carefully prepared written papers their views on the merits of the various plans proposed, or suggestions as to the best manner of meeting the difficulties which had presented themselves.

A report, privately printed, publishing these in the form of appendices, shows that the committee, representing different departments and interests of the University, find themselves unanimously of the opinion that it is desirable to enable Harvard students to begin their professional studies one year earlier than is possible under existing arrangements. "Any general plan which may be adopted for bringing about this result must effect a diminution in the amount of

undergraduate training, and a corresponding increase in the amount of graduate instruction, and in order to secure the best results from a change of this sort, the Committee recommend an alteration of the University organization, which they also regard as in itself desirable in the interest of higher education: namely, the consolidation of the instruction in the College, the Graduate Department and the Scientific School, under the control of a single Faculty. The Committee at the same time think it of great importance for the success of such a reorganization that the scholarships now granted to undergraduates be made available also for students in the Graduate Department."

We understand that the members of the Committee were pretty evenly divided in their preferences as between two of the plans proposed for securing the changes which all concurred in deeming desirable. In order, therefore, to inaugurate these changes the Committee agreed to recommend to the Council the adoption of the following votes:

(1) That in the opinion of the Academic Council it is desirable that the instruction in the College, the Graduate Department and the Scientific School, be placed under the control of one Faculty.

(2) That in the opinion of the Academic Council it is highly important that the College scholarships be made available for all students under the control of this Faculty.

(3) That, with a view to lower the average age at which Bachelors of Arts of Harvard College can enter the professional schools and the Graduate Department, the College Faculty be requested to consider the expediency of a reduction of the College course to three years, by one or the other of the following plans:

(a) By giving the degree of A.B. at the end of the present Junior year.

(b) By putting the terms of admission to the Sophomore Class on a par with those prescribed for admission to that class in the better New England colleges, and ultimately abolishing the Freshman year by a plan similar to that suggested by the Dean of the College Faculty.

It will be remembered that the original proposition of the Medical Faculty was, that the degree of A.B. be granted to all undergraduates subsequently taking the longest course of study offered at the professional schools after three years' attendance (at the end of the Junior year), in the Academic Department: the professional degree and that of A.B. to be given simultaneously at the end of the professional course, it being understood that the requirements of each should have been fulfilled. A subsequent modification suggested to this proposition was that the degree of A.B. be given at the end of the first year of the professional course, instead of at the close of that course.

We are glad to be able to report the prospect of a favorable action upon this proposition by the Academic Council. The changes proposed are really

nothing more than the legitimate and necessary outcome of the previous changes which have been made of late years in the Academic course. The recognition of the embarrassments involved in the present situation is the important thing, the precise form which shall be given to a modification of the existing situation is of less consequence.

THE CAUSATION AND TREATMENT OF CHOLERA MORBUS.

If epidemic cholera be due to the local action in the intestinal canal of a special microbe, as is generally held by those who accept the germ theory of infectious diseases, it would seem that cholera morbus, which so resembles the former disease in its essential characters, might also be due to a microbe, though of a less malignant nature. Such considerations have led Liebermeister to reckon cholera nostras among the microbic diseases, although there is no evidence that it is *infectious*, at least, in the way in which this term is commonly understood. "It bears the same relation to true cholera," says Liebermeister, "that varicella bears to small-pox." The discovery of Finkler and Prior, who claim to have found in the dejections of patients suffering from cholera morbus bacilli, bearing a strong resemblance to the comma bacillus of Robert Koch, would have great importance if it should be hereafter shown that these bacilli are constant, and have an etiological relation to the disease in question.

Certainly, however, in the present state of medical science, there is not sufficient warrant for classing this so-frequent malady of hot weather among the infectious or bacillary diseases. Its causal agent seems much more likely to be a poisonous ptomaine generated by the decomposition of food—a poison which acts as an irritant to the gastro-intestinal nerves, paralyzing the vaso-motors, and thus giving rise to an excessive outpouring of serum, to vomiting and diarrhœa. This view is favored by the sudden onset, the rapid development of symptoms, and the dangerous collapse.

The experience of practitioners generally corroborates the above view, that attacks of cholera morbus are ordinarily caused by some fermentative change in the ingesta, and here it is principally the quality of the ingesta that is operative, unripe fruits or vegetables, and food that is relatively indigestible (baked beans, fried clams, berry-pie, etc.) being most likely to provoke an onset. The patient, on being interrogated, will generally refer his sickness to some indiscretion in the quality of the food which he has eaten. It is true, also, that eating to excess, even of simple food of relatively easy digestion, may be followed by an attack, and it is probable that sometimes the free drinking of ice-water may have the same result. What one may eat at one time with impunity, may, at another, when, by heat or overwork, the organism is enfeebled, have disastrous effects.

All are agreed that the most powerful predisposing

cause of cholera morbus is hot weather. Excessive heat exhausts the nerve-centres, depresses the vital tone, and thus renders the organism less capable of reacting against the exciting causes of disease, while at the same time it increases the rapidity with which perishable articles of food decay and become injurious. This is well shown in the behavior of a kindred disease, cholera infantum, under the influence of dog-day weather, and every physician has witnessed both the amelioration accompanying the advent of cooler days, and the exacerbation which attends the prevalence of a high temperature. The quality of the atmosphere, too, has much to do with promoting or retarding the manifestations of all forms of cholera, which, certainly, are greatly favored by damp, as well as hot air, and by air contaminated by noxious emanations. It will not do, also, to omit the influence of drinking-water. The offensive exhalation from a filthy alley, which had been recently cleaned, was the exciting cause of a fatal epidemic in a London school, and Levier recounts an epidemic caused by the drinking-water during the winter in Berne.¹

In the treatment of cholera morbus, prophylaxis is of the first importance. He who would avoid attacks must live temperately, and shun over-heating and depressing emotions. A robust dietary and "high living" when the digestive and assimilative powers are relatively enfeebled is irrational, and sure to result in mischief. But, unfortunately for the patient, the physician's services are generally sought at a time when something besides prophylaxis is demanded. The tableau is sufficiently familiar: there are cramps, colic, vomiting, purging, and collapse. Here, as has long been known, there is one remedy that is sovereign, that may almost be regarded as specific, and that is opium.

The late Dr. George B. Wood used to give, every half-hour or hour, a powder containing one-sixth-of-a-grain each of calomel and opium. For the opium, was sometimes substituted an equivalent dose of sulphate of morphia, and his practice and teaching was largely followed. Very gratifying results were generally obtained. In the course of two or three hours, the painful and dangerous manifestations were allayed. The stomach would generally retain the opiate, placed dry on the tongue, and washed down with a fragment of melting ice. All drinks were for a time strictly forbidden, little bits of ice being permitted from time to time. Then, as the vomiting subsided, mild diluents, and finally, nutrients were gradually allowed. Revulsives to the surface were always ordered, but it was seldom found necessary to begin with an evacuant treatment.

While the past twenty-five years have not much improved on this mode of treating cholera morbus, doubtless the substitution of the hypodermic injection of morphia and atropia has been a real gain. One centigram of morphia, with one-half milligram of atropia, is generally sufficient. It is, in fact, seldom found necessary to repeat the injection, which, if made the second time, should be made without the atropine.

Much more prompt and thorough relief is obtained by this plan than by the old calomel and opium treatment. Calomel is still given, both in minute and in full doses, by some practitioners, but cases seem, in our judgment, to do as well without it. Bismuth, hydrocyanic acid, carbolic acid and alkalies are sometimes useful adjuvants. The heart's action may be sustained, and collapse combated, by subcutaneous injections of ether or whiskey, but, as Johnston remarks, "the morphia will be the best and quickest stimulant which can be used; it will, therefore, be useless in most cases to administer brandy, camphor, chloroform, or other remedies of that sort."

Cholera morbus has been known from the most remote times. Hippocrates and Galen well describe the congeries of symptoms, but Sydenham's description of the epidemics in England, 1669-72, is the earliest account of the disease in modern literature, and it was he who gave it the name cholera morbus.²

MEDICAL NOTES.

— *Science* has had a "*symposium*" of milk; we may add of distillery milk or "swill milk." The sanitary authorities who responded to the request of the editor for their opinion as to the healthfulness of milk from cows fed on brewery grains, evinced a surprising variety of opinion. A majority naturally object to such milk, but quite a number consider the case against it as "not proven," and ascribe such ill results as appear to have followed its use to insanitary conditions prevailing in the stables and associated with the care of the milk.

— A writer in *Harper's Bazaar* makes a pretty close diagnosis for a layman, as to what ails the modern girl, at least a good many of her. It is well deserving of record as an *indicatio causalis* in the disease which is so often the despair of the doctor. "The modern girl hardly knows what she wants, whether it is the higher education, an æsthetic wardrobe, love or fame. She plays tennis and progressive euchre, and flirts and does Kensington work and reads Herbert Spencer, and very often writes; she dabbles in music and talks theosophy, and if there are more things in Heaven and earth than are dreamed of in her philosophy one questions what they can be. Withal, she is as restless as the wind. She does not love the quiet of home; she lives on excitement; she goes to Europe, to the springs, the mountains, the theatres, the receptions, if she can get there, or to the modiste; she can always fall back upon clothes as a diversion, and, when everything else fails, she has the nervous prostration and a trained nurse. In fact, the chief trouble with the modern girl, be she rich or poor, is that she either does too much, keeps her nerves on the strain, and by and by goes to the other extreme, and does literally nothing but consume drugs, talk of her ills, and consult the Christian scientists, or she has no real interests, fritters away her time in shallow pursuits,

¹ Johnston in Pepper's System of Medicine, Vol. II, p. 721.

² Pepper's System of Medicine, Vol. II, p. 720.

becomes pessimistic and dyspeptic, dissatisfied with herself and all the world, cries, and questions if life is worth living, and feels especially blue on holidays. The remedy for all this is, perhaps, an object in life; those who are well and unselfishly occupied do not question if life is worth living; they know it is; and whether they are busy in the shoe factory, behind a counter, at the fireside, in the kitchen or the dining room, so long as they are busy and not shirking or reaching forward for something more congenial, and neglecting present duty, their minds are at rest and uninvaded by despondency. One of the best remedies for depression of spirits is the effort to bestow happiness: it has been known to prove effectual when all other methods have failed, when novels and new gowns and cod-liver oil and bovine and bromide, when admiration and flattery, are no more serviceable than an abracadabra or any heathen spell. Melancholy or other ills of this nature are the direct result of a too strong egotism, and an absorbing interest in others is a safe and agreeable medicine, and is usually the last thing a modern girl tries."

NEW YORK.

— Special efforts are at present being made by the Health Department to prevent, as far as possible, the excessive crowding of tenement-houses, which is the source of so much disease and mortality. The inspectors have, consequently, been ordered to report all cases where the overcrowding is due to the fact of boarders being lodged, in addition to the members of the family, where there are not four hundred cubic feet of air for each adult, and two hundred for each child under the age of puberty, and where the ventilation is insufficient. A number of houses in the down-town streets have also been ordered to be vacated, as unfit for human habitation.

— At the last meeting of the Board of Health sixty-one physicians were reported for failing to report cases of contagious diseases within the time prescribed by the Sanitary Code, and such of them as are unable to present a satisfactory excuse will be prosecuted. On motion of Commissioner Bryant, the following physicians were invited to inspect and make criticism upon the arrangement and management of the Reception, Willard Parker and North Brother Island Hospitals, where those suffering from contagious diseases are cared for: E. G. Janeway, J. O'Dwyer, Stephen Smith, C. R. Agnew, A. Jacobi, and D. M. Stimson.

— On the 1th of August, Dr. Edson, of the Health Department, with the aid of the food inspectors and police, seized over a ton of decaying fruit and vegetables on the east side, down town.

— Dr. Leo Sommer, a Hungarian investigator, who had received the permission of the Mayor and the president of the Board of Health to experiment upon one dog in the city pound with hydrophobic inoculations, has been prevented from carrying out his inoculations by the agents of the Society for the Prevention of Cruelty to Animals, who claim that, under the

law as it now stands, such experiments can be performed only under the authority of some regularly incorporated medical college or university in the State, which authority Dr. Sommer does not possess.

— Since the erection of the Brooklyn Bridge, a number of individuals have intentionally jumped from it into the river below, but, on August 1st, a young man who was assisting some workmen engaged in painting the iron-work accidentally fell from the bridge. He struck the water, one hundred and twenty feet below, chest-first, and though he was unconscious when rescued, he soon recovered his senses under appropriate treatment. He was taken to the Chambers Street Hospital, where it was ascertained that he had received a fracture of the sternum, but beyond this and one or two slight bruises, he was apparently uninjured. According to the last accounts, he was doing perfectly well.

Miscellany.

SPONTANEOUS RUPTURE OF THE CORD.

RUPTURE of the umbilical cord in labor is a comparatively rare accident. It has occasionally occurred when a woman has been surprised by the expulsion of the child while she was standing, the child falling to the floor, for a sudden force less than the weight of the child will cause the cord to give way.

But can there be a spontaneous rupture, if the woman be delivered in bed? This is a very important question in medical jurisprudence. For example, if a mother be found with a recently born child that is dead, the death having been caused by the bleeding from a ruptured cord, that rupture occurring at the umbilicus, or at some other part, one might hastily conclude that the injury was done by the mother or by some one else, and its purpose was to kill the child. Some cases, however, reported by Budin, in the *Annales d'Hygiène Publique* for June, 1887, prove that the conclusion might be quite unjust; in other words, spontaneous rupture of the cord may occur where there has been no interference whatever, and the mother was delivered in bed. The number of cases of this accident presented by Budin is four, the first by Schatz, the second by Dupuy, and the other two occurred in his own service in La Charité. In neither of Budin's cases was there any relative or absolute shortness of the cord, and it was of usual size: the rupture occurred solely from the utero-abdominal contractions which expelled the child. — *Medical News*.

AN UNUSUALLY RAPID CASE OF GRAVES'S DISEASE.

Dr. J. MICHELL CLARKE recently reported to the Bristol Medico-Chirurgical Society a case (also described in the *Practitioner* for May) of Graves's disease in a girl of eighteen that proved fatal in six weeks. She came of a healthy family, commenced to menstruate at the age of fourteen, and enjoyed good health until June, 1886. During a menstrual period she then experienced violent palpitation of the heart, frontal headache, and pain in the præcordial region with

nausea and vomiting; the next period was regular and without these symptoms. On August 4th the palpitation returned, though not so severely; but she noticed also that her eyes were becoming prominent, that her throat was larger, and that she was losing flesh without any obvious cause. A fortnight later she was admitted into the Bristol Infirmary, when she presented all the symptoms of a typical case of Graves's disease. There was a great enlargement of the thyroid, and a thrill could be felt in it; the eyes were very prominent; von Graefe's lid-sign was present; and the heart was beating very rapidly, with a forcible impulse and a blowing murmur at the base. There is no mention of sweating or of tremor. At first she went on well, taking arsenic, but then vomiting, and later diarrhoea set in, and she rapidly lost flesh and eventually died on September 13th, the heart's action towards the last having been extremely rapid, the emaciation great, the gums bleeding, and the hair falling out. No changes were found in the nerve centres.

Correspondence.

THE OUNCE TROY AND THE OUNCE AVOIRDUPOIS.

TRENTON, N. J., August 2, 1887.

MR. EDITOR,—In your issue of June 23, 1887, has just come to my notice the very interesting report by Dr.

Morse, of Clinton, of a case in which a large quantity of sulphate of morphia was ingested followed by recovery; and it presents a good opportunity to call attention to a very common error, that which supposes a wholesaler's one-eighth ounce of morphia to be equal to one ounce Troy.

One ounce Troy (1 $\frac{3}{4}$) is equal to one ounce avoirdupois and 42.5 grains Troy over and the one-eighth bottles of the wholesalers contain not one ounce but about 54.7 grains Troy; and if Dr. Morse's calculations are made from the one ounce basis, his patient took, not 51 grains of morphia but about 45.7 grains.

The fact has escaped the attention of many of my friends, and it will not be amiss to call attention again to it.

Yours truly,

HORACE G. WETHERILL, M.D.

ANOTHER SHORT CUT INTO MEDICINE.

BROOKLYN, N. Y., August 6, 1887.

MR. EDITOR,—Seeing a communication in your columns headed "An M. D. in Nine Months," reminds me of a similar instance that happened not a thousand miles from this city. The first course of lectures in this instance was taken at Ann Arbor, and the whole course was less than one year. The same college let a man through a few years ago, out of pity, after having decided that he was incompetent, because he attempted (?) suicide.

I for one think it is high time for some of our Medical Colleges to turn over a new leaf. Your truly,

READER.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 30, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhoeal Diseases.
New York	1,481,920	814	402	36.53	9.84	9.84	39.36	27.79
Philadelphia	993,801	485	216	27.09	10.70	2.94	1.26	19.32
Brooklyn	745,108	416	223	35.28	10.08	72	1.92	29.04
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	187	100	33.39	7.42	.53	1.59	25.97
Boston	400,000	289	149	39.20	11.55	.70	.70	29.35
New Orleans	242,750	117	36	19.55	14.45	.85	2.55	14.45
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	103	36	24.25	11.64	6.79	—	13.72
Pittsburgh	210,000	121	68	44.82	8.30	2.49	4.98	29.04
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	106	79	50.76	1.88	—	.94	43.24
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	13	30.45	13.05	—	—	30.45
Charleston	60,145	41	18	26.84	7.32	—	—	21.96
Portland	40,000	22	13	68.25	4.55	4.55	13.65	40.95
Worcester	68,383	22	11	40.95	9.10	4.55	—	36.40
Lowell	64,051	45	29	53.28	2.22	2.22	2.22	42.18
Cambridge	59,660	39	24	53.76	7.68	5.12	—	48.64
Fall River	56,863	51	35	60.76	11.76	—	—	52.92
Lynn	45,861	25	14	32.00	8.00	—	—	32.00
Lawrence	38,825	17	12	35.28	—	—	—	35.28
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	27	19	44.44	7.40	—	—	44.44
Somerville	29,992	12	6	66.64	8.33	—	—	41.65
Salem	28,084	19	10	47.34	5.26	—	—	47.34
Holyoke	27,894	19	7	42.08	5.26	—	—	42.08
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	18	9	33.33	—	—	—	33.33
Haverhill	21,795	13	8	53.83	7.69	7.69	7.69	38.45
Gloucester	21,713	9	7	66.66	—	—	22.22	44.44
Brockton	20,783	7	3	—	42.84	—	—	—
Newton	19,759	12	9	50.00	8.33	8.33	—	33.33
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	9	4	44.44	11.11	11.11	—	33.33
Waltham	14,609	6	3	50.00	—	—	—	50.00
Newburyport	13,716	9	5	44.44	11.11	—	—	44.44
Northampton	12,896	8	4	—	—	—	—	—

Deaths reported 3,102: under five years of age 1,472; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 1,109, lung diseases 111, consumption 290, diarrheal diseases 877, diphtheria and croup 69, typhoid fever 48, measles 30, whooping-cough 30, cerebro-spinal meningitis 17, scarlet fever 14, malarial fevers 14, puerperal fevers five. From measles, Boston eight, New York six, Philadelphia five, Brooklyn and Pittsburgh three each, Baltimore two, District of Columbia, Lowell and Newton one each. From whooping-cough, New York and Philadelphia eight each, Milwaukee four, Baltimore and Pittsburgh three each, Brooklyn, Boston, New Orleans and Fall River one each. From cerebro-spinal meningitis, New York, Milwaukee, Fall River and Somerville, three each, Philadelphia, Portland, Pittsburgh, Lowell and Haverhill one each. From scarlet fever, New York four, Philadelphia and Brooklyn three each, Boston, New Orleans, Pittsburgh and Lowell one each. From malarial fever, New York seven, Brooklyn four, Charleston two, District of Columbia one. From erysipelas, New York two, Boston and Portland one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,069,576 (population of the State 1,941,465) the total death-rate for the week was 32.86 against 27.41 and 26.37 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 16th, the death-rate was 20.7. Deaths reported 3,660: infants under one year of age 1,305; acute diseases of the respiratory organs (London,) 188; diarrhoea 497, measles 152, whooping-cough 132, scarlet fever 50, fever 25, diphtheria 23, small-pox (London) one.

The death-rates ranged from 13.6 in Portsmouth to 31.1 in Preston; Birmingham 17.9; Blackburn 18.8; Bradford 17.4; Hull 16.2; Leeds 22.4; Liverpool 20.7; London 22.0; Manchester 24.5; Newcastle-on-Tyne 22.9; Nottingham 14.7; Sheffield 18.3; Sunderland 17.3.

In Edinburgh 20.0; Glasgow 17.5; Dublin 27.9.

The meteorological record for the week ending July 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																				
Saturday, July 30, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, ... 24	30.13	78.0	84.0	71.0	93.0	69.0	91.0	84.0	S.W.	S.	S.	12	12	12	O.	F.	C.	1	.16	
Monday, ... 25	30.10	79.0	87.0	74.0	85.0	57.0	84.0	75.0	S.W.	S.W.	S.W.	8	10	8	O.	F.	C.			
Tuesday, ... 26	30.00	72.0	84.0	68.0	86.0	78.0	93.0	86.0	S.W.	S.E.	E.	5	8	2	C.	F.	F.			
Wednes, ... 27	29.99	68.0	78.0	62.0	91.0	86.0	95.0	91.0	N.	S.E.	E.	5	6	2	O.	C.	C.			
Thursday, 28	29.94	74.0	85.0	63.0	93.0	85.0	86.0	88.0	S.W.	S.E.	S.W.	6	5	10	G.	C.	C.			
Friday, ... 29	29.99	76.0	88.0	65.0	84.0	80.0	88.0	84.0	W.	W.	S.W.	8	9	3	O.	O.	C.	3½	.31	
Saturday, . 30	29.99	74.0	82.0	65.0	98.0	73.0	87.0	86.0	S.	E.	S.W.	3	10	10	G.	F.	C.			
Mean, the Week.	30.02	74.4	84.0	67.0	90.0	75.4	89.1											4½	.41	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 30, 1887, TO AUGUST 5, 1887.

SUTHERLAND, CHARLES, colonel and surgeon. Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

FRYER, B. E., major and surgeon. Relieved from further duty at Fort Lowell, Ariz. S. O. 175, A. G. O., August 1, 1887.

MCLELLAN, FLY, major and surgeon. Detailed as member of a board of survey to meet at the Medical Surveying Depot, St. Louis, Mo., on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

BROWN, HARVEY E., major and surgeon. Relieved from duty in Department Missouri, and ordered to Jackson Barracks, La., for duty at that post. S. O. 174, A. G. O., July 29, 1887.

GARDNER, JNO. DE B. W., captain and assistant surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

DIPHTHERIA AND DEFECTIVE SEWERAGE IN THE MASSACHUSETTS HOMOEOPATHIC INSANE ASYLUM AT WESTBORO.

THE daily papers have made public the fact of the death from diphtheria of six persons, inmates and attendants at the Homoeopathic Insane Asylum at Westboro, as well as the serious illness from the same disease of eight or more other persons, who did not die. Besides this, it is said that many others suffered from sore throat. As we learn from the *Worcester Daily Telegram*, the plumbing of the institution has been found to be in a deplorable condition. It was put in, last year, by T. H. Duggan, of Boston, a member of the Boston City Government. The Building Committee, of the Trustees, consisting of two persons, one of whom was a woman, reported last October: "The Building Committee have given close personal attention to every detail of the work, having visited the hospital thirty-nine times during the year, fifteen of which visits occupied the entire day." The *Telegram* says that some of the joints in the plumbing were not leaded at all, putty being used in place of lead, and others were of a most imperfect character. It adds that the attention of the authorities was called at the time to the unsatisfactory character of the work, but it was, nevertheless, accepted.

Shortly after the sewers had been used, foul smells could be detected quite plainly. The attendants complained of scents in the closets and water-sections. One of the kitchen employees said, in February, that she could smell sewer-gas in her sleep-

ing-room. Later on, she was taken sick with diphtheria. The sewage was conducted into a meadow about fifty rods from the institution, and during the heavy north-east storm, the latter part of May, the scent was wafted back to the building. It is said that the city of Boston has come down upon the institution for polluting its water-supply, and that the whole system will have to be changed, and run from one hundred and fifty to two hundred rods the other way.

The same paper adds that the contract for the driven wells required that they should stand a constant pumping of thirty days and thirty nights. On March 17th, when the ground was full of water, and water was standing on top of the ground, the test began, and the wells, of course, stood it. In June, the engineer, it is claimed, was obliged to run the pumps with a very slow stroke, to keep them from pumping air.

Boston plumbers are now at work, and will probably occupy the greater part of the summer in making the repairs, which will involve a very heavy expense.

BOOKS AND PAMPHLETS RECEIVED.

The Alleged Physical Phenomena of Spiritualism. An Account of Two Seances. By H. Carvill Lewis. 1887. (Reprint.)

Natural and Assisted Labors, with especial Reference to the use of the Forceps. By R. M. Griswold, M.D., Manchester. 1887. (Reprint.)

The Relations of the Nervous System to Hæmophilia, Malarial Hæmaturia, etc. Second Paper. By C. H. Hughes, M.D., St. Louis. 1887. (Reprint.)

Practical Thoughts for Physicians. Address delivered before Indiana State Medical Society, May 10, 1887. By G. W. H. Kemper, M.D., Muncie, Indiana.

The Technique of Tracheotomy and Intubation of the Larynx. By Charles Godwin Jennings, M.D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. 1887. (Reprint.)

Observations on Police Service and Physique in St. Louis. Essential Individual Hygiene of a Municipal Police Force for the Prevention of Pulmonary Diseases. By Geo. Homan, M.D., Medical Examiner St. Louis Police Department. St. Louis, 1887.

Diseases of the Female Urethra and Bladder. By F. Winckel, M.D., of the Royal University, Munich; and Diseases of the Vagina, by A. Breisky, M.D., of the Royal University, Vienna. Edited by Egbert H. Grandin, M.D., of New York. These two treatises constitute Vol. X. of "A Cyclopædia of Obstetrics and Gynecology." New York: Wm. Wood & Co.

Original Articles.

LAPAROTOMY FOR PUS IN THE ABDOMINAL CAVITY, AND FOR PERITONITIS.¹

BY JOHN C. IRISH, M.D., OF LOWELL.

It is only very recently that cases of septic peritonitis, and of pus, free or encysted, within the serous membrane of the abdomen, have been systematically treated by abdominal section and drainage. Within the past three or four years, however, quite a number of such operations have been reported, particularly by those engaged in abdominal surgery. But this number is still so small, and the indications for operative interference so indistinctly defined, as to lead me to hope that a report of additional cases will be interesting.

The consideration of pelvic abscesses might properly come within the scope of this paper, as a portion of them, at least, are intra-peritoneal collections of pus. Many of them, too, have been treated by abdominal section and drainage. A portion of these operations have been, undoubtedly, laparotomies, according to the general acceptance of this term, while, in other cases, the operation has not differed from the opening of other abscesses that have pointed externally. I shall omit all discussion of pelvic abscesses, with the exception of those rare cases in which the pus has escaped into the cavity of the peritoneum.

To the treatment of retro-peritoneal, peri-tiphilitic, and other extra-peritoneal abscesses, I wish to call your attention only in the event that they have become intra-peritoneal by escape of pus into the peritoneal cavity—an accident that is far more frequent with these than with the pelvic abscess.

As an introduction to the consideration of my subject, I desire to present, with as little detail as possible, the three following cases. Two of them are illustrations of the circumscribed peritoneal abscess; the third is an example of the irruption of pus, that had formed elsewhere, into the peritoneal cavity.

CASE I. Under the care of Dr. Lane, of Billerica, to whom I am indebted for the following history: J. L., a young man; age nineteen. At the time of my first visit, April 3, 1884, he was suffering from a general condition of fever. Pulse 100, temperature 102°; bowels constipated and tender upon pressure. This condition continued about ten days, save a fluctuating temperature. Then the bowels began to enlarge, with increasing tenderness on the left side of abdomen, and with decided dullness on percussion. From this time, the pain, tenderness, and fulness of the left side steadily increased. The pulse and temperature varied greatly from day to day, the former ranging from 100 to 130, the latter from 100° to 104°.

May 3d, I saw the patient with Dr. Lane. At this time, there was marked prostration from general septic poisoning. The pulse 120, temperature 103°. Over the left anterior portion of the abdomen, extending about two inches to the right of the umbilicus, and distending the parietes, could be felt a fluctuating mass, uniformly oval, and dull on percussion. An abdominal incision three inches in length was made, through which escaped about three quarts of an odorless, purulent liquid. An examination through the incision demonstrated the parietal peritoneum, and,

with the hand in the pus-cavity, there could be felt, on the right side, the agglutinated coils of intestine and the fibrinous partition wall that separated the abscess from the remaining portion of the peritoneal cavity. Although neither the previous history of the case, nor our examination revealed the cause of the abscess, yet its intra-peritoneal origin was clearly shown.

After the cavity had been thoroughly washed out with a mild antiseptic solution, a drainage-tube was inserted, and the usual dressings applied. In a few days the pulse and temperature became normal, and the patient went on uninterruptedly to recovery, which was complete in two months after the operation.

CASE II. N. P., Lowell, man, aged twenty-six. A patient of Dr. Chadbourne. In the latter part of December, 1886, an abscess, not due to any appreciable cause, pointed just below Poupart's ligament on the right. This was opened with the bistoury, and about eight ounces of pus escaped. The pus track extended over the os pubis, and deeply within the pelvis. The abscess was evidently extra-peritoneal, and originated somewhere in the pelvic cavity.

Three months later, there appeared on the left side a moderate distension of the abdominal walls. Over a well-defined space were dullness and fluctuation, but no tendency at any point to a spontaneous opening of the abscess appeared.

An incision three inches in length, and four inches to the left of the median line, gave exit to about three pints of a thin, offensive pus. The cavity was washed out, a glass drainage-tube inserted, and the remainder of the wound closed with sutures.

The patient has made an entire recovery, so far as the peritoneal abscess is concerned. From the pelvic abscess, a slight discharge of pus still continues along the fistulous track.

In attempting to solve any possible doubt as to the intra-peritoneal origin of this second abscess, I explored with my hand the pus-cavity, but so profuse a hæmorrhage from the partition walls followed my manipulations, that I was obliged to desist.

I concluded, however, that its site was intra-peritoneal, and have so classed it for these reasons: Because the anterior boundary seemed to be the parietal peritoneum, thickened and covered with a lymph and fibrinous deposit; because the contained fluid had the gross appearances usually found in the encysted purulent effusions of a localized peritonitis; and because the hæmorrhage that I mentioned would readily come from intra-peritoneal adhesions, but would not certainly be expected from the walls of an extra-peritoneal abscess.

CASE III. This patient was under the care of Dr. Trueworthy, of Lowell, who has kindly prepared for me the following report of the case up to the time of operation:

Mrs. D., of Lowell, age twenty-five. August, 1881, was thrown from a carriage, and dragged a considerable distance. After the accident, she suffered from great pain and soreness in the lower part of the bowels, and from a menorrhagia, that continued about five weeks. Mrs. D. was married in the fall of 1881, but has never been pregnant. In July, 1882, she had an attack of pelvic cellulitis, from which she recovered slowly and imperfectly. From this time her menstruation was irregular, and her general health somewhat impaired. April, 1885, she had an attack of

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

perimetritis, that continued with varying severity till July 10th, when I saw her for the first time during this illness. The uterus was enlarged and tender on pressure. A solid mass occupied the posterior cul-de-sac. Over the lower portion of the abdomen, there was a general feeling of fulness. The bowels were slightly distended, and the patient complained of severe pain at the lower part of the abdomen. Temperature 103° , pulse rapid. The acuteness and severity of the symptoms, to quite an extent, subsided during the succeeding few weeks, but the pelvic effusion remained and increased. August 20th, Mrs. D. had a chill, followed by a rise of temperature and an increased severity of the general symptoms. Vomiting became frequent, and the swelling in the hypogastric region reached nearly to the umbilicus. Temperature varied, sometimes reaching 104° . The general emaciation and debility had increased up to September 7th.

At this date I was called by Dr. Trueworthy to see Mrs. D. on account of an alarming prostration that had suddenly supervened. The extreme pallor, anxious expression, and feeble pulse of our patient indicated plainly enough that some grave accident had befallen her.

Stimulants were freely administered, and an hour later an incision along the median line, four inches in length, was made. A considerable amount of pus, at least one quart, was found among the coils of intestines and in the dependent portions of the peritoneal cavity. This pus had come from the rupture of a pelvic abscess, whose existence the preceding history of the case has so clearly indicated.

The entire cavity was thoroughly washed with large quantities of warm water. A long drainage tube was carried well down behind the uterus, and the rest of the abdominal wound was closed.

During the operation it became necessary to sustain the patient with frequent subcutaneous injections of brandy. She bore the shock badly, and rallied very slowly. She went on, however, without any incident worthy of mention, to a recovery that was complete six months after.

In considering the surgical treatment of those effusions more or less purulent, occasionally encysted, oftener diffuse, that one finds in the abdominal cavity, their origin and mode of occurrence become an important subject of inquiry: First, we find pus within the peritoneum from the rupture of an ovarian cyst, of a pyosalpinx, of a pelvic abscess, (as the case just described), from perityphlitic, hepatic and other extra-peritoneal abscesses, that have discharged their contents in this direction. Second, more frequently circumscribed peritoneal abscesses are found, which in other words, are localized peritonites with purulent encysted effusions. In a third class of cases we find the pus a product of a diffuse purulent peritonitis.

Therefore, in discussing the treatment appropriate to those cases of pus within the peritoneum, we are compelled to consider also the various forms of peritonitis, since the latter, in the vast majority of instances, stands in a causative relation to the purulent effusion.

By a somewhat hurried search through the recent medical literature within my reach, I have found reported the three following cases, nearly analogous to Case III, of this paper:

CASE I. Operator, Sonnenburg.² A large perimetric exudation had broken into the abdominal cavity, several weeks after the confinement of the patient. A very acute peritonitis was at once excited. Laparotomy, careful cleansing of the peritoneum, drainage, recovery.

CASE II. Mr. Treves.³ Woman, twenty-one years of age, with a pelvic abscess following gonorrhœa. At the time of operation the abdomen was tense, tympanitic, distended, and painful on pressure. Upon opening the cavity an acute diffuse peritonitis was found. A quantity of semi-opaque fluid, lymph and pus poured out. Pus welled up from the depth of the pelvis. It was found that a pelvic abscess upon the left side had ruptured into the general peritoneal cavity. Drainage was employed. The patient recovered.

CASE III. Lawson Tait, 1883.⁴ The summary of this case I quote from the very exhaustive treatise upon "The Surgical Treatment of Peritonitis," published recently by Dr. H. Truc, of Lyons: "Young woman of twenty years. The existence of peritonitis was not doubtful, and there were also signs of intestinal obstruction. A peritonitis from salpingitis is suspected, for the patient received two years before a violent blow upon the abdomen. Laparotomy; much pus in the peritoneal cavity; pelvic organs agglutinated. No intestinal obstruction. The right fallopian tube contained pus and had been ruptured. Cure. At the end of several weeks there exist some morbid symptoms that are difficult to describe precisely." These few cases, only four, are indeed of very little value in estimating the measure of success that will follow the treatment of extra-peritoneal abscesses that have broken into the peritoneum, by laparotomy and drainage. In another way they have a great value, for they indicate, as clearly as a much larger number could do, the only mode of treatment that offers in this condition any promise of success.

When other bodies gain access to the peritoneal cavity, they excite a peritonitis more or less acute, and usually a pus-forming one. The degree of acuteness and purulence is in direct ratio to the septicism of the foreign material. The rupture of bladder, intestines, liver, or other visceral organs by blows, the penetration of them by wounds or missiles, produces a diffuse septic peritonitis.

Perforation of stomach or bowels by ulcerations, as in gastric ulcer, typhoid fever, or dysentery, is followed by peritoneal inflammation very purulent and septic. In obstruction of the bowels from various causes, in which no perforation has taken place, we often find a pus-producing peritonitis.

In quite a large number of these cases, laparotomy has been done for the cure of the existing lesions, and only indirectly for relief of the peritonitis. Quite a proportion of them have recovered. Thus laparotomy has cured not only the lesion, for which it was made, but the peritonitis as well.

Excluding those cases in which the patient died soon after the surgical interference, the recorded histories show, usually, that the peritoneal inflammation has been entirely relieved or favorably modified by abdominal section and toilet of the peritoneum.

Peritonitis of a very septic character and with rapidly fatal tendency is not infrequently produced by the rupture or degenerative inflammation of ovarian

²Arch. Tocol. 1885.

³Medico-Chirurg. Trans., London, March 10, 1885.

⁴British Med. Jour. 1883.

cyst walls. In 1868, Willshire operated successfully for the removal of a gangrenous cyst that had caused a most formidable peritonitis. A short time before, Keith had also had one of these cases that recovered. And, to-day, I believe it is agreed among ovariologists that the advent of peritoneal inflammation is a most urgent indication for ovariectomy. A large proportion of the patients in this condition in the hands of Keith, Tait, Homans, and others have recovered. That is, not only the tumor has been removed, but the peritonitis, too, has been cured. I think that no more conclusive proof of the utility of laparotomy for the treatment of peritoneal inflammation could be adduced, than these facts afford.

In localized peritonitis with encysted effusions, or, as Mr. Bennett has more happily designated them, encysted peritoneal abscesses, there can to-day be no question as to the propriety of immediately evacuating their purulent contents. The only question can be, in regard to the best mode of doing this. For the purpose of showing the excellent results that have followed the treatment of these abscesses by laparotomy I avail myself of the statistical researches of Dr. Truc:

He gives, somewhat in detail, the histories of ten cases. One of them is that by Dr. Adams, of Framingham; another by Dr. Wilson, of Maryland. To these I have six to add, as follows:

One, by Lawson Tait.⁵ Abdominal section was made, and three distinct peritoneal abscesses were found. After the operation the temperature became normal. At the time of writing, the patient had not entirely recovered.

The second, by T. G. Thomas.⁶ Laparotomy, drainage, recovery.

The third, by Dr. Watson.⁷ A woman, aged fifty-eight; supposed to be suffering from an ovarian tumor. Six quarts of pus escaped through the abdominal incision, and the finger passed into a cavity, at the bottom of which the pelvic organs were felt, covered with a flocculent lymph; while above, the wall of the abscess formed a complete partition between the cavity and the intestines. A drainage-tube was used, and the patient made a good recovery.

The fourth, by Dr. Homans. Case not published. Mrs. S., age twenty-eight. In January, 1882, began to suffer from pain and tenderness of the abdomen, and from slight fever and diarrhoea. These symptoms continued till July, when a fluctuating abdominal tumor was found. Percussion note dull anteriorly, resonant in the right flank, less so in the left.

August 3d, ten pounds of pus were withdrawn with the trochar. August 9th, an abdominal incision, four inches in length, was made, giving exit to eight pounds of pus. Abscess cavity was washed out and drainage-tubes were inserted. The patient recovered in about four weeks after the operation.

The two remaining cases are reported above.

The sixteen cases give these results:—Twelve recoveries, three partial recoveries, and one death.

Peritoneal abscesses, in the past few years, have often been treated by evacuation of their contents with the aspirator. Exceptionally by one or more aspirations a cure has been obtained. Generally, however, the sac refills as often as it is emptied in this way. Several of the above cases were first treated by

aspiration, but afterwards it became necessary to make abdominal section and employ irrigations and drainage of the pus cavity.

The lessons, as to the management of encysted peritoneal abscesses, which the histories of these sixteen cases seem to teach, are, that the following treatment is not only appropriate, but that it is almost uniformly successful. The operation should be performed as early as possible, to prevent the progressive loss of strength by the patient and to avert the danger, always present, of a rupture of the abscess walls. An incision, anywhere through the abdominal walls, should be made over the most prominent part of the tumor. This should be done carefully, and all hemorrhage arrested before the peritoneum is opened. After the purulent liquid has escaped and the pus cavity has been thoroughly irrigated with a mild antiseptic solution, a drainage-tube is inserted and the remainder of the abdominal wound closed. I favor this rather free incision, both to facilitate the escape of pus and to allow a thorough examination of the pus cavity, if this should seem desirable. Should such an examination be made with the hand, great care is necessary, for the partition walls of organized lymph bleed very readily and freely.

Acute diffuse peritonitis not due to the escape of pus or other abnormal material into the abdominal cavity, nor to puerperal sepsis, is less frequent than the localized form that has just now engaged our attention. It has, however, great interest for the surgeon, for its natural course is extremely fatal, while surgical interference has shown itself able to save more than one-half of these patients.

General acute peritonitis does, undoubtedly, occur, in which there is no effusion of liquid. Such instances, I believe, are very rare. Of this subject Dr. Truc says, "Purulent peritonitis is the usual form of acute inflammation of the peritoneal serous membrane," and he further quotes Besnier as saying that an acute inflammation of the peritoneum never produces a transparent serous fluid, and that this rule is without exception. That is, that the effusion, which almost always occurs, is to a greater or less extent purulent.

Therefore in this, as in the preceding classes of cases that we have passed in review, the surgeon has to deal with pus in the abdominal cavity. The results thus far obtained by abdominal section, as stated by Dr. B. F. Curtis, are eight recoveries (to which may be added one by Dr. Marcy, of Cambridge, and one by Buchanan, of Glasgow) and three deaths. In the latter, the operation was performed too late to be of any avail.

Tubercular peritonitis is so widely separated by its cause and course of development from the other forms of peritoneal inflammation that we have considered, as to render it a very distinct affection. Yet as the surgical treatment of it, entered upon sometimes through a mistaken diagnosis, has given some brilliant results, it seems important to refer briefly to a few of these cases and note the existing conditions in which laparotomy has been able to effect a cure or great amelioration. At first thought, recalling the pathology of this affection, it would seem impossible that any surgical interference could be other than disastrous. Still, when we remember that many tuberculous joints have been cured by free incision and drainage, this treatment as applied to the abdominal cavity becomes more reasonable.

⁵ Lancet, Feb. 20, 1886.

⁶ Reported by Buckmaster, Journal Medical Sciences, April, 1887.

⁷ Glasgow Medical Journal, 1886.

Spencer Wells⁸ reports two cases. In both there was a large amount of liquid. In the first it was serous, in the second of greater consistency but not pus. The peritoneum was covered with tubercular granulations. Both patients recovered, and continued in good health after the operation. Lanois reports a case in which he made an abdominal section. The effusion was purulent. Patient recovered.

Dr. Wylie, of New York, reports two cases cured by laparotomy and drainage. Before this Society in 1885, Dr. Homans gave the history of one in which he made an exploratory incision that was followed by an excellent recovery. Several other successful cases have been recorded.

In all of them there was quite a large effusion of liquid, sometimes serous, oftener sero-purulent. Thus the tubercular form has had one condition in common with the other peritonites, namely, liquid in the peritoneal cavity, and this often containing pus elements.

The patients that recovered were in fair general health, and the only local manifestation of the tuberculous diathesis was in connection with the peritoneum.

An article treating of the various classes of pus-forming peritonites and omitting all consideration of the puerperal, the most septic and purulent of all, would be a very incomplete one. But I have already so trespassed upon your time, that I must be content with a brief reference to a single form of puerperal peritonitis. I refer to that which follows abortions, either accidental or induced, but which exceptionally is seen after labor at full term. Showing itself at a later period after the parturient act, than is the rule with more acute peritonites, it commences with abdominal pain, increased temperature and pulse-rate, all in moderate degree. Tympanites more or less marked is always present. All these symptoms become progressively more severe. Vomiting and diarrhoea supervene, the features gradually acquire a pinched and anxious look, the pulse becomes thready and very rapid, the extremities cold, and the patient dies a few days after the commencement of the attack.

I have made three autopsies in cases of death from peritonitis after abortions. In all of them the post-mortem appearances have been very uniform. I have found from five to ten ounces of thick purulent liquid free in the peritoneal cavity, the intestinal folds bathed with pus and agglutinated more or less by fibrinous adhesions, and the general peritoneum deeply congested, especially in the vicinity of the pelvis. Dr. Draper, Medical Examiner at Boston, in reply to a letter describing the conditions mentioned above, and asking the result of his larger experience in these cases, writes as follows: "My observations correspond closely with your own, in the pathological conditions usually resulting from criminal abortion.

"In nearly all the cases in which death resulted from secondary complications, and not during or immediately after the operative interference, I have found the cause of death to be peritonitis, with the post-mortem appearances which you describe. Usually, I have traced the course of events in *this way*: a sloughing placental site, endometritis, salpingitis by continuity; finally, peritonitis. My cases number twenty-seven, of which more than half have peritonitis written after them."

Upon this subject, Dr. Harris, Medical Examiner, says: "An examination of my records of autopsies

for the past ten years shows that generally, after death by abortion, I have found extensive peritonitis, the intestines glued together, and to the peritoneum. The abdominal cavity has contained a large quantity of offensive pus. The pus was largest in amount in those parts of the abdomen to which it would naturally gravitate. There has also been, generally, metritis and salpingitis, on one or both sides. In cases where death has occurred early, the appearances mentioned above have been much modified, or altogether absent."

Against this form of purulent peritonitis, medical treatment has no resources. It is in every instance necessarily fatal. I know of no case in which surgical interference has been attempted in the treatment of peritonitis following abortion. Yet, since abdominal section, with irrigation and drainage of the peritoneal cavity, as we have seen, has combatted successfully other forms of peritonitis, septic and purulent, like this, I think we may reasonably hope that laparotomy may, in the future, save, at least, a portion of these unfortunate patients.

Mr. Tait, who can speak upon the surgical treatment of peritonitis in general with the authority of an experience greater than that of any one else, says, in a written communication to Dr. Truc:

"In the presence of a grave peritonitis, I occupy myself but little with its cause and character. I first freely open the abdominal cavity, and then conduct myself according to the indications furnished by direct inspection."

Finally, an investigation of the causes that give rise to purulent effusions within the peritoneum, and a consideration of the results obtained by surgeons up to this time by laparotomy, tend to the conclusion that, whenever pus exists in the cavity of the peritoneum, our only resources are in abdominal section, irrigations, and drainage.

The further lesson unmistakably taught is that this simple operation will have a more extended field of usefulness than almost any other that has been an outgrowth of the parent operation, ovariectomy.

CARLSBAD.¹

BY HORATIO N. BIGELOW, M.D.

Chronic Conditions of the Stomach:

Catarrh. "Some medical men think that the mineral waters of Carlsbad are indicated neither for patients either in the tonic or atonic form of catarrhus ventriculi. I cannot, however, share this opinion; from my personal experience, on the contrary, I am happy to state that I have obtained remarkable results in these cases (of course not accompanied by organic derangement), by a treatment quite in opposition to that usually applied in cases of catarrhal affections of the stomach; by substituting a different diet, and principally by directing them to use the waters in a different way. These must be taken in a cooler state, and only in minimal quantities of from three to six ounces, twice daily. Should constipation set in, Carlsbad salts and all other purgatives are to be avoided, and only cold injections to be used. The catarrhal affections of the stomach frequently extend into the duodenum (catarrhus gastroduodenalis), and further into the larger, and in long-standing cases also the smaller biliary ducts, so that stagnation of the bile

⁸ Tumors of the ovaries and uterus. Wells.

¹ Concluded from page 124.

and jaundice supervene. It is evident that Carlsbad is especially indicated in such cases, and the use of its waters attended with the greatest success." (Kraus.) I have been much struck with the readiness with which Dr. Grünberger meets each symptom in these troublesome cases. How very carefully he regulates the diet, changing it, in some seemingly insignificant detail, to meet a fresh emergency. How well he handles the epigastric pain, and how scientifically he found means to remedy the constipation, which depends upon so many different causes. Of course, all this can only come of an exceedingly large experience. When a physician sees daily during the season from forty to seventy-five cases, all with faulty digestion or used-up livers, it is not to be wondered at that he should reach a precision in diagnosis and a tact in therapeutics which the ordinary general practitioner can never reach.

Uric Acid Diathesis. "In gout, the so-called uric diathesis with or without dependent catarrh of the pelvis of the kidneys, bladder, and urethra, renal calculi, and the like, it is a matter of common experience that all alkaline waters, including those of Carlsbad, are beneficial by lessening the irritation caused by the acid, but chiefly, according to Leichtenstern, by their washing out that which stagnates in the tissues and joints, their oxidation of uric acid into urea in the body having no proof." (Page.)

The experience of the leading physicians here is to the effect that *all* forms of *gout* will yield to the use of Carlsbad waters directed by intelligence. While they have no influence whatever upon chronic indurations, the deposits capable of absorption will generally disappear. Also in gravel, the waters are strong enough to dissolve these formations in the tubes, and to eliminate them entirely by increasing the flow of urine. And what I have written in the foregoing conditions will apply equally well to dyspepsia, chronic constipation, intestinal catarrh, catarrh of the bladder, anæmia and diarrhoea (irritative and eliminative). "Another form of dyspepsia occurs in pale, anæmic persons, as in young women who suffer from chlorosis. There are tenderness and pain in the epigastrium, aversion to food, weariness of the whole muscular system, and palpitations occur on making the least effort. My friend, Dr. Grünberger, of Carlsbad, gives a lively description of the contrasted sufferers who seek relief at the springs. 'To the pale miss, who answers to the above description, her companion at Carlsbad offers a striking contrast. He is well nourished; his rubicund face declares that he knows the delights of dining, and that he takes frequent pleasure in champagne, sherry and brandy. When you remark his absence for two or three days at a time from the morning promenade around the springs, you may be sure that the gout, in addition to dyspepsia, has him in keeping; he suffers acutely from effusion into one or more of the principal joints, and plenty of uric acid is to be found in the deranged secretions. In spite of the waters, all seems to be going wrong. But after a cure continued through a few weeks, the sharp contrast between the two invalids is wonderfully lessened. The pale miss is invigorated, her appetite increases, she has gained in weight; while the gouty effusion of her companion is gone, his step is firm and sure again, the dyspeptic symptoms are relieved and the action of the digestive system has again become normal.'" (Harper's, 1883).

Matters of Interest to Gynæcologists. Pale, anæmic women, who won't get fat, despite our utmost endeavor, who never menstruate sufficiently, or painlessly, whose sleep is never wholesome, and whose aches and pains are legion and cannot be located, almost always do well in Carlsbad. Now I attribute this to many reasons. If the lining membrane of the uterus be adenoid in nature and structure, as recently demonstrated (Johnstone, British Gynæcol. Society), it will be subject to the same irregularities and deficiencies of blood-supply that control similar tissues. Again, there seems to be more than a casual relationship between portal circulation and menstruation. I have not infrequently noticed that many women would menstruate much better when the liver functioned normally. Most of these anæmic women are victims of constipation — a mean, nasty stoppage that baffles the physician's art. The Carlsbad water overcomes the torpidity of the intestine, it stimulates the liver, and it supplies the blood with something that was wanting; that is, it enriches the arterial supply. When the whole system begins to participate in the change, the uterus *must* follow suit. Menstruation approaches normal, the appetite is strengthened, sleep improved, constipation dissipated, and the whole constitutional tone is improved.

Chronic Metritis, with dislocated Uterus fixed by old Adhesions. It is quite common to find women here for treatment for enlarged livers who have also conditions such as this. It is fortunate that the Moor baths can be taken here just as well as at Franzensbad, and that their use does not at all interfere with the use of the waters. From close observation of many cases, I know of nothing half so potent for good as these Moor baths in women who have had attacks of para or perimetritis, or who have chronically enlarged uteri. The cases that came twice a week to the clinic of the Gynæcologist, that patiently pay their fees and never get better, the pale faces that haunt our slumbers, murmuring ever the sad complaint "You take our money but you do us no good," are just the ones that will bless the physician who sent them to Carlsbad. Indeed, I don't know of anything else that will alleviate the suffering of these women. It is well to remember when sending patients here for troubles other than pelvic, that the special disorders can also be treated here, coincidentally with the liver, should such co-exist.

Of Interest to Dermatologists. As I know little or nothing of skin diseases, and as I have seen very few "cutaneous" patients here, I must take the dictum of Dr. Kraus, who says: "Diseases of the skin only have to be considered so far as they are connected with stagnation of the blood or with disorders of the abdominal organs, and there is no doubt that the regulation of the circulation, and the amelioration of the debilitated constitution will have a beneficial influence on the healing of some diseases of the skin, constituting, in fact, the necessary conditions for their entire cure."

The use of the Carlsbad waters may be recommended especially in cases of:

(a) Erysipelas migrans, principally if the patients show a constitutional tendency to this affection.

(b) Sclerosis of the skin, showing itself on the calves of the legs, in consequence of repeated attacks of erysipelas.

(c) Urticaria.

(d) Pemphigus, especially in its milder forms.

(e) Eczema, likewise in its milder forms.

(f) Morbid tendency to furuncles, so frequently met with, unconnected with diabetes mellitues.

IV. CONTRA INDICATIONS.

Kafka writes as follows :

(1) All the febrile phlogistic diseases and the acute exanthemas.

(2) An excessive irritability of the vascular system, if the menstruation and the hæmorrhoidal flux are too copious.

(3) Tuberculosis and pulmonary phthisis, all considerable suppuration of external or internal organs; ulcerated carcinoma of all organs, syphilitic ulcers.

(4) Weakness from old age and all morbid conditions, with feebleness of the vital power and anæmia.

(5) The following organic lesions: aneurism, atheroma of the great vessels of the heart and anchylosis.

(6) Pregnancy in very feeble women, who are very thin, anæmic, and with a disposition to miscarriage and to hæmorrhages.

I would add to this list —

(7) Bright's disease of the kidneys.

(8) Diseases of the brain and spinal cord.

(9) Malignant degenerations, (as the waters often hasten death).

V. THE MODUS OPERANDI OF THE CURE.

Kraus sums up as follows :

A. *By coming into immediate contact with the mucous membrane of the stomach and the intestinal tract, the waters act —*

(a) As soothing, invigorating, and regenerating agents on the nerves of the stomach, whence the increased appetite and the pleasant, warm sensation propagating itself from the stomach over the whole surface of the body.

(b) In a healing way in cases of simple erosious and ulcers of the mucous membrane of the stomach and duodenum.

(c) As correctives of the too abundant secretion of acids in the intestinal tract.

(d) As gentle purgatives and accelerators of the peristaltic action, removing the viscid mucous secretion, and mechanically dissolving the hard, dried-up faeces; as a general result of these influences, the mucous membrane of the intestinal channel is energetically stimulated to increased secretion.

B. *Being absorbed by the blood, the waters act —*

(a) By dissolving the concentrated and obstructed bile in the biliary ducts.

(b) By changing the condition of the blood, which, in its venous state, principally stagnates in the mesenteric vein and its branches; thus the waters regulate and increase the venous, and consequently, also the arterial circulation.

(c) By relieving the lymphatic glands and vessels of the thick and concentrated lymph contained in them.

(d) By removing the fat accumulated in the subcutaneous areolar tissue and other organs, and by causing old inflammatory residues (for instance, in the peritoneal cavity) to be absorbed.

Fundamental principles to be taken into consideration when prescribing the waters for internal use :

(1) The cooler springs are only slowly absorbed by the system, while the hotter waters are taken up more rapidly.

(2) Patients whose action of the heart has to be watched with care, and whose vital energy will not

submit to much stimulation, must partake of the cooler springs.

(3) For acting more energetically, the hotter springs are made use of, if the constitution of the patient will permit. The particular spring selected is not to be changed without sufficient reason.

(4) The waters, as a rule, are taken in the morning, before breakfast, as the empty stomach will require less time to absorb the waters.

(5) The quantity for daily use is not to exceed six tumblersful (thirty ounces), and it is advisable to begin with two or three tumblersful, and in many cases, even with less. After several days, the quantity may be increased, this depending partly on the individual constitution of the patient and on the respective disease, partly on the effect already attained, or still wished for.

(6) The tumblerful of the water is to be consumed slowly (in from one to three minutes), a pause of twenty minutes or more being made between each tumbler, according to the state of the patient's digestion, and moderate walking should be resorted to during this time.

(7) After finishing the last tumblerful, the patients ought to walk about until they feel hungry for breakfast, which generally will be the case in about one hour's time.

VI. THE HYGIENE AND DIETETIC REGULATIONS.

"In general, starchy food, sweets, butter, fats and gravies, salads, pickles, condiments, and the like, are prohibited; also alcoholic beverages, particularly champagne and Rhine wines, although a moderate amount, at dinner, of claret, or a glass or two of Madeira or sherry, may be allowed to the aged or infirm, or those in the habit of drinking; ice-water is also forbidden, and in place of it, is used the Gieshübler, an excellent table-water, that comes from the Gieshübler simple acidulous spring in the neighborhood. Bread is thoroughly roasted in slices, called rusks or swiebacks, besides which, at dinner, is allowed in most cases a moderate amount of untoasted bread, made up with or without butter (Kaiserbrod, Wasserbrod). Fish, except salmon, which is thought to contain too much oil, and such meats as roast beef or mutton, beef-steak, mutton-chops, and poultry without dressing, are allowed in moderate quantities; also, green vegetables, such as string-beans, spinach, cauliflower, and cabbage. Included in the cure is exercise of some sort, chiefly walking. For this purpose, a variety of delightful walks have been constructed, and are kept in thorough repair. In this respect, and in the thorough system used regarding all the factors of the cure, managers of many of our American watering-places would do well to take lessons from their Bohemian friends across the water." The Gieshübler Sauerbrunn is a great institution. It is one of the best of table-waters, and is valuable in some forms of dyspepsia, in the uric-acid diathesis, gravel, stone in the kidneys, gout, and diabetes (see Garrod). Now, as the water is not to be highly recommended in Carlsbad, and as most patients are allowed no beer and little wine, Gieshübler becomes a boon beyond all estimate. Between two and three million bottles are exported each year to England and France. The bread and coffee in Carlsbad are beyond all praise. Nowhere in the world does one find better. The beer is highly spoken of, but fat men longing to get thin are

also told to avoid beer as religiously as ascetics do the Devil. Coffee is permitted in moderation, but most physicians here would much prefer that their patients should shun it altogether. Milk is taken hot by those with sensitive stomachs. In aggravated dyspepsia, nothing is permitted at first but hot milk; later, a thin chicken-soup; then chicken-hash, made of the white meat, and the yolks of two raw eggs; then a little raw Westphalia ham, chopped up fine, and so by gradual steps, to a full, but simple meal. The daily life, so far as it is possible to do so, is spent out-of-doors. Even if one be very weak, and cannot walk much, he should sit for hours in the sun, listening to the music, and watching the crowds of people moving by. Warm clothing is always needed, and one cannot be too careful about exposure, as the system becomes superlatively sensitive after taking the mineral waters, and that reminds me to say, just here, that no one should even come to Carlsbad without a variety of changes. Winter clothes, autumn and spring clothing will always be necessary. Of summer clothing, I cannot write advisedly. It is now almost June 1st, and there seems to be no prospect of any immediate necessity for anything thinner than winter-flannels; indeed, some gentlemen still appear in fur overcoats.

VII. THE BATHS.

(a) Common or sweet water baths. (b) Mineral baths. (c) Moss baths. (d) Vapor baths. (e) Douche baths. (f) Steel baths. (g) Sauerbrunn baths.

The entire medical experience of Carlsbad for hundreds of years bears witness to the beneficial influence of baths in certain diseases. The medical man who wrote an article in *Harper's* upon Carlsbad says: "The peat-baths, or mud-baths, have gained much in popularity within a few years, and a large building has been erected since 1880, devoted exclusively to this singular form of the cure. The material employed for the mud-bath is a rich black peat; it comes by rail from the neighboring watering-place of Frunzensbad, some two hours distant, where Carlsbad owns a tract of moorland, which supplies the peat. It is rich in mineral constituents, and it makes what may be called a clean mud. First pulverized, but not too finely, then screened and freed from accidental impurities, it is mixed with the hot Sprudel water when the bath is ordered, and rolled in a stout wooden tub to the bath-room, where it stands, fuming, by the side of a similar tub filled with warm, soft water. One's first mud-bath is an odd experience. I confess having felt a slight reluctance to immerse myself in this malebolgian mass of peat-mud, although it fumed not unfragantly, and its temperature, 102° F., was delightful. It seemed like undoing the results of a lifetime's ablutions. The difficulty is to get your first foot into it; that done, there is no more hesitation; you sink luxuriously into the warm, fuming mass. Mortal body was never received into a more deliciously soft embrace than that of this semi-fluid peat. Its viscous resistance to my movements, its weight and warmth, the clinging titillation of the unresolved lumps of mould, its faint and fragrant earthy odor, all combined to make a strange experience, even for one who has tried many baths in many places. It was no less delightful than strange. Whether for the invalid or the well man, the peat mud-baths at 31° Réaumur are one of the most luxurious enjoyments. I took them as a pleasurable incident of a visit made for the purposes

of specific study; but if I should ever contract to furnish an earthly or a Mohammedan paradise, I should fit up an entire basement-story of the paradise with mud-baths." I purposely avoid all discussion about the way in which these baths accomplish the ends claimed for them by clinicians, because but very little is known *absolutely* upon the subject. Dr. Page, in his article in the *New York Medical Record*, enters somewhat elaborately into the matter, but arrives at no precise conclusion. In some diseases of women, the moor-baths *do* reach results beyond the grasp of any other treatment. They do this, in my very modest opinion, by pressure, by heat, and by irritation.

VIII. THE CITY OF CARLSBAD.

Carlsbad is —

11 hours from Berlin.	8 hours from Leipzig.
21 hours from Bremen.	30 hours from Lemberg.
16 hours from Breslau.	14 hours from Magdeburg.
20 hours from Budapest.	8 hours from München.
74 hours from Dresden.	30 hours from Paris.
13 hours from Frankfort on M.	173 hours from Stettin.
14 hours from Frankfort on O.	13 hours from Stuttgart.
21 hours from Hamburg.	183 hours from Strassburg.
17 hours from Hannover.	30 hours from Warschau.
19 hours from Cassel.	13 hours from Vienna.
20 hours from Köln.	30 hours from Triest.
24 hours from Königsberg in Pr.	

It has 12,000 inhabitants with an average of over 28,000 visitors during the season. The average temperature for the year is 7.39° C., average barometric pressure 728 millimetre. The mean temperatures are summer, 66.5° F.; spring and autumn, each 47°; winter 33.5°; The town itself has an elevation of 1,214 feet above the Adriatic Sea; in latitude, 50° north, longitude 13° east (from Greenwich). Like almost all Austrian villages, Carlsbad is *gemüthlich*, and one does not seem to weary of the dolce far niente life. It nestles very prettily in the lap of many hills, whose beautiful foliage is brilliant in every shade of green, while the little river Tepl rolls along at the base of the woods, dividing the town into two parts. Under the generous management of the Mayor and his assistants the streets are kept in most perfect order, and I know of no summer resort anywhere where the walks are so trim and tidy, and where so much is done to secure the comfort of visitors. The shops are brilliant and attractive, not only with the laces, the gloves, the beautiful glass, and fascinating porcelain for which Carlsbad is celebrated, but various quarters of the world contribute specimens of their industries, so that we can buy here, as well as in any large mercantile city. For the moderate pedestrian Carlsbad offers inducements. There are many walks of from four to fifteen miles which are unsurpassed in natural beauties, and there are short ones of equal beauty for invalids. There is music, and good music at that, somewhere, three or four times a day, military music three times a week, and a symphony concert that would not disgrace a Thomas orchestra once a week. Hungarian music, gypsy music, and a theatre, which is a perfect gem, one of the very prettiest in the whole of Europe, "was willst du noch mehr."

IX. COST.

There are in Carlsbad about nine hundred or one thousand houses all of which are pensions, or houses in which rooms are rented. Indeed, one wonders where the actual all the year round inhabitants of Carlsbad live, as there seem to be no private houses. If no previous arrangements have been made, it is

better upon arrival in Carlsbad, to take the omnibus (forty vereuzers) which will take the visitor and his luggage directly to the omnibus office in the immediate centre of the town. Then leaving luggage here, one can leisurely saunter about and suit himself as to quarters. My own individual preference is for the Schlossberg, because by reason of its elevation, the air must be always pure and sweet. The approach is only a slight ascent, and it is very convenient to most of the springs. At the summit is Pension Königs Ulla, beautifully situated, and the Mecca of English people. Then come the Westminster, Victoria, Kaiser Haus, Herzog v. Edinburg, Englisches Haus, all of which are first-class. This section of the town is much frequented by Americans and Englishmen. During the season, rooms (bedroom and sittingroom), range in price from twenty-five to thirty-five guildens per week, according to situation. Single rooms from fifteen guildens per week. The Park Strasse and Garenzeile are full of inviting houses, many of which are deservedly popular, and the situation is excellent. Those who prefer to live in the town itself will find all along the Alte and Neue Wiese rooms to rent, and the rooms in Carlsbad are beautifully neat and most of them extremely attractive. Of hotels there are Anger's, Donau, Erzherzog Carl, Drei Fasanen, Stadt Hannover, Loib, Morgenstern, National, Pupp's Etablissement, Goldener, Schild, etc. The Hannover is on the Schlossberg, nearly opposite the Schlossbrunn. Pupp's is a very elegant affair (always full), at the end of the Alte Wiese, Anger's is on the Neue Wiese next to the Opera House. The National is on the Garenzeile Strasse, and has the appearance of being very homelike and comfortable. The price at most of these hotels is about the same, and is not higher than at equally good inns at other summer resorts. The Goldener Schild is very popular and has this year been enlarged and beautified. On the Garenzeile the following houses are first-rate, with fine views. Mirabel, Beethoven, Humboldt, Concordia, Union, Villa Herschl, and Guttenberg. On the Park strasse Villa Schnee, Kaiser Josef, Rubens, Schubert, Villa Schwalb, Goethe, Uhland, Lessing, Venedig, and Kaiser Franz. The Milton and Shakespeare are beautifully situated on high ground, with unobstructed views, and to those who enjoy a walk of ten or fifteen minutes, these houses offer great advantages. On the Alte Wiese, Drei Schwalben, Königin v. England, Grünes Schiff, Goldener Anker, Erz. v. Cestewich, Pelikan, Blauer Hecht, Weisse Taube, Goldener Fasan, Elefant, Zwei Storck, Mozart, Meufräulein, etc. The rocks in and about Carlsbad bear the written testimony of gratitude of many patients; I wish to add my voice to that of the many, and as Goethe said:

Was ich dort gelebt, genossen,
Was mir all' dorthier entsprossen
Welche Freude, welche Kenntniss
Wär' ein allzulang Geständniss!
Mögg' es Jeden so erfreuen,
Die Erfahrenen, die neuen!

— A correspondent writes to the *Pacific Medical and Surgical Journal* of a patient with "incarcerated" inguinal hernia, who, taxis having failed, was taken to an hospital for operation, riding nine or ten miles on a spring mattress on a spring wagon. The jolting which he had received on the passage had reduced the hernia when he reached the hospital.

NOTES OF PROGRESS IN PHYSIOLOGY.¹

BY JOSEPH W. WARREN, M.D.,
Instructor in Physiology in the Harvard Medical School.

RECENT OBSERVATIONS ON THE HEART.

THE profession has long been familiar with experiments on the isolated heart of the frog, and such work has led to very important results. I infer from the slowness with which the information manifests itself in medical literature that many do not yet know that a very ingenious method has been worked out for doing similar work with the mammalian heart. We owe this addition to our experimental resources to Prof. Martin² of Johns Hopkins University, although he modestly shares it with various pupils, and calls it the "Baltimore method." The excised frog's heart beats vigorously for a considerable time with very little attention, and adapts itself quite easily to a change of diet, so that it has been comparatively simple to keep it going long after the body to which it belonged has begun to break up in postmortal putrefaction. The mammalian heart, on the other hand, had usually been considered a particularly intractable organ. When removed from the body it would beat after a fashion for a few minutes and then die. No convenient plan had been devised for continuing its activity so as to permit much study of its behavior apart from the complex nervous and metabolic relations which belonged to it while in the living body. Martin came to the conclusion that the method of nourishment was the main cause of the difficulty in manipulating the mammalian heart. The frog's heart has thin walls and takes what it requires from the fluid in which it is bathed; the mammalian heart, on the other hand, is fed through the coronary arteries and derives little or no direct benefit from the fluid in the cavities or about the outside. The problem thus appeared to be to keep up a circulation through the heart and also through its own vessels after excluding the rest of the animal. His method, then, without going too much into details, consisted in shutting off the blood-supply to the rest of the body and sending defibrinated blood through the heart and lungs. This can be done by ligaturing the aorta beyond the arch (using its earlier branches in the thorax for outflow and pressure tubes) and by ligaturing the vena cava inferior and using the vena cava superior for the blood flowing in from a reservoir. The lungs are retained as the most convenient means of aerating the blood, and they are inflated by a respiration apparatus. It would doubtless be practicable to remove these too, and to arterialize the blood by some other method; Martin proposed to use this modification, should it become desirable, but, so far as I have noticed, this plan has not been carried out. Starting then with a narcotized and artificially respiring animal, the influence of the central nervous system must be rapidly destroyed when the bloodvessels going to the head are tied. If now the *venæ cavæ* and the aorta are also tied at suitable points, and a flow of defibrinated blood is set up into the right auricle we have the most favorable conditions for continuing the life of the heart while all the rest of the animal dies. It has proved that under such conditions the heart (dog or cat) will continue to beat for some hours. The organs required (heart and lungs) are retained in the opened thorax simply be-

¹ Concluded from page 131.

² Martin. A new method of studying the mammalian heart. Studies from the Biological Laboratory of the Johns Hopkins University, Vol. II, p. 119.

cause this is the very best box which can possibly be devised for the purpose, and the body and the blood food are placed in a large glass case where a suitable temperature can be maintained. Such is a brief outline of the method.

For experiments of this character dogs were found to be most suitable. As a nutrient liquid, the blood of these animals would be best, but Martin found that he got very good results with such blood when diluted with an equal volume of a five-tenths per cent. solution of sodium chloride in distilled water (or with one-third its bulk of a seven-tenths per cent. solution) or even with defibrinated strained calf's blood. Calf's blood proved, however, to be less satisfactory than dog's blood on account of its more readily causing pulmonary oedema and a considerable effusion in the pericardiac sac.

The advantages of this way of working are quite evident. We have to do with the heart itself, for all the numerous extrinsic influences coming from the central nervous system with its complex reflex stimulations as well as the influence of the products of the metabolic changes going on in other organs are excluded. It is exceedingly improbable that the lungs under such conditions can have any direct influence on the action of the heart, and should their presence appear to be in any way detrimental, it will probably be easy to exclude them also.

By means of this method several interesting points have been cleared up. Martin himself examined the influence of blood-pressure on the rate of the heart beat.⁶ Previous observers had obtained discordant results even when the extrinsic nerves of the heart had been divided in the living animal. As Martin points out, this might be due to a variety of causes besides the mere raising of the pressure brought about by clamping arteries. It would probably alter the blood flow very materially, and change the pressure of the venous blood entering the heart; and the proceeding would doubtless also affect the temperature of the blood and more or less vary the quality of it chemically. With the isolated heart, on the other hand, it is possible to keep the conditions of temperature and venous pressure comparatively constant during considerable variations of arterial pressure. The quality of the blood flowing only through the heart and lungs will not probably be easily or rapidly changed, and it is always a simple matter to substitute fresh blood whenever necessary.

It was found that so long as the inflow into the right auricle took place at a pressure not greater than that due to a column of blood ten centimetres in height, most considerable changes in the arterial pressure produced by clamping the outflow tubes and measured in the carotid artery, caused no marked change in the rate of the heart beat. This was found to be true for arterial pressures varying from 25 to 160 mm. of mercury for the hearts of small dogs. When, however, the arterial pressure was lowered to less than 20 mm. of mercury an indirect effect seemed to be produced. The heart beats were unaltered in frequency for a minute or two, but then became sometimes slower, probably from a deficient nutrition on account of the low pressure in the coronary arteries. Later experiments made by Howell and Ely showed that for some dogs the danger line lies rather higher, and that when the arterial pres-

sure is lowered to 30 mm. of mercury, the influence of mal-nutrition becomes apparent.

It was also found that the pressure at which venous blood enters the right auricle might be considerable, (due to a column of blood 40 centimetres in height, or even as high as 70 centimetres, according to later experiments) and yet no change in the rate of the heart occur unless combined with an exceedingly high arterial tension. Such a combination is obviously pathological, and probably never occurs normally. The investigation of this point has not, I believe, been fully carried out.

The observers just mentioned⁷ carefully examined the influence of arterial pressure on the duration of the systole and diastole, since it is conceivable that although the heart's rate of beating does not vary there may be an alteration in the parts of which a single beat is composed. It was found, however, that changes in arterial pressure between 50 and 160 mm., of mercury had no direct influence whatever upon the duration of the systole or the diastole of the heart-beat in the dog.

In order to test the applicability of the method of pharmacological investigations, experiments were made with blood, to which a small quantity of pure alcohol had been added.⁸ The general statement of their result is this:

"When defibrinated blood containing one-half of one per cent. by volume of ethyl alcohol is supplied to an isolated dog's heart which has been hitherto working with uniformity, the invariable result is a very rapid and marked diminution in the work done (indicated by the quantity of the blood pumped out from the left ventricle) by the heart in a given time. When the blood contains only one-fourth of one per cent. of alcohol, the result is, in most cases, the same, but sometimes is little or none. After the action of the alcohol has been fully manifested, the heart can, in many cases, be restored to its original working state if supplied with defibrinated blood containing no alcohol. Blood containing but one-eighth of one per cent. of alcohol exerts no influence upon the work done by the heart, at least, for several minutes."

It was observed that the change in the work was associated with a marked swelling of the heart in the pericardial sac, although a minute opening had been made to permit the free escape of the lymph, which is apt to collect in these experiments (probably on account of some hindrance to its flowing off). The explanation of this condition is to be sought in a change of the systolic contractions, or, in the words of the paper:

"The action of alcohol administered in the manner and doses above described is, without primarily altering the force of the heart-beat, to alter its character, so that the ventricular cavity is not obliterated at the end of systole (as in the normal heart-beat), and less so the longer the alcohol has been administered. At first, this incomplete systole is compensated for by a more extensive diastole, so that the difference between the capacity of the ventricle in complete diastole and that in complete systole remains the same as when the organ was normally beating. Consequently, the quantity of blood pumped out at each beat remains as great as before. If the heart be confined in the pericardium, it soon, however, ceases to have room to swell during diastole to a size sufficient to compensate for its incomplete systole; and thenceforth, as the swelling increases, the difference between diastolic and systolic capacity becomes less and less. As the necessary result, the quantity of blood pumped round by the organ is proportionally diminished. Removal of the pericardium prevents this result, at least, for a considerable time."

To what extent the increase would continue after

⁷ W. H. Howell and J. S. Ely. On the effect of variations of arterial pressure on the duration of the systole and the diastole of the heart-beat. *Studies, etc.* Volume ii, p. 453.

⁸ H. N. Martin and L. T. Stevens. The action of ethyl alcohol upon the dog's heart. *Studies, etc.* II. 477. The results of this investigation have been also made public in other forms. See *Medical News* for May 5, 1883, and especially the *Maryland Medical Journal* for September of the same year.

⁶ H. N. Martin. Observations on the direct influence of variations of arterial pressure upon the rate of beat of the mammalian heart. *Studies, vol. ii, p. 231.*

the removal of the pericardium, was not determined in these experiments. It is probable that the effect above detailed is due to a direct action on the muscles of the heart, as has been shown for the action of various alcohols on the heart of the frog. This investigation also suggests that alcohol may do harm in cases where there is a pericardial effusion, and the room for the heart's expansion is limited. On the other hand, it should be remembered, as I have elsewhere pointed out, that Martin, in another account of these experiments, has stated that the amount of alcohol which produces the results above given completely fails to do anything of the kind when introduced into the body by the stomach. Even when introduced by the vein, the effect is inconsiderable or transient. It is evident, then, that the alcohol is absorbed too slowly, and more or less completely transformed elsewhere in other organs or that some other nervous action is produced, which corrects the bad effect on the heart-muscles. Were this not the case, the damage done by alcohol, as it manifests itself in the heart action, ought to be a thousand-fold greater and more frequent than it obviously is.

Among the most interesting experiments of this series, seem to me to be those of Martin, showing the influence of temperature upon the pulse-rate⁹ of the mammalian heart. These demonstrated quite conclusively that the isolated heart is exceedingly sensitive to variations in temperature of the blood circulating through it. The temperature was varied between 28° and 40.5° C. (82.4°–104.9° F.), the pulse-rate rising or falling with it, as is shown in two curves appended to the paper. (The exact rate of the pulse is of no interest here, for, of course, the removal of the extrinsic inhibitory nerves alters the rate, as compared with that of the heart beating in full continuity with the rest of the body. But it does not appear from any of these experiments that this change in the rate affected the nourishment of the heart.) The temperature considered was the temperature of the blood as it came from the left ventricle; that is, the temperature of the blood which was sent into the coronary artery, and thus into the capillaries of the heart. This had been found to be of more importance than the temperature of the blood supplied to the right auricle, and which, of course, will undergo considerable cooling in the lungs before reaching the left heart and then the muscular tissue itself.

"It is not the temperature of the blood in its cavities which influences the rate of beat of the dog's heart, but the temperature of the blood sent to its capillaries. In other words, temperature changes do not influence the pulse-rate by stimulating the afferent nerves in the endocardium, which then act upon cardio-motor ganglia, but they act directly upon the muscle-fibres or nerve-cells of the organ."

When, then, the pulse becomes more rapid in fever, it is not necessary to assume any paralysis of a cardio-inhibitory nervous centre outside the heart, nor the effect of the products of an altered metabolism upon the heart itself, as an explanation. It may, however, be that such influences are also at work besides the changes of the temperature of the blood itself.

In another paper, the "Baltimore method" has been employed to study the work done by the heart.¹⁰

⁹ H. N. Martin. The direct influence of gradual variations of temperature upon the rate of beat of dog's heart. *Philos. Trans. Roy. Soc.*, Part II, 1883, p. 663.

¹⁰ W. H. Howell and F. Donaldson, Jr. Experiments upon the heart of the dog, with reference to the maximum volume of blood sent out by the left ventricle in a single beat, and the influence of variations in venous pressure, arterial pressure, and pulse-rate upon the work done by the heart. *Philos. Trans. of the Roy. Soc.*, Part I, 1884, 139.

The "work" is, of course, the quantity of blood pumped out, multiplied by the height to which it is raised; that is, the pressure against which the heart forces the blood. This may be conveniently calculated in gramme-meters. Measured in this way, it was found that "variations of arterial pressure from 58 to 147 millimeters of mercury have, practically, no effect whatever on the quantity of blood sent out from the ventricle at each systole," so that, one factor in the calculation being constant, it follows that "the work done by the left ventricle of the dog's heart varies directly as the arterial pressure against which it works within the limits named above."

The results obtained by varying the venous pressure make it evident that "the work done by the left ventricle at each systole increases with the venous pressure, but not proportionally, up to the point of maximum work." As Howell and Donaldson point out, the pressure in the right auricle in these experiments was much greater than the maximum pressure which other observers have met with there normally. This places "the right heart under conditions different from those which exist during life." When, however, the pressure in the left auricle was measured, it was found that the left side of the heart was working under conditions of pressure which could not be considered abnormal. After all, if we leave out of account the aspiratory action of the thorax, "it is certain that the most direct factor in influencing the quantity of blood sent out from the ventricle, and hence, the work done by the ventricle, is the intra-ventricular pressure, by which the ventricle is distended during diastole;" hence the authors consider that they were able "to confirm for the mammalian heart the statement made by Roy, for the frog's heart, namely: 'The work of the heart of the living animal is governed chiefly by the auricles, the ventricle influencing the amount of work done only indirectly.'"

Making use of the influence of the temperature to regulate the rate of beat, it was possible to study the relation of the latter to the work. In this way, the general fact was brought out that "a diminution of pulse-rate, brought about by lowering the temperature of the blood flowing into the heart, causes an increase in the quantity of blood thrown out from the ventricle at each systole, and consequently, an increase in the work done at each systole, and *vice versa*." The changes of the outflow are not inversely proportional to the change of pulse-rate, and it is uncertain whether any more definite relation exists.

Another important point which Howell and Donaldson endeavored to examine is the amount of blood thrown out by the heart at each beat. Earlier observers had been obliged to use methods against which many objections may be urged. Some had studied the relation existing between the velocity of the blood-flow and the size of the vessels. In this way Volkmann and also Vierordt had calculated that each systole sends out from the left ventricle a quantity of blood equal to about $\frac{1}{400}$ of the body weight. In view of the chances of error the agreement in the results of these two observers may be considered almost accidental.

Fick, using perhaps, an equally untrustworthy method, but nevertheless applicable to man, had calculated the proportion as $\frac{1}{1000}$. In the experiments we are considering, it was found that "the mean ratio of the maximum weight of blood thrown out from the

left ventricle at a single systole to the whole body weight is 0.00117 or $\frac{1}{855}$ for a mean pulse-rate of 180 per minute." As the check of the vagus is removed in such hearts the rate is greater than normally. In the only experiment where the rate was nearly normal (120) the ratio of the blood sent out to the body weight, was about $\frac{1}{700}$. It is, of course, an open question how far this is applicable to man. The human heart has a slower heart-beat, and the experiments on the dog with varying the rate, showed an increased outflow for a lower rate.

It may be, however, that varying the temperature of the blood in some way affects the elasticity of the heart, and that the outflow thus obtained is not normal. On the other hand, it would be expected that the ventricle with each diastole would be distended to about its maximum capacity, and variations in the rate ought to have little effect on the amount sent out at each systole. Therefore, the authors conclude, we may not at present draw any very definite conclusions concerning the human heart with reference to the amount of blood sent out at each beat.

It is worth noting that in Martin's article on the effect of alcohol on the isolated heart, an experiment with a teetotaler is reported whose pulse was unaffected by 15 cm. of absolute alcohol in 50 cm. of water. Unfortunately only one experiment appears to have been tried.

Another method for heart work has been proposed by Dr. W. G. Thompson,¹¹ and has attracted some attention in the metropolis.

It consists in the employment of an ingenious arrangement for obtaining a successive series of instantaneous photographs whose study it is expected will yield valuable results. The apparatus appears, from the descriptions, to resemble one which Marey had already suggested. Although evidently useful for the demonstration of certain relations observable in the movement of the heart, neither the descriptions nor the pictures which I have seen, convince me that such methods are likely to be very profitable.

A new study of the cause of the first sound of the heart, or at least a fresh demonstration of the muscular element of it, has been recently made by Yeo and Barrett.¹² These investigators convinced themselves that when the blood-supply to the heart is shut off by compression of the veins, the first sound continues so long as the heart continues to beat. The method is considered by them an improvement on that of Ludwig and Dogiel (1868) where all the vessels are tied in succession and some blood may possibly be retained. The first sound also remained audible, and the same in quality, when the heart was removed from the body; and "a sound like the characteristic heart-tone" was still distinctly audible when the auricles and the auriculo-ventricular openings (valves) had been cut away, and only the apex of the heart remained beating on the finger-tip. In the words of the authors "a definite and characteristic tone similar in quality to the first sound, is produced by the heart-muscle under circumstances that render it impossible for any tension of the valves to contribute to its production."

Thus the view of C. J. B. Williams, advanced over fifty years ago, receives a new confirmation, and the experiments of Ludwig and Dogiel are again supplemented, for almost precisely the same demonstration of the existence of the first sound, unchanged in quality, when the valves and chordae tendineae have been removed, was made by Arnold and Loomis in 1878.¹³

Tarchanoff¹⁴ in a very interesting paper, has reported what seem to be genuine cases of willed acceleration of the heart-beat, although his article has attracted but little attention. Most of the cases of this character hitherto detailed, had not been altogether free from the suspicion that some other influence than mere will power was in play.

While examining the effect of beef extracts on the heart, Lehmann had his attention directed to the fact that the pulse-rate is often easily influenced by circumstances which have not ordinarily been supposed to be of much importance. In the study of this subject which he then made with Bleuler¹⁵ the following general conclusions were reached, but obviously an independent confirmation of them is very desirable:—

(1) Drinking moderate amounts of hot water makes the pulse more rapid; while considerable quantities of cold water slow it. The increase is 3 to 8 beats while the decrease may be as much as 10. (Mantegazza has made a somewhat similar observation [Schmidt's Jahrbucher civ, 346,] and Winternitz in his Hydrotherapie evidently has this influence of cold water in mind.)

(2) Careful covering with heavy bed-clothes increases the pulse-rate along with the sensation of warmth; exposure of the naked body to a lower air-temperature lessens the rate markedly.

(3) Lehmann's pulse-rate was lowered by light reading lacking all excitement, but that of Bleuler was not perceptibly influenced.

(4) Every feeling of burning, pressure, or nausea, associated with the stomach makes the pulse more frequent; the same is true of feelings of fulness in the intestines, and especially in the rectum.

(5) Salts (Na_2SO_4 ; NaCl ; MgSO_4), which have no specific action on the heart, influence the pulse reflexly according to the amount of the unpleasant sensations produced in the stomach and intestines. Here the influence of the rectum and of nausea is most marked. The effect of a meal as such, that is, cold food in moderate amounts, appeared to be negative, provided no special sensations in the intestinal tract were produced.

The older experiments of Kemmerich and of Bunge on the influence of beef-tea and extracts on the heart were at variance. The view of the former, that the action of these substances was like that of potassium salts, and, in fact, due to their presence, needed confirmation. Lehmann¹⁶ has called attention to the fact that Kemmerich's experiments on himself show a rather more sensitive intestinal tract than is evident

¹³ See J. W. S. Arnold. An experimental inquiry into the muscular element of the first sound of the heart. N. Y. Med. Journ., 1878, xxvii, 337.

¹⁴ Tarchanoff. Ueber die willkürliche Acceleration der Herzschläge beim Menschen. Pflüger's Archiv f. d. ges. Physiol. xxxv, 109, 198.

¹⁵ Bleuler u. Lehmann. Ueber einige wenig beachtete wichtige Einflüsse auf die Pulszahl des gesunden Menschen. Arch. f. Hygiene, III, 215.

¹⁶ K. B. Lehmann. Ueber die Wirkung des Liebig'schen Fleisch-extracts mit besonderer Berücksichtigung seiner sogenannten Giftigkeit. Arch. für Hygiene, III, 249.

¹¹ W. G. Thompson. Instantaneous photographs of the heart in motion and of peristalsis. New York Med. Rec. 1886, xxix, 300.

¹² A new apparatus for the study of cardiac drugs. Ibid. 1886, xxx, 261, 553.

¹³ G. F. Yeo and J. W. Barrett. Note on the cause of the first sound of the heart. Journal of Physiology. vi, 145.

in Bunge's investigations. Suspecting that these differences would explain some of the discrepancies of their results (as a reflex action on the pulse), he set to work to investigate this point. He found that:

(1) Ordinary *bouillon* [250 ccm. warm water, 2.5–5.0 extractum carnis, 4.0 Na Cl (or without)] had only the same effect as an equal amount of warm, dilute, salt solution, or warm milk, or even warm water.

(2) In a considerable series of experiments with larger doses (10, 30, 60 gm.) in lukewarm or cool water, the action on the pulse-rate was very slight, except as due to irritation of the intestinal tract, more especially of the stomach or of the rectum. When nausea or diarrhœa is produced, the reflex increase of the heart's action is evident. It passes away, however, with these other effects; for example, when the rectum is emptied. The action comes on more rapidly than it could if the *absorption* of the potassium salts were the important element, and does not last or increase, as it should if due to some special influence of these salts.

(3) Experiments with KCl [6.0–10.0] in warm or cold water verified this view, as well as the conclusions which Bleuler and Lehmann had drawn from the examination of other salts to which no particular effect on the heart is attributed.

(4) Long-continued doses of the meat extract or potassium salts given to white rats, as well as large doses given for many days to feeble or insufficiently-nourished, or fasting animals (rats and cats), also failed to demonstrate any deleterious action on health or weight. The amounts were varied up to one per cent. of the body-weight, and continued for thirty days. Lehmann also quotes an experience with two feeble children, who could take no milk, and, therefore, received large amounts of beef-tea (with or without eggs) for a long period, with great advantage.

The cutting up of the meat has an important influence on the character of the extract obtained. Thus Lehmann found that while solid beef gives up 69 per cent. of the entire ash, and 80 per cent. of the potassium salts, when heated with distilled water (80°–90° C.) for three hours, the same beef, cut up into dice, yields up 79 per cent. of its ash, and 98 per cent. of the potassium salts. The method of the Liebig extraction only takes out 60 and 66 per cent. of these, respectively, and this is due to the fact that the meat is boiled too short a time, or possibly, in too little water.

The usefulness of beef-tea (soups, etc.) lies then, according to Lehmann, (1) in their action as a substitute for a meal (with, perhaps, cerebral and muscular stimulation); (2) in stimulating digestion at the beginning of a large meal; (3) in making food more pleasant, acting as a spice.

ON THE TYPE OF RESPIRATION.

With a view to clearing up the vexed question concerning the costal type of respiration in women, Mays¹⁷ has recently examined some Indian girls in the Lincoln Institution. Their ages ranged from ten to twenty years. He found that the full-blooded girls all had the abdominal type, while those of mixed blood showed the costal type with more or less distinctness. The variation in the type, then, is not due to sexual differences, as expressed in woman's monop-

oly of child-bearing, but would seem to be the outcome of the method of dressing adopted by the sex in civilized life. Mays thinks that the Indian's danger in the inevitable combat with consumption, which his contact with civilization has brought him, will lie in the incomplete thoracic expansion which abdominal breathing encourages. He also suggests that the restrictions practised by civilized white women may be of benefit to them by expanding their chests, and thus filling the apices of the lungs more completely. The thoughtful reader will see in this an inferential commendation of corsets and snug dressing, if not of tight-lacing. It will thus be possible for the energetic physician, when the triumphs of rectal insufflation shall have grown less brilliant, to introduce a new method of attacking, or, at least, of preventing consumption — a method which is sure to enhance his popularity with a large portion of the community.

Clinical Memorandum.

A CASE OF RÖTHELN OCCURRING DURING THE PUERPERIUM.

BY J. ALBAN KITE, M.D., NANTUCKET, MASS.

DECEMBER 25, 1886, 11 P.M., saw Mrs. B., a primipara, age seventeen, in the first stage of labor. Found os slightly dilated, pains transient. Gave one-eighth grain of sulphate of morphia subcutaneously. Delivered her December 26th, 11.15 P.M., of a male child, eight pounds; instrumental delivery. Forceps on head in first position after the occiput had passed the superior strait, as there was marked uterine inertia. Within one-half hour the placenta was expressed without force and found to be intact.

December 27th. Temperature 99° F., pulse normal. Lochia and urine satisfactory.

December 28th, 10 A.M. Temperature 100° F., pulse 90, compressible. Saw the patient at 4 P.M. Temperature 105.5° F., pulse 140; delirium; slight tenesmus over abdomen; suppression of lochia. 11.30 P.M., antipyrin had reduced temperature to 103.2° F. The pulse was 120. Vaginal injections of HgCl₂, 1–5000, at 115° F., had been used every two hours, also flax-seed poultices over abdomen. A rectal enema had effected a copious movement of bowels.

It is unnecessary to state my fears or record my intentions. I at last decided to wait before resorting to direct uterine applications or examination.

December 28th, 8 A.M. Temperature 101° F., pulse 96. Lochia still suppressed. An examination revealed the entire body curved with an eruption of rōtheln, including face and even scalp.

The lochia made their appearance on December 30th, the tenismus remained until January 4, 1887. On January 2d, the temperature rose to 102.08° F., and then gradually fell until the normal was reached January 5th. The eruption had entirely disappeared by January 17th, and was followed by desquamation.

Mrs. B., had not left the house for three weeks prior to her accouchement, nor had there been a case of rōtheln, to my knowledge, on the island for two weeks.

Aseptic precautions during and after delivery had been complied with.

¹⁷ Mays. An experimental inquiry into the chest-movements of the Indian female. Therapeutic Gazette, May, 1887.

Reports of Societies.**AMERICAN OPHTHALMOLOGICAL SOCIETY.¹****TWENTY-THIRD ANNUAL MEETING.****THE EYE OF THE ADULT IMBECILE,**

By CHARLES A. OLIVER, M.D., of Philadelphia.

Twenty young adult male imbeciles were examined, care being taken to exclude all but the proper class of subjects. Nineteen observations were obtained, from which were drawn the following conclusions:

First, The eye of the male imbecile adult is an organ which is capable of proper functional activity.

Second, By reason of early mental incapacity, the ordinary appearance seen in the used eyes of the mentally healthy are lessened in due proportion to the amount of work given to the organ.

Third, The eye of the imbecile, being practically an unused organ for close and careful near work, the distension of the globe and the elongation in its visual axis with consequent increase in index of refraction is almost entirely avoided, this being in direct ratio to use.

Fourth, The want of these physical changes may be considered as significant of a type of unused healthy adult human eyes.

Fifth, The healthy eye of the imbecile serves to teach us that the various conditions seen in the used eye of the mentally healthy must be considered as pathological changes, the representatives not only of general want of tone, but of constant and frequent abuse of a delicate organ.

Dr. Charles A. Oliver also exhibited water-color sketches of a case of double chorio retinitis with partial degeneration of the optic nerve, associated with curious lymph extravasation into the retina and vitreous, in a boy twelve years of age, who had had an attack of basilar meningitis five years previously, at which time, eyesight became bad. No hereditary dyscrasia could be discovered. Vision was greatly reduced, and patellar tendon-reflex was almost abolished.

ADDITIONAL CASES OF HYPERMETROPHIC REFRACTION, PASSING WHILE UNDER OBSERVATION INTO MYOPIA,

by S. D. RIPLEY, M.D., of Philadelphia.

Thirteen carefully-studied cases in which the eye with hypermetropic refraction had been observed to pass into myopia, had been recorded in the annals of the Society. To-day, the author brought forward nine additional cases, making a total of twenty-two. In all these cases, the state of the refraction had been repeatedly demonstrated under complete paralysis of the accommodation. In every case, there was well-marked retino-choroidal irritation, with asthenopia. Insufficiency of the internal rectus was noted in three cases, in all of which tenotomy of the external rectus was performed. In no case was emmetropic refraction observed at any stage of the progress. The condition seemed to pass from the shallow hypermetropic ball to the lengthened myopic eye by the turn-stile of astigmatism. A detailed record of the nine cases was given.

The most important measure in the treatment of these cases was considered to be the use of correcting glasses. When we consider the large number of cases

which, at the first, present the same conditions as the cases reported, and which have subsequently had no return of the trouble, we cannot but think that the group of cases now presented are only those in which the treatment has failed, and that, without their correcting glasses, a much larger number would have pursued the same history. A study of these cases has demonstrated to the author the importance of astigmatism, when present in very low degree, as a factor in setting up those changes in the nutrition of the eyeball which result in impaired resistance to even normal intra-ocular tension.

THE PATHOGENESIS OF PTERYGIUM,

by SAMUEL THEOBALD, M.D., of Baltimore.

The generally accepted theory of Arlt that pterygium has its origin in a marginal corneal ulcer, to which a tag of conjunctiva has become attached, he thought was untenable, because, if this were its usual mode of origin, pterygium would be found approaching the cornea from every possible direction, since marginal corneal ulcers are not apparently more frequent in one position than in another. It is known, however, that such is not the case, but that pterygium is almost always situated directly over the recti muscles, and that, in a very large proportion of cases, it is over the rectus internus. The more recently proposed theory of Poncet, that pterygium is due to the presence of microbia, which tunnel their way under the corneal epithelium, is open to the same objection, for this, also, assumes the existence of a precedent corneal ulcer. The view long held, that conditions which tend to induce chronic hyperæmia of the conjunctiva favor the formation of pterygium, he thought was well established.

Assuming that this view is correct, are there reasons why a localized hyperæmia of the conjunctiva should be of frequent occurrence where pterygium usually forms, to the nasal side of the cornea? This is answered affirmatively. The close connection between the vessels of the recti muscles and those of the anterior portion of the conjunctiva were referred to, and it was pointed out that the determination of blood to these muscles might influence the blood-supply of the overlying conjunctiva, and that this would be the case especially with the recti interni, since they were the largest of the straight muscles, and in close relationship with the conjunctiva, because attached to the sclerotic nearer to the corneal border than any of the others. Abnormality in the distribution of the blood-supply of the internal recti muscles and of the overlying conjunctiva, and more frequently still, disturbance in the normal relationship between convergence and accommodation, such as insufficiency of the internal recti muscles, the different varieties of ametropia, were regarded as the usual causes of pterygium through the localized hyperæmia of the conjunctiva, to which they give rise.

RECURRENT RETINAL HEMORRHAGES FOLLOWED BY THE OUTGROWTH OF NUMEROUS SMALL BLOOD-VESSELS FROM THE OPTIC DISC,

by SAMUEL THEOBALD, M.D., of Baltimore.

The case reported was that of a lady, fifty-two years of age, in whom menstruation had recently ceased. During a period of nine months, she had suffered with recurrent hæmorrhages into the retina and the posterior part of the vitreous humor of one eye.

¹ Continued from page 139.

The macula escaped serious involvement, and central vision was but little affected. The hæmorrhages were supposed to be due to thrombosis of one of the larger retinal veins. Finally, a nebulous outgrowth from the optic disc, extending forward into the vitreous humor for some distance, made its appearance. This consisted of numerous small and nearly parallel blood-vessels running from behind forwards, and held together by semi-opaque tissue, the outline of which could be easily distinguished from the surrounding vitreous. When last seen, this growth had diminished somewhat in size. The prognosis was regarded as favorable, the development of the vessels being looked upon as an effort of nature to repair the damage caused by the repeated hæmorrhages.

DISCUSSION.

DR. W. H. CARMALT, of New Haven. On February 17, 1877, a gentleman presented himself to me, complaining of sudden blindness in the left eye. I found it filled with blood, which prevented a thorough examination. A month later, examination showed nothing peculiar, except traces of coagula in the vitreous. August 3d of the same year, he began to complain of affection of the other eye. On this occasion, Dr. Noyes examined the eye, and found hæmorrhages into the vitreous of the right eye. The condition cleared up in that eye, and on June 3, 1878, the left eye was again affected. These attacks have continued to recur every few months.

DR. B. E. FRYER, of Kansas City. I would say, with reference to the cases of recurrent hæmorrhages, whether or not attention has been directed to scurvy as a cause. I have seen one case of recurrent retinal hæmorrhage, which I thought was due largely to that cause.

DR. O. F. WADSWORTH, of Boston. I have seen several cases of recurrent hæmorrhage, partly retinal, but largely into the vitreous. In only one could I positively say that there was a development of vessels into the vitreous. The other cases have not been observed sufficiently long to show whether or not there has been a development of vessels. The case referred to was that of a man seen ten years ago, when he was thirty-five years of age. When I saw him, there was extensive hæmorrhage into the vitreous of one eye, rendering the fundus invisible. This cleared up to a certain extent, leaving portions of the retina clear. Then certain changes in vessels toward the periphery could be seen. The other eye showed a perfectly healthy fundus, except in certain places toward the equator, where there were several patches of perivasculitis. The hæmorrhages continued to recur in the affected eye. After a time, there could be detected in the vitreous a nearly transparent membrane, containing vessels, some of which could be traced back to the retinal vessels. Two or three years later, I again saw the patient. He had then been free from recurrences for a year or two. There were still some vessels in the vitreous, but not so many as previously.

DR. H. KNAPP, of New York. I wish to say a word with reference to treatment. The main point is not to fatigue the eyes, and to put them at rest early in the evening. A waitress in a New York family suffered from hæmorrhages every time the family gave an evening party. She was sent to the country, and the hæmorrhages cleared up. She returned and served

at an evening party, and again the eye filled with blood. She has now given up service, and for two or three months has had no trouble. The treatment consists in rest, and in avoidance of everything that would produce a dropsical condition of the blood.

EMBOLUS OF THE CENTRAL RETINAL ARTERY,

by G. C. HARLAN, M.D., of Philadelphia.

The patient was a clerk, fifty-two years of age, in good general health. While reading in perfect comfort, a shadow suddenly appeared before the left eye, and, on closing the other, he could just distinguish large objects about the room "through a brownish haze," and in a few minutes, sight was entirely gone.

An ophthalmoscopic examination, made the next morning, showed an extensive œdema of the retina, giving the whole fundus a grayish tinge; disc pale, and its margins blurred; arteries very pale, although not much narrowed, and some of the smaller branches lost in the retinal œdema; larger veins contracted in places, particularly in and near the disc, but generally of full calibre; phenomenon of visible, slow, continuous circulation of blood in bead-like sections, well marked in superior temporal artery and vein; macula occupied by bright-red patch, oval in form, with its long diameter horizontal, and several minute terminal vessels in its neighborhood enlarged and apparently isolated; two small dots of retinal hæmorrhage at outer margin of disc. The œdema increased decidedly for the first few days, and then gradually subsided. There was still a little remaining on the nineteenth day, after which the patient was not seen for three weeks, when the color of the fundus was normal. The visible circulation lasted only about a day and a half, disappearing first in the artery. The veins refilled at their narrowed portions, and retained nearly their full calibre, while the arteries became paler and narrower, until only the two main trunks could be seen, and these showed white lines along their margins from perivasculitis. The spot at the macula gradually disappeared. The disc regained the distinctness of its outlines, but remained dead-white. Colored plates were shown, illustrating the first and the final appearance of the fundus.

The pathology of the case was very obscure. The heart and kidneys were normal and there was no symptom of degeneration of the arteries. A caries of the middle turbinated bone on the same side, from long-standing nasal catarrh was not thought more likely to act as a cause than would be a similar local disease in any other part of the body. The only possible causes seemed to be that some product of the nasal disease might have found its way into the general circulation and lodged in the retinal artery; that an embolus might have been formed of a fragment washed from a parietal thrombus in some distant vessel; or that the obstruction might have resulted from disease in the retinal artery itself.

DR. DAVID COGGIN, of Salem, Mass., read a paper entitled:

CHRONIC GLAUCOMA,

describing a case, the object being to elicit discussion as to the best method of treatment.

DANGER TO IRON-WORKERS FROM THE USE OF OLD HAMMERS,

by DR. GEORGE C. HARLAN, of Philadelphia.

A hammer was shown from which a fragment had split off, injuring the eye of a workman. The constant concussion of the hammer causes it to assume a crystalline condition and become very brittle.

A CASE OF RETINITIS PIGMENTOSA TREATED ELECTRICALLY,

by MYLES STANDISH, M.D., Boston.

The patient was a woman, thirty-three years of age and was myopic 1.50 D.; she had worn glasses since she was seventeen years of age. When first seen April 14, 1886, her sight had been failing for three years and for the last three months had failed very rapidly, so that she could not go on the street alone after dark. Upon ophthalmoscopic examination characteristic patches of retinitis pigmentosa were found in the periphery of the fundus of each eye.

Her vision was right eye $\frac{1}{2}$; left eye $\frac{1}{3}$ and the fields of vision were limited to less than 20° in the vertical and horizontal axes.

The only treatment has been the use of the constant current, of such strength as could be easily borne. This has been applied once in five days during the last fifteen months. Her present vision is, right $\frac{12}{xxx}$; left eye $\frac{12}{xx}$, and the fields of vision have now vertical and horizontal axes of 70°. She now goes on the streets after dark with safety.

ASEPTIC CATARACT EXTRACTION WITH IRRIGATION,

by C. H. WILLIAMS, M.D., of Boston.

The author reported five cases of irrigation of the anterior chamber after cataract extraction with a 0.5 per cent. solution of chloride of sodium as recommended by Dr. McKeown. Instead of a syringe, a glass flask was used, bearing two glass tubes blown in the side. One of these was drawn out to a fine nozzle that could be easily inserted into the anterior chamber; the other had a rubber tube and mouth-piece attached, so that the pressure of the stream could be controlled by the operator. The flask had a capacity of 50 cc., more than enough to complete any irrigation without removing the tube from the eye. The irrigating instruments and the 2 per cent. solution of cocaine were sterilized in the steam sterilizer, and this was not found to injure the anæsthetic properties of the cocaine. The rest of the instruments and the dressings were sterilized by dry heat at a temperature of 150° cm. In order to determine the efficiency of the solution of the biniodide of mercury used for the preliminary washing out of the conjunctival sac, some experiments with plate cultures were made at the laboratory of the Harvard Medical School, through the kindness of Dr. Ernst. An equal amount of the biniodide of mercury and the iodide of potassium were dissolved in water and added to 10 per cent. nutrient gelatine, to give a series of strengths up to 1 to 5000 of the biniodide to the gelatine. Ten days after exposure to the air of the laboratory for six and one-half hours, no growth of bacteria were found on any of the plates, although on the unprotected plates exposed at the same time, there was an abundant development of colonies of bacteria. Gelatine of the strength of Panas' solution (1-20,000) was then tried, and these plates, after four days, showed an average of 1.5 and 0.8 colonies of bacteria to the square centimetre of surface in the two series of plates, while on the unprotected plates the average was 10.5. In two of the cases of extraction a suture was passed through the

piece of conjunctiva above, and this held the wound well in position. All of the extractions were done without iridectomy and a layer of iodoform was dusted on the edge of the closed lids, just before applying the bandage.

Dr. LUCIEN HOWE, of Boston. In regard to antiseptics, we know that different forms of bacteria have different degrees of susceptibility for different agents. When we speak of antiseptics we mean simply one remedy which has not a general effect upon fifty or a hundred forms. After we take these different forms and isolate them, our only method of experimentation is upon the lower animals, and there we have a great deal to guard against. We are not able to draw conclusions from the effects upon animals as to the effect upon man. Besides this, it is necessary to consider the part upon which the bacteria are placed.

(To be continued.)

AMERICAN NEUROLOGICAL ASSOCIATION.¹

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

Dr. LANDON CARTER GRAY read a paper on

CHOREA.

This, he remarked, had been considered as a self-limited disease of an average of ten weeks, but he considered it more serious than has been allowed; quoting 134 cases as reported on his books, 17 of which have had one relapse, four have had two, three have had two, one has had five.

In 23, the disease was distinctly chronic. The speaker then gave the statistics of the remainder; some suffering from hysteria, and some from convulsions, some also from a neurosis, two were fatal. The mortality in pregnant women he placed at 25 per cent. He considered it to be greatly increased by mental impression, ending in chronicity or cure.

One peculiar case was quoted in which red, painful spots appeared at the ankle as premonitory symptoms; the following day chorea symptoms were shown and the painful spot had disappeared. Against the wishes of the speaker she was removed to the country, and died on the twenty-third day. Other cases were quoted as coming under his observation, and he had habitually divided them into classes: namely, those with convulsions, others of contraction of the muscles of respiration, rapid pulse, cardiac and pulmonary lesions, etc. After a careful retrospection of these cases the writer had come to the conclusion that rest, rest in bed, was the best remedial agent; this should be guided by the symptoms of the disease. Eight years ago he had concluded that arsenical treatment was the best method to be pursued, but had since discovered his mistake, and that arsenic was but temporary in its effect. In chorea he also used large doses of dialyzed iron, 30 minims to two drachms well diluted; galvanism of the spinal cord also being of benefit. The speaker also drew attention to atmospheric influences in these cases as previously mentioned by Weir Mitchell.

Dr. STARR asked Dr. Gray as to the probability of adults becoming insane after developing chorea, as in some cases he had noticed a tendency to mental impairment.

¹ Continued from page 137.

DR. LLOYD remarked that he had noticed in a pregnant woman the tendency to this condition.

DR. DERCUM asked if he had had any experience with *cimicifuga*, also as to those cases of chorea accompanied with epilepsy.

DR. MILLS was in favor of rest, rest in bed, the child to be allowed to have her playmates come into the room and amuse her.

DR. HAMMOND thought there was a great division of opinion as to the application of arsenic, but in his own practice he used it almost exclusively, and in anæmic cases combined it with rest and tonic treatment.

DR. SINCLAIR thought that in these cases there was more or less mental impairment; he had used arsenic and pushed it to toxic effects. The speaker drew attention to heart lesions in these cases.

DR. EDES mentioned cases which had passed into insanity, but had afterward recovered.

DR. GRAY, in conclusion, considered chorea insanity of very rare occurrence; as to whether the chorea patient was more prone to insanity, that he could not say. He had not had much experience with *cimicifuga*.

AFTERNOON SESSION.

DR. DERCUM, of Philadelphia, Pa., read a paper on
TWO CASES OF HEMICHOREA ASSOCIATED WITH
BRIGHT'S DISEASE.

The speaker called attention to the fact that the movements first commenced in the arm, next involving the face, finally the whole body; this condition remained for two weeks, the motion so violent as to interfere with sleep, carbuncles also appearing on the back of his neck, death finally resulting.

At the post mortem the vessels were found to be thickened and somewhat pale.

The second case was that of a carpenter, sixty years of age, who had suffered from vertigo for several years; suddenly one day he lost the use of his right leg, which lasted for two weeks; he was perfectly conscious during the attack, and had no recurrence. He afterward fell a few feet down a scaffold but escaped without injury; unfavorable symptoms afterward followed, and albumen and casts were found in the urine.

The writer asked if there was an association of hemichorea with Bright's disease? In this case there was no history of hemiplegia, as also in the first case. If the chorea is associated with Bright's disease why should it be so limited? He quoted various experiments in the ligation of arteries which had been made for scientific purposes, and as producing convulsions in which there was no lesion of the brain, mentioning cases of *nræmic* convulsions quoted in medical journals, and considered it important to note that *uræmic* hemiplegia is not limited to old people.

DR. EDES thought that these symptoms were not alone confined to Bright's disease, but that the general system was involved, that there were cases of hemiplegia which come and go very rapidly. He thought, in Dr. Dercum's cases, there was some disturbance in the circulation, but not enough to be detected after death.

DR. MILLS was rather inclined to agree with Dr. Edes, and to think that the disease produces unilateral depression of the general nervous system; he had seen not a few cases in which hemiplegia was developed in

Bright's disease; he considered this to spring from a condition purely local, developed in the cerebrum from the *uræmic* poison; and at the post mortem, unless under the most careful examination of the brain, he would find nothing that he could call a gross lesion. In general terms you have an interference of circulation; why it should be right in one and left in another he did not know, and considered it purely accidental. He thought chorea might be produced in this way.

DR. DERCUM remarked that although he had made careful microscopical examinations, he had found nothing but general *œdema*, and in one case slight sclerosis of the vessels, but not more marked on one side than the other.

DR. E. C. SPITZKA, of New York, read a paper on

ACUTE OR GRAVE DELIRIUM.

The speaker considered that this condition might arise from various causes, commencing with insomnia, inability to collect the thoughts, and a feeling of impending misfortune. Some may feel hilarious, some have illusions of hearing or touch, others again are passive. Both the temperature and pulse increasing, the symptoms denoting extreme exhaustion; but just previous to death the patient may become sane. The reader entered into the pathological condition of the brain as described by other authors; his object being to prove that this condition was entirely due to disturbed brain circulation, produced by morbid changes in the brain and perverting the function of this organ.

DR. GRAY remarked that among his own cases coming under this head he had only had one fatal; one case had now been living three years, and was in an asylum, another case he knew lived for six months; one case had a history of syphilis. The fatal cases that he had seen had been so violent that they had to be restrained.

DR. MILLS stated that in three cases of so-called hysterical insanity two of them died and one recovered; he believed that two of them were cases of grave delirium.

DR. HENRY HUN, of Albany, N. Y., presented a paper on

GLIOMATOUS HYPERTROPHY OF THE PONS.

This he considered as of rare occurrence; the case was marked with increased incoordination of movement, bulbar paralysis and general motor paresis. On the father's side nervous trouble existed. The patient was well nourished, had difficulty in balancing herself, speech drawing, the mouth being kept open generally, difficulty in swallowing and drools when eating. Her gait resembled that of a drunken man, and her arms were very weak. There was no disturbance of sensation in any part of the body.

These symptoms steadily increased up to the time of her death; there was in the later stages a decided increase in the size of the head with pain in the occipital region, but her intellect appeared clear up to the time of her death.

At the autopsy the bones of the skull were found to be rather thin; increased sub-arachnoid fluid with an *œdematous* condition of the brain-tissue: the pons *varolii* being greatly enlarged and replaced by a tumor, apparently a glioma, appearing like a greatly hypertrophied pons; a little posteriorly was a small focus of softening.

The speaker remarked that the tumor in its growth produced no symptoms of irritation; there were no convulsions and but little headache; there was simply a steady decrease of loss of function of those nervous elements which were subjected to the pressure of the growing tumor. He thought it remarkable that notwithstanding the great amount of œdema, and an internal hydrocephalus so extensive as to cause a perceptible enlargement of the head, consciousness and even intelligence were preserved up to the end of life.

DR. STARR read a paper

ON PARAMYOCLONUS MULTIPLEX.

The case alluded to was that of a grocer who previously enjoyed good health, but had recently strained himself in lifting a box. The pain commenced below the right shoulder, and was so severe that he immediately consulted a physician, and, while in his office, was seized with a convulsion, screaming with pain. This was followed afterward with spasms of the muscles of the trunk, having ten or twelve attacks in twenty-four hours, groups of muscles of the extremities gradually becoming affected, spasm of the diaphragm being also observed. These spasms he could not control, and any exposure to shock would produce them, being more liable to occur under mental excitement. Pressure on the right shoulder, at the seat of pain, would produce them at once. In this case, the spasms of the muscles were very violent, but did not move the joints.

The writer remarked that tapping of the skin would produce a spasm, and he considered this a functional neurosis. This, he believed, made a number of ten reported cases. The disease being a spasmodic affection of the muscular system, occurring bilaterally, a series of violent chronic spasms occurring at intervals after violent physical or mental strain. Galvanism, arsenic, chloral, etc., were found beneficial in the disease.

DR. SPITZKA mentioned a case in which the patient was not quite equally affected on both sides of the body. The movements here were one hundred and forty-five to the minute.

DR. DANA mentioned a case in which the movements of the muscles commenced at five, and increased to sixty, but it did not resemble Dr. Starr's description in all points.

DR. MILLS could not see the necessity of dividing this from muscular tremor, and making it a separate disease, and thought it might be of interest for Dr. Starr to give the differential diagnosis.

DR. SACHS said he did not think Dr. Starr wished to claim it as a distinct disease, but to give it a distinctive name as a subdivision. He was rather in favor of this idea also. The speaker considered there were a sufficient number of these cases to warrant this subdivision.

DR. LLOYD remarked that he had seen a number of cases of hysterical tremor which so closely resembled the symptoms mentioned by Dr. Starr, that he was inclined to believe there was hysteria in his case also.

DR. STARR, in conclusion, stated that the points in these cases were bilateral. In the case mentioned, there was a slight sound emitted. He could not agree with Dr. DANA's statement as to these being cases of convulsive tremor. He regarded the remarks of Dr. Mills as important, as it was a question in his own

mind as to whether the case was hysterical or not. This same question has come up with a number of different authors.

(To be continued.)

SOCIETY FOR INTERNAL MEDICINE, OF BERLIN.

MEETING, May 16, 1887.

Discussion of paper of Dr. FRAENTZEL on the use of

CREOSOTE IN TUBERCULOSIS PULMONUM.

DR. PAUL GUTTMANN said, in substance, as follows: We were led to make some experiments with this remedy from the favorable reports of the action of creosote in tuberculosis pulmonum, by Dr. Fraentzel and similar reports of Sommerbrodt, of Breslau. The report of the latter giving the result of the trial of the remedy upon 5,000 patients was published during the last month in the *Berliner Klinische Wochenschrift*. The decision to use creosote in phthisis pulmonum is reasonable, because this remedy acts antiseptically, and as I will presently show, very strongly antiseptically.

Koch has already observed that if some creosote be added to the culture glasses, the tubercle bacilli cease to grow. Dr. Fraentzel declared this some years ago, in the discussion at the Congress fuer Innere Medicin at Wiesbaden.

Now as to the question whether this remedy by internal use will cure or improve in a disease caused by a micro-organism. We must know not only that it works antiseptically, but how strongly as an antiseptic it will act. Such investigations concerning the action of creosote have not been made. The speaker had experimented upon a number of micro-organisms in a very simple and exact method. This consists in taking a certain amount of gelatine, mixing therewith a certain amount of creosote and placing in this mixture culture micro-organisms. The gelatine was rendered liquid by heat, then a five per cent. alcoholic solution of creosote was added, until mixtures were obtained of the strength of 1 to 4,000, 1 to 2,000, 1 to 8,000, etc. Of 17 different micro-organisms, of which 13 were pathological, 4 not pathological, 13 did not grow any more in gelatine which contained creosote 1 to 2,000, and many of them not in a 1 to 4,000 per cent. Of the remaining three kinds one still grew in a solution of 1 to 1,000. This could not be due to the alcohol, for the micro-organisms still increased, and just as fast, when alcohol, even in stronger quantities was added to the gelatine.

The author in five weeks past had used creosote in 52 cases of phthisis pulmonum, some cases light, some advanced. The mixture used was as follows: 1 part creosote, 2 parts æther acetic, 2 parts tinct. aromatic, 25 parts syrup simple, aquæ. q. s. ad 100. This is not entirely clear. After long standing the creosote settles to the bottom, and should always be shaken before used. It tastes quite well and can be made more pleasant by the addition of a little raspberry syrup. He gives 75 grains of a 1 per cent. solution 3 times a day, so that the patient gets in the whole day two and one-fourth grains or three-fourths grains per dose. This is not half the amount given by Dr. Fraentzel; in one case he doubled these proportions.

Five weeks, are, of course, too short a time in which to come to any definite conclusion as to the real worth

of the remedy, but we can at least tell whether the desire to cough and the secretion be lessened. The reporter had not found the remedy to be as well borne as did Drs. Fraentzel and Sommerbrodt. In numerous instances nausea and vomiting occurred and it had to be discontinued. In other cases it was well borne, but the appetite did not improve. In a small proportion of patients the appetite improved quite noticeably, but not so regularly as claimed by Dr. Fraentzel. During this time some patients gained, others lost in bodily weight; in general there was no marked increase. Many cases showed an improvement in the cough and expectoration, but in the greater number none was noticed. The speaker asserted that the attention and hygiene received by patients suffering with phthisis pulmonum, effects an improvement, and this was often placed to the credit of the remedies used.

Dr. THORNER had been led to use creosote in ten cases, by the paper of Dr. Fraentzel. He found creosote to be very repulsive to patients, especially so to women during the menses, probably due to the greater irritability at that time. He gave the creosote in pill form made up with ol. menth. piperiti and sapo, 80 grains of creosote divided into 60 pills, 2 pills 3 times a day after meals. In this way it is borne very well.

Dr. ROSENHEIM had experimented on about 30 patients, with creosote, in the Frederickshain Hospital. The results were as follows:

(1) Vomiting immediately after taking the remedy in 40 per cent.

(2) Severe diarrhœa in at least half the cases, even when the bowels were formerly regular, the number of movements reached 10 per day.

(3) In complaints of gastralgia and colicky pains, sometimes very severe and of longer or shorter duration.

In other cases he noticed improved appetite and improvement of an existing diarrhœa. He found it best to give the liquid in an emulsion of red wine. He also used it in balsam of tolu in gelatine capsules, after the plan of Sommerbrodt.

This was well borne, except that repeated eructating occurred some minutes after the remedy was taken.

Dr. FRAENTZEL said he had not claimed for creosote a specific action, but that it was an especially good tonic. If, as said before, we get 15 favorable results out of 400, we are doing well. The results are not so wonderful, but they are better than those to which we have been accustomed, and the speaker begged his colleagues to experiment further with the remedy.

Recent Literature.

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen die Krankheitsprocesse. von Dr. EDWIN KLEBS. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Ätiologie. Mit 66 theilweise farbigen Abbildungen im Text und 8 Farbentafeln. Jena: Verlag von Gustav Fischer. 1887.

[*General Pathology or Knowledge of the Cause and Being of the Processes of Disease.* By Dr. EDWIN KLEBS. First Part. The Causes of Disease. Gen-

eral Pathological Ætiology. With 66, in part, colored illustrations in the text and 8 colored plates. Jena: Gustav Fischer. 1887.]

As is indicated in the title, this book is one part of a comprehensive work on general pathology, which it is the author's intention to treat solely from a scientific standpoint, leaving its application to the practitioner and clinician. The entire work will consist of three parts, each complete in itself. The first treats of the causes of disease, that is, general pathological ætiology; the second of the changes occurring in the structure and composition of different tissues, general pathological morphology; and the third part of the destruction of function, general pathological physiology. From this it would seem that the subject is approached in quite a different way from the older treatises.

The first part is all that is as yet published. In it the origin of disease is dealt with, and this is regarded as either internal or external. Under the former are ranged hereditary and developmental diseases, while under the latter are placed those due to the action of organized beings, either plants or animals.

The diseases under the first head are comparatively few, but this portion of the book is extremely interesting. The evidence, which is very complete in many cases, is graphically shown by diagrams of the families. For example, the occurrence of bleeders is traced through several generations, then the tendency to the repetition of certain nervous disorders, progressive muscular atrophy and the like, as well as hereditary polyuria, atrophy of the retina and cataract are fully considered. These chapters cannot fail to give food for reflection, especially as to the probability of propagating disease by ill-advised unions.

The greater part of the remaining diseases are, from the author's standpoint, to be regarded as due to parasites, and we have the bacterial origin pushed to its furthest limit. He has presented the subject in a very exhaustive manner, but has failed, from his great desire to bring all under the general law, to lay sufficient stress upon those cases where the evidence is still doubtful. Such, for example, as yellow and scarlet fever. Then, too, he has made special investigation into the origin of malarial fever. It is difficult for him to see the value of the more recent work, which has demonstrated another parasite than a bacillus, namely the so-called plasmodium, as an efficient cause. This work is the first systematic treatise in which the question of the day has been assigned the place to which it is believed by many to be entitled. In order to do this, a mass of well-sorted information has been presented which carries conviction with it.

Knowledge accumulates so fast that it requires a wonderful mind to marshal all the facts into their proper place and show their bearings, and nowhere is it to be done more judiciously than in general pathology. And while we hail with delight any attempt of a good mind like that of Klebs, to bring into unity the mass of isolated facts, we must accept his conclusions with more reservation. For with all the discoveries of modern times we are still but standing on the threshold and have not even a glimpse into the space beyond. The book is well printed, and the paper of rather better quality than is usually found in German medical works. The colored illustrations show clearly the appearances of bacteria as they are seen under the microscope, with the modern method of contrast staining.

Elementary Microscopical Technology. A Manual for Students of Microscopy. In three parts. Part I: The Technical History of a Slide. By FRANK L. JAMES, Ph.D., M.D. St. Louis. 1887. 107 pp.

The author of this little work on practical histology regards it as a defect that, in current text-books, technology proper and micrography — to use the author's terms — are mixed up. He has, therefore, undertaken a manual "modelled after an ideal in which nothing should be taken for granted." The present Part I "details the technical history of a slide from the crude materials up to the finished mount." The work is written in a manner which is likely to prove more attractive to the amateur microscopist than to the professional histologist. It may, indeed, be commended for several good qualities, especially for the clearness and good sense of the directions given. It will prove, we think, helpful to those who, having procured a microscope as an instrument of recreation and instruction, wish to work profitably, although they do not have the advantage of being under a competent professional teacher. The work is not suited for the needs of medical students, being less adapted for their wants than several already existing manuals. This we are obliged to say, because the author is not familiar enough with the methods of histology to have selected always for presentation those which are best. For example, he omits all mention of Delafield's hæmatoxylin, the most preferable of the log-wood solutions, nor, so far as we have observed, does he refer to Weigert's hæmatoxyline methods, which may now be considered as indispensable, even in ordinary histological work. Again, the recipes which he gives for Beale's carmine are not those which experience has led histologists to give preference to. The book is neatly printed, and furnished with a convenient and ingenious index. It may serve to further characterize the work if we add that several pages are devoted to methods of decorating the slide after the preparations are mounted.

The Diseases of the Ear and their Treatment. By ARTHUR HARTMANN, M.D., of Berlin. Translated from the third German edition by JAMES ERSKINE, M.A., M.B., etc. With forty-two illustrations. G. P. Putnam's Sons. 1887. pp. 280.

Without claims to originality this is intended as a concise, scientific handbook for the practitioner, in which what the author has found useful in his own practice is particularly and fully described, while what in otology is still hypothetical is but slightly touched upon or wholly omitted.

It is clearly written, its material is fairly well arranged for reference, and well indexed, the latter rather an unusual thing in a German work. Anatomy is concisely, but sufficiently described; physiology is all too slightly dealt with when it is remembered how important it is for understanding the results of pathological processes and how little it is understood; pathology holds an insignificant position, but, as would be expected, etiology, symptomatology and treatment receive a large share of the author's attention, and on these subjects his work has been very well done.

While the book is no substitute for some of the later text-books, and not explicit enough for the student, it is of value for reference to the practitioner who is already reasonably familiar with the subject. The wood-cuts are good as illustrations, but scarcely artistic in finish. The translation is admirable.

THE BOSTON Medical and Surgical Journal.

THURSDAY, AUGUST 18, 1887.

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THE EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS.

AFTER its separation from the Board of Health, Lunacy, and Charity, the State Board of Health was given considerably enlarged powers and duties, including the causes and prevention of infectious diseases; the suppression of nuisances, and regulation of noxious and offensive trades; collection and diffusion of information relative to industrial hygiene; the hygiene of schools and public institutions; the examination, investigation, and supervision of water-supplies, and plans or systems of drainage and sewerage; the disposal and transportation of the dead; inquiries into the causes and prevention of insanity; intemperance from the use of stimulants and narcotics, and the remedies; the protection of human life; infectious diseases of animals; the inspection of food, drugs, and other articles affecting the public health.

The report is so packed with information of the greatest use to physicians and the community in general, that we advise every one who can to read it, as any review must be entirely inadequate to do much more than indicate or summarize its contents.

In the matter of water-supply and drainage, the Board was called upon in the case of ten towns. Above the city of Lowell, the impurities in the River Merrimac have increased thirty-six per cent. from 1873 to 1886, and above Lawrence, fifty-seven per cent., thereby placing the water-supply of Lawrence near the limit beyond which the water would be unfit for drinking. It is proposed to make frequent chemical and biological examinations of these and other water-supplies.

A paper by Dr. C. F. Withington on the transmission of infectious diseases through the medium of rags, comprises sixty-five pages of the report, and deals quite thoroughly with the evidence on that subject, especially as regards this State, which uses one-third of all the rags imported into the United States. His conclusions are that small-pox has been transmitted

in a small proportion of cases by rags, but more frequently domestic than foreign; that among the rarer means whereby cholera is transmitted are textile fabrics, especially clothing infected with choleraic discharges, possibly merely packed in an infected locality, a proper distinction being drawn between clothing used, and soon to be used again, on the one hand, and on the other, rags, which are certain to have undergone a process of sorting and drying, and to have spent a considerable time in warehouse and on shipboard; that the statement that cholera has been transmitted by paper rags rests upon a solitary case, of which the details are not complete, and the facts not agreed to be trustworthy, the rags being of domestic origin, and conveyed only fifty miles; that an epidemic known as rag-sorter's disease, probably, though not certainly, anthrax, appears to have broken out on three or four occasions in European paper-mills; that authenticated cases are not to be found where other infectious diseases have been communicated by rags, and that mortality tables do not show a preponderance of these diseases in paper-making towns; that there is no evidence that rag-sorters are, except for occasional cases of small-pox and pulmonary irritation from the dust in improperly-ventilated rooms, less healthy than other persons engaged in in-door manual work; that it is a proper precaution to prohibit the landing of rags gathered at the time and in the place of an epidemic of cholera, proper care being taken that rags shipped from a non-infected port did not come from an infected locality; that paper-mills should be required to have adequate ventilating apparatus in the rag-rooms and dusting-rooms; that there should be a penalty for selling or giving away infected rags; that mill-hands should be vaccinated; that the mill is the proper place for the complete disinfection of rags in general, including domestic rags, and that disinfection or destruction of infected articles should be required, instead of advised, on the part of institutions or householders.

During the four months ending September 30, 1886, there were examined 1,468 samples of food, milk, and drugs, of which 410 of food were found adulterated or not conforming to the statutes, 221 of milk below standard, and 132 of drugs not up to the requirements of the law, suspicious articles being, for the greater part, selected for examination, a very great improvement having taken place, especially in milk, since the law went into effect. There were twenty prosecutions and seventeen convictions during the four months.

Under the "Health of Towns," it appears that there were only three cases (and one death) from small-pox during the year, and that malarial fevers prevailed in fifty-nine out of two hundred reporting cities and towns, no less than "more than four hundred cases" having been returned from Frammingham alone.

The report closes with an admirable manual, containing the statutes relating to the public health, and the decisions of the Supreme Court of Massachusetts relating to the same.

IS GENIUS A NEUROSIS?

THE saying of Pope: "True wit to madness is allied," has been the text of many a profound dissertation on the insane peculiarities of men of genius.

Dr. James G. Kiernan has written an article in the *Neurological Review*, in which he combats the view that genius is the product of a morbid mind. In exceptional instances where the two co-exist, he says, the genius is evidence of a healthy conservative element struggling with the incubus of disease. The best balanced poets have been the greatest. Shakespeare's works are evidence of a well-balanced intellect. Nothing exists to impugn the sanity of Milton, Addison, Wordsworth, Tennyson, Klopstock, Goethe, Schiller, Burger, Dickens, Longfellow, Thackeray or Bryant.

Sophocles wrote his tragedies at a great age, and his sons called him into court to have him placed under guardianship as a dement. He refuted the imputation of his mental condition by reciting "Œdipus Colonus," which he had just composed, to his judges, who thereupon pronounced him mentally competent.

While, then, the doctrine that poetic genius is an offspring of disease is easily refuted, it is no less true, as Dr. Kiernan shows, that some of the most celebrated lights in literature have been men of more or less unbalanced minds. Poe was a dipsomaniac, and the *mental realization* of some of his poems would be counted insanity. Saxe was the victim of melancholia, the consequence of "railroad spine." Cowper was subject to periodical melancholia, and the same may be said of Byron and Shelley. Coleridge "was the prey of his own ideas, usually of outside suggestion, and for this reason his productions have a fragmentary character. He himself draws a pretty good picture of his mental condition when he says: 'Why need we talk of a fiery hell? If the will, which is the law of our nature, were withdrawn from our memory, fancy, understanding, and reason, no other hell could equal what we should then feel from the anarchy of our powers.'"

Johnson was the victim of nervous disease. He suffered from hallucinations of hearing; when he entered a doorway, he would suddenly whirl and twist about in strange gesticulations. He would often stop in the middle of the street to go through this ceremonial. He was subject to lengthened periods of mental torpor, when he hardly knew what was going on around him. Johnson inherited strong insane tendencies from his father.

Goldsmith's mental defects, Dr. Kiernan thinks, were but a slight twist in the judgment, and a blunted moral sense.

Rosseau and Pope were both the victims of the unequal development of mind and body after boyhood; they were "hebephreniacs." Both manifested suspicious delusions.

Defoe evinced insanity only as the result of age, and the same may be said of Emerson, Southey, and

Rogers, and in the case of all of these the insanity destroyed the genius.

Moliere's epileptic insanity "tinged his genial heart with sarcastic suspicion." Swift's middle ear disease caused insane suspicions and irritability. When his insanity, however, was once fully developed, his creative powers vanished.

Dr. Kiernan concludes that there is no incompatibility between poetic inspiration and the most perfect sanity, and that "the highest poetic genius is closely akin to the highest scientific, while, at the same time, much that passes for fine poetry is no better than maudlin raving, and in periodical 'insanity the appearance of poetry is often an indication for medical treatment.'"

MEDICAL NOTES.

—A case has recently been decided in one of the county courts of England in which a barber was held liable for damages for having infected a customer's face with *syccosis menti* through the use of an improperly cleaved razor.

—A curious anæsthetic used by the Chinese has recently been made known by Dr. U. Lambuth, in his third annual report of the Soochow Hospital, says *The Provincial Medical Journal*. It is obtained by placing a frog in a jar of flour and irritating it by prodding it. Under these circumstances it exudes a liquid which forms a paste with a portion of the flour. This paste dissolved in water was found to possess well-marked anæsthetic properties. After the finger had been immersed in the liquid for a few minutes it could be pricked with a needle without any pain being felt, and numbness of the lips and tongue were produced by applying the liquid to them.

—The *Medical News* says that the Exposition of the Hygiene of Infancy at Paris, was opened, on June 24th, by an address from its president, the recitation of a poem, and by music from the Guard of the Republic. It embraces all possible appliances for maintaining the lives of infants, and all substances and articles known to be of value in treating the diseases of infancy.

During the exposition open conferences will be held morning and afternoon, the first of which will be reserved for mothers. Vaccination will be performed every Monday.

—It is well known that a cold sensation reaches consciousness more rapidly than a sensation of warmth. Dr. Goldscheider, of Berlin, whose researches on the hot and cold points of the skin have gained him a well-deserved reputation, is reported in *Science* to have recently accurately measured the length of the time necessary to perceive these sensations. The observations were made on parts equally sensitive to heat and cold, and with intensities of heat and cold equally different from the temperature of the part. The time of contact was recorded electrically by means of a metallic button fixed to the skin. Contact

with a cold point was felt on the face after 13.5, on the arm after 18, on the abdomen after 22, on the knee after 25, hundredths of a second. The sensation of a hot point was felt on the same surfaces after 19, 27, 62, and 79 hundredths of a second respectively. This great difference in time has an important theoretical bearing on the physiology of dermal sensations.

—The *Annals of Hygiene* cites a curious and in some cases possibly most serious blunder in the English construction of a sentence containing directions for a sanitary test. At a recent meeting of the Philadelphia Board of Health it was resolved that the agents of S. Maw, Son & Thompson, be notified that the so-called pure water test now upon the market is dangerous by reason of careless directions for its use. The test contains a poison, and under the head of directions for use is the following: "Pour a wine-glass full of water to be tested into the tumbler, then by a smart blow break the bulb at the end of the crusher. If the water remains perfectly clear, it may be drunk with safety." The person drinking it would take a poisonous dose of iodide of mercury.

—A curious outbreak of convulsionists mania, analogous to those which occurred from time to time during the Middle Ages, is reported by a foreign contemporary to have shown itself at Agosta, in the province of Rome. For some weeks past the country people have been laboring under the delusion that the district is under the immediate government of the Evil One, and before retiring to rest they carefully place on the threshold the broom and the salt, which are credited with the power of keeping off evil spirits. Many of the younger women have epileptiform attacks, during which they utter piercing shrieks, and are violently convulsed. So serious had the condition of things become, that the syndic of Agosta found it necessary to inform the Prefect, who sent detachments of soldiers into the district in order to calm the apprehensions of the inhabitants. The contrast between this strictly physical way of dealing with the disease and the more imposing but less effectual religious ceremonies formerly employed must be interesting to historical students. As a natural consequence of this condition of mental perturbation, the country is overrun with quacks who claim to possess the only infallible remedy for the seizures. One of these nostrums, the vendor of which was making a rich harvest from its sale, was found on analysis to consist of earth, snuff and borax. Three medical men who were commissioned to investigate the cause and nature of this extraordinary affection, came to the conclusion that it was an epidemic of hysteria. They examined a number of the sufferers, mostly young women, some of whom were alleged to have vomited nails, horseshoes, and other equally indigestible substances, while others barked like dogs. Several of them were removed to Rome for treatment in the hospitals there, and measures have been taken to check the spread of the mischief. In a milder degree, this contagious form of hysteria is not infrequent, especially in places where ignorance and superstition favor

manifestations of nervous disorder. The worst excesses of popular outbreaks, like the French Revolution, have been attributed to similar influences, and with every appearance of justice.

NEW YORK.

—The American Association for the Advancement of Science has been holding its annual meeting at Columbia College during the past week, and the attendance has been very large. On the opening day an address of welcome was made by the Rev. Dr. F. A. P. Barnard, President of the College, and the general secretary announced that since the meeting at Buffalo, last year, over two hundred members had been added to the Association, while some two hundred papers had been submitted to be read before the different sections. Among the papers read was a valuable one by Dr. D. G. Brinton, of Philadelphia, Chairman of the Section of Anthropology, entitled "A review of the Data for the Study of the Prehistoric Chronology of America," in the course of which he said that in the Trenton gravels and in other localities, genuine paleolithic remains had been found which put man in America at a date coeval with the close of the glacial epoch, if not earlier. The vast antiquity of the American race was further proved by the extensive dissemination of maize and tobacco, tropical plants of Southern Mexico, which were cultivated in remote ages from Canada to Patagonia. There were, he said, about two hundred radically different languages in North and South America. Such a confusion of tongues could only have arisen in hundreds of centuries, and the study of these languages and the gradual growth of their dialects supplied valuable data for the ancient history of the Continent. The American race was distinctly a race by itself, and the oldest crania, collected from the most ancient quaternary deposits, were thoroughly American in type. As the discovery of implements in glacial deposits fixed man on this continent at least at the close of the glacial epoch, this carried his residence here to about 35,000 years ago. But there was no likelihood that he originally came into being in America. More probably he migrated along the preglacial land bridge which once connected Northern America with Western Europe; and later other tribes no doubt came from Asia.

On the second day, Dr. William Thompson, Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, read a paper on "Color-Blindness among Railroad Employees," in which he said that the conflict between the officers and the employees of the Reading Railroad, which has occupied the attention of the public, and threatened to produce a suspension of work on that road, had reopened the question of color-blindness. In July last, 25,158 employees were examined on lines east of Erie, of whom 181 were color-blind, 661 had defective vision, and 158 had defective hearing. The officers of the Pennsylvania Railroad and other railways had now adopted Dr. Thompson's system of examination.

Prof. Alfred H. Leeds, of the Stevens Institute,

Hoboken, read a paper on the "Causes, Progress, and Cure of the Recent Great Outburst of Typhoid Fever at Mount Holly, New Jersey." The outbreak, he said, was due to the pollution of the water-supply of the place by the defective sanitary arrangements of a large boarding-house. The purification of water could be accomplished economically by the addition of alum, which destroyed bacteria, and where water so treated had been filtered, it was found to be clear and wholesome. Professor Leeds also read before the Section on Mechanical Science and Engineering a paper on the "American System of Water-Purification," the distinctive features of which are: (1) Artificial aëration under pressure; (2) precipitation of dirt, sewage, hardening constituents, and coloring matters by harmless precipitants; and, (3) mechanical filtration through filters capable of rapid reversal of current, and cleansing by mechanical means.

Much interest was felt in two papers on the food question, which were read before the Section on Economic Science and Statistics by Prof. W. O. Atwater, and which are to be published in the *Century*. The first was on "The Physiological and Pecuniary Economy of Food," and the second on "The Food of Workingmen, and its Relation to Work Done." On the evening of August 11th, a brilliant reception was held at the Metropolitan Opera House, and the week's programme also included excursions up the Hudson and to the city institutions along the East River.

DEATH BY DECAPITATION.

It is probably due to the fact that the prescribed methods in France for executing the death-penalty offer peculiar facilities to scientific investigation, rather than to any predilection for the grimest of all studies in experimental physiology, that our French confrères have reported so many observations on the nervous and other phenomena of the first few seconds after sudden death. The latest observations by Drs. Regnard and Loye, in the *Progrès Médical* of July 9, and the *British Medical Journal* of July 23, enforce the fact that death by the guillotine is quite another thing than that method employed judicially by the Anglo-Saxon race. The examination was made of the head and body of a convict immediately after his decapitation by the guillotine. The prisoner was calm to the last, and not pale, even when his neck was fixed ready to receive the fatal knife. Two seconds after decapitation the cheeks were still rosy, the eyes wide open, with moderately dilated pupils, the mouth firmly closed. No fibrillary contractions could be observed. When a finger was placed close to one eye, no change of expression took place; but on touching an eye or the tips of the lashes, during the first five seconds, the lids closed just as in life. This reflex action could not be elicited from the sixth second after decapitation. The jaws were tightly clenched, and could not be opened by manual force; no similar muscular contraction could be detected in the trunk or extremities. One minute after death the face began to turn pale, the trunk remained flaccid,

the carotids continuing to throw out blood remaining in the circulatory area. At the end of four minutes the face was quite pale, the upper lids were half closed, the jaws less firmly clenched than before. Irritation of the cut surfaces of the spinal cord failed to produce reflex movements either in the trunk or on the face. For twenty minutes there was no change; then the necropsy was begun. There were signs of old pleurisy and alcoholism. The heart beat actively. On opening the pericardium, the ventricles and auricles continued to pulsate for twenty-five minutes; the former then ceased to beat, but the auricles went on for forty minutes longer. Thus the heart beat for an hour after decapitation. Then its chambers were laid open; the left ventricle was firmly contracted, the right relaxed. There was emphysema at the edges of the left lung, as is nearly always observed after death by the guillotine. There were bubbles of air in the vessels of the pia mater, and much air in the subarachnoid space. The knife had passed through the lower part of the fourth cervical vertebra. These researches show that not a trace of consciousness remains two seconds after beheading; that reflex movements of the cornea can be excited for a few seconds; that the heart may beat for an hour, the auricles continuing to pulsate alone for over half that period; and that, putting aside the reflex movements of the eyelid, the contraction of the jaws and the jets of blood from the carotids, it seemed in this case as though a corpse had been

decapitated, so inert were the remains of the convict. The entry of air into the inextensible and incompressible cranial cavity, after the escape of blood from its vessels, was only to be expected. Drs. Regnard and Loye note how calm and free even from physiological death-struggle symptoms is death by the guillotine. There is not even asphyxia; death is rather due to inhibition similar to that described by M. Brown-Séquard in animals who succumb to certain irritations of the nervous system.

Correspondence.

THE OUNCE TROY AND THE OUNCE AVOIR-
DUPOIS. CORRECTION.

TRENTON, N. J., August 12, 1887.

MR. EDITOR,—Either through my mistakes or those of your printers, my letter to you as printed last week, is particularly unintelligible. The second paragraph should be as follows :
One ounce Troy (13) is equal to one ounce avoirdupois and 42.5 grains over; and the one-eighth ounce bottles of the wholesalers contain not *one drachm* (13) but 54.7 grains Troy; and if Dr. Morse's calculations are made on the *one drachm* (13) basis his patient took, not 51 grains of morphia, but about 45.7 grains.
If you deem it of sufficient importance, please make the correction and oblige, Yours very truly,
HORACE G. WETHERILL, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 6, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump- tion.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	928	412	30.49	12.09	2.78	1.49	23.44
Philadelphia	993,801	592	292	31.62	1.19	4.93	1.70	21.42
Brooklyn	745,103	415	215	31.44	8.64	.48	3.12	26.64
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	220	112	31.95	6.75	1.35	2.25	24.75
Boston	400,000	260	150	40.95	9.36	.39	1.95	36.27
New Orleans	242,750	110	42	17.27	8.18	—	1.82	7.27
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	104	48	35.52	8.64	5.60	.96	22.08
Pittsburgh	210,000	132	77	54.72	6.86	6.08	3.80	41.04
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	98	70	48.96	3.06	1.02	5.10	34.68
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	20	9	25.00	5.00	10.00	—	10.00
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	18	7	27.77	5.55	5.55	—	22.22
Worcester	68,383	23	16	34.80	4.35	4.35	—	30.45
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	—	—	—	—	—	—	—
Fall River	56,863	57	43	61.25	3.50	5.25	—	52.50
Lynn	45,861	22	15	45.50	9.10	4.55	4.55	40.40
Lawrence	38,825	16	8	30.75	6.25	—	—	30.75
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	23	18	34.80	4.35	4.37	—	30.45
Somerville	29,992	17	10	41.16	5.88	—	—	41.16
Salem	28,084	19	8	31.56	10.52	—	10.52	21.04
Holyoke	27,894	11	7	36.36	9.09	—	—	36.36
Chelsea	25,709	17	11	52.92	5.88	—	—	52.92
Taunton	23,674	10	6	30.00	—	—	—	30.00
Haverhill	21,795	14	8	50.00	7.14	—	14.28	35.70
Gloucester	21,713	10	6	—	10.00	—	—	—
Brockton	20,783	3	0	—	33.33	—	—	—
Newton	19,759	12	2	25.00	8.33	—	—	25.00
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	16	11	37.50	6.25	—	—	37.50
Waltham	14,609	4	2	25.00	25.00	—	—	25.00
Newburyport	13,716	7	4	56.12	—	—	—	56.12
Northampton	12,896	9	6	55.55	—	11.11	—	44.44

Deaths reported 3,187: under five years of age 1,615; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 1,083, consumption 253, lung diseases 90, diarrhoeal diseases 839, diphtheria and croup 77, typhoid fever 76, whooping-cough 29, malarial fever 22, measles 15, scarlet fever 15, cerebro-spinal meningitis seven, erysipelas two. From whooping-cough, New York nine, Philadelphia seven, Baltimore and Milwaukee four each, Boston three, Pittsburgh two. From malarial fevers, New Orleans eight, Philadelphia, Brooklyn and District of Columbia three each, Nashville and New York two each, Baltimore one. From measles, New York five, Philadelphia four, Baltimore and Pittsburgh, two each, Milwaukee and Fall River one each. From scarlet fever, New York seven, Philadelphia four, Brooklyn and Boston, two each. From cerebro-spinal meningitis, New York, three, Milwaukee two, Fall River one. From puerperal fever, Philadelphia two, New York, Baltimore, Pittsburgh and Milwaukee one each. From erysipelas, Philadelphia and New Orleans, one each. From small-pox, New York one.

In the 20 cities and greater towns of Massachusetts, with a population of 940,875 (population of the State 1,941,465) the total death-rate for the week was 30.01 against 32.86 and 27.41 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 23d, the death-rate was 22.2. Deaths reported 3,937: infants under one year of age 1,597; acute diseases of the respiratory organs (London) 174; diarrhoea 100, whooping-cough 162, measles 100, scarlet fever 54, diphtheria 29, fever 27.

The death-rates ranged from 11.7 in Derby to 36.7 in Preston; Birkenhead 27.2; Birmingham 16.1; Hull 15.1; Leeds 22.5; Leicester 32.4; Liverpool 24.1; London 24.5; Manchester 23.4; Nottingham 17.7; Portsmouth 13.2; Sheffield 18.6; Sunderland 15.7.

In Edinburgh 18.8; Glasgow 21.5; Dublin 29.9.

The meteorological record for the week ending August 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Aug. 6, 1887.																			
Sunday, ... 31	29.87	78.0	88.0	75.0	83.6	68.0	68.0	73.0	S.W.	S.W.	W.	9	12	12	F.	O.	O.		
Monday, ... 1	29.92	74.0	80.0	70.0	82.0	59.0	82.0	74.0	W.	E.	S.E.	4	9	5	C.	C.	C.		
Tuesday, ... 2	29.96	68.0	73.0	66.0	95.0	90.0	98.0	94.0	N.E.	E.	S.E.	4	10	3	R.	O.	O.	12	.35
Wednesday, ... 3	30.11	68.0	71.0	65.0	90.0	81.0	92.0	88.0	N.E.	E.	S.E.	4	7	3	O.	C.	C.		
Thursday, ... 4	30.18	68.0	72.0	64.0	87.0	83.0	88.6	86.0	S.E.	S.E.	S.	4	6	8	O.	F.	C.		
Friday, ... 5	30.02	72.0	81.0	63.0	90.0	64.0	88.0	81.0	S.W.	S.	S.	7	12	7	O.	O.	O.	3	*T
Saturday, ... 6	29.77	74.0	85.0	70.0	89.0	91.0	86.0	89.0	S.	W.	N.	12	11	8	O.	R.	F.	3½	.16
Mean, the Week.	29.976	71.7	79.0	67.0				83.6										18½	.51

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 6, 1887, TO AUGUST 12, 1887.

McKEE, J. C., major and surgeon. Ordered for duty at Watertown Arsenal, Mass. S. O. 181, A. G. O., August 6, 1887.

BROWN, H. E., major and surgeon. Sick leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to Fort McDowell, A. T., instead of Fort Assiniboine, M. T. S. O. 180, A. G. O., August 5, 1887.

DICKSON, Jno. M., captain and assistant surgeon. Died August 8, 1887. (Station Fort Mason, Cal.)

MERRILL, J. C., captain and assistant surgeon. Ordered from Fort Klamath, Oregon, to Watertown Arsenal, N. Y. S. O. 181, A. G. O., August 6, 1887.

HOPKINS, Wm. E., first lieutenant and assistant surgeon. Ordered from Angel Island, Cal., to Fort Mason, Cal. S. O. 184, A. G. O., August 10, 1887.

ANDERSON, C. L. G., first lieutenant and assistant surgeon. (Station, Whipple Barracks, A. T.) Ordered to Fort McDowell, A. T. S. O. 81, Department of Arizona, August 3, 1887.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Promoted to be Assistant Surgeon, with the rank of Captain by operation of law, August 10, 1887.

PILCHER, J. E., first lieutenant and assistant surgeon. Ordered from Fort Monroe, Va., to Fort Wood, New York Harbor. S. O. 180, A. G. O., August 5, 1887.

SUTER, Wm. N., first lieutenant and assistant surgeon. Ordered to return to Washington Barracks, D. C., on the breaking up of the Camp at Creedmoor, N. Y. S. O. 196, Division of the Atlantic, August 10, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 6, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To inspect unserviceable property at New York Marine Hospital, August 5, 1887.

CARTER, H. R., passed assistant surgeon. Granted leave of absence for six days, August 1, 1887.

BEVAN, A. D., passed assistant surgeon. Granted leave of absence for ten days, August 5, 1887.

NORMAN, SEATON, assistant surgeon. Granted leave of absence for four days on account of sickness, August 5, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Annual Catalogue of St. Paul Medical College in the City of St. Paul, Minn., 1887-88.

Intubation of the Larynx. By E. Fletcher Ingals, M.D., Chicago. 1887. (Reprint.)

Twenty-Seventh Announcement and Catalogue of the Electric College of the City of New York. Session of 1887-88.

Beitrag zur supravaginalen Absetzung des Uteruskörpers. Von Dr. A. Martin, Docent an der Universität, Berlin. 1887.

National Academy of Sciences. Vol. III. Fourteenth Memoir. On a New Craniophore for use in making Composite Photographs of Skulls.

A Review of the most Important Advances in Surgery, Medicine and Pharmacy in the Last Forty Years. By C. W. Moore, M.D., San Francisco. 1887. (Reprint.)

Manual of the United States Hay-Fever Association, for 1887, containing a Report of the Annual and Adjourned Meetings of 1886, Prize Essays, etc. Lowell, Mass.: S. W. Huse & Co. 1887.

On some Important Points in the Treatment of Deep Urethral Stricture. By F. N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. New York: D. Appleton & Co. 1887. (Reprint.)

Progressive Spastic Ataxia (combined Fascicular Sclerosis) and the Combined Sclerosis of the Spinal Cord. By C. L. Dana, M.D., Professor of Nervous and Mental Diseases, New York Post-Graduate Medical School, Visiting Physician to Bellevue Hospital, New York. 1887. (Reprint.)

A Handbook of General and Operative Gynecology. Volume I. By Dr. A. Hegar (University of Freiburg) and Dr. R. Kattenbach (University of Gießen). In two volumes. This is also Vol. VI. of "A Cyclopædia of Obstetrics and Gynecology," issued monthly during 1887. New York: Wm. Wood & Co.

Pulmonary Consumption. Its Etiology, Pathology and Treatment with an Analysis of 1000 Cases to exemplify its Duration and Mode of Arrest. By C. J. B. Williams, M.D., LL.D., F.R.S., and Charles Theodore Williams, M.A., M.D., Oxon. Second Edition. Enlarged and re-written with four colored plates and ten wood-cuts. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

FRACTURE OF THE SPINE: ITS IMMEDIATE TREATMENT BY RECTIFICATION ON THE DEFORMITY AND FIXATION BY PLASTER-OF-PARIS JACKET.¹

BY HERBERT L. BURRELL, M.D., OF BOSTON.

FROM a practical point of view, we may consider dislocations and fractures of the spine together, and it will not be a difficult task to represent to the minds of most surgeons the utter hopelessness of this injury in most cases.

All authorities² agree that the prognosis depends largely upon the location of the injury, and the amount of damage done to the spinal cord. It is not the injury to the bony structures or ligamentous union, that renders this injury so fatal, but the pressure or crushing that takes place, of that wonderfully constructed spinal cord, which receives and transmits impressions to the various members of the body.

The spine itself is so complexly constructed, adapted to so many different movements and purposes, that we can really say, that when it receives an injury, the "back bone" of the human organism is broken.

The cord resting as it does in a bony canal, may be pressed upon by bony spiculæ from any side, it may be pressed upon or severed completely by some sharp fragment, or simply the anterior buttress or body of the vertebræ may be crushed upon itself, without any serious or permanent injury to the cord having occurred. This is illustrated in Plate VIII.

The higher the injury of the bony column, the greater fatality. Gurlt³ reports that out of 178 cases where the cervical vertebræ were fractured, death occurred in 164, or 90½%. Out of 184 in the dorsal region, death occurred in 146, or 79¾%. Out of 82 in the lumbar region, death occurred in 56, or 68½%. This ratio of mortality is quite what we should expect, as the nearer we approach the respiratory centre, the more fatal is the injury.⁴

By the courtesy of the surgeons of the Boston City Hospital, I have been enabled to collect all the cases (82) that have occurred in that Hospital, and have tabulated them, to ascertain what facts they will show. The lines represented in the next column present a synopsis of the detailed account that appears in the tables.

First, regarding the mortality of these cases, we find that the fatality is very great, and this is represented by Table A 1.

The fatality I have further analyzed to show mortality according to location. This is represented in Table A 2.

The striking immediate fatality of the accident is shown in Table A 3.

The recoveries have been divided into two classes: the first, where the patient was useful, in the sense of being self-supporting; the second, useless, where the patient is bed-ridden, and unable to earn a livelihood. So that we really have in these 82 cases of Fracture

of the Spine, an apparent recovery of 22%, where really there is only 11% returned as producers in the community. This is shown in Table B.

The ratio of frequency of prominent symptoms occurring after fractures of the spine, is shown in Table C.

The utter hopelessness which is expressed in the term broken back, pervades the minds of all practitioners, and perhaps Erichssen⁵ expresses the general feeling, when he says that "Fractures of the Spine through the bodies of the vertebræ with displacement, are inevitably fatal."

FREQUENCY of SYMPTOMS.

TOTAL CASES. Table C.	
82	CREPITUS.
51	DEFORMITY.
63	UNCONSCIOUSNESS.
18	PARALYSIS COMPLETE.
67	PARALYSIS INCOMPLETE.
6	PAIN.
71	PRIAPISM.
18	DELIRIUM.
12	CYSTITIS.
31	BEDSORES.
27	

REGION.

TOTAL CASES. Table A-2.	
82	CERVICAL.
28	RECOVERIES.
3	UPPER DORSAL.
12	RECOVERIES.
4	LOWER DORSAL.
19	RECOVERIES.
1	LUMBAR.
23	RECOVERIES.
10	

MORTALITY.

TOTAL CASES. Table A.1.	
82	DEATHS.
64	RECOVERIES.
18	

TIME.

TOTAL DEATHS Table A.3.	
64	WITHIN 5 DAYS.
39	WITHIN 10 DAYS.
8	WITHIN 1 MO.
7	AFTER 1 MO.
10	

RESULTS.

TOTAL RECOVERIES Table B.	
18	USEFUL
9	USELESS
9	

The treatment of fractures of the spine may be divided into three principal heads:—

(a) Expectant. Water bed. Air bed. Wire bed. Bonnet's vertebral gutter. Extension and counter-extension.

(b) Operative. Trephining. Removal of bony fragments.

(c) Rectification of the deformity and fixation of the spine by plaster-of-Paris jacket or other apparatus.

(a) *Expectant.*—The statements made by Cline⁶ and by Cooper⁷ that we can accurately determine whether the body, or the arch, or the spine of a vertebræ is broken, is not supported by facts. Further,

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

² Sir Astley Cooper, Fractures and Dislocations of Joints; Malignant Fractures and Dislocations; A. Shaw, Holmes System of Surgery; Gurlt, Handbuch der Lehre von den Knochenbrüchen, Hamm, 1864; Sir Charles Bell, Observations on Injuries of the Spine and of the Thigh Bone, 1824; Hamilton on Fractures and Dislocation; Bryant, Practice of Surgery.

³ Ibid, p. 72.

⁴ Bryant, *ibid*, p. 105.

⁵ System of Surgery.

⁶ Chelius's Surgery, Vol. 1, p. 500.

⁷ Sir Astley Cooper on Dist. and Fract., 1851, p. 479.

Cline and Cooper believed that death was inevitable, sooner or later, if the fragment were not lifted by an operation.

This is possibly true, but specimens like Plate I and Plate II, show only too clearly that, at times, we have to do with an irremediable injury, and our duty in such cases is to pursue the expectant plan of treatment — that is, placing the patient on an air or water

spine from behind, would necessitate the division of the spinal cord; to attack it in front would be equally inadmissible, for the thoracic viscera, aorta, solar plexus, and vena cava would forbid; and an attempted removal from the side would be equally inexpedient.



PLATE I. (No. 1229, Warren Museum.)

The patient fell 30 feet. Wild and irritable, complete paralysis, bed sores, cystitis, and death from exhaustion in two months. There has been a complete rupture of the intervertebral substance between the 6th and 7th vertebræ, the upper edge of the 7th being carried away to the right side with the 5th and 6th vertebræ. The state of the spinal cord in this case may be imagined.

bed, and treating the symptoms as they arise. By this means we can prolong life, and make existence bearable. It is possible that a certain amount of relief may be obtained in these severest cases by permanent extension and counter-extension.

Having decided that the expectant plan of treatment must be pursued in certain rare cases, we come to our second division, that of

(b) *Operative*.—What further can I say to you than has been said in that bitter controversy between Sir Charles Bell⁸ and Sir Astley Cooper, as to the expediency of operations on the spine. Only on the parts posterior to the spinal cord, could an operation for a moment be entertained; for to attempt to remove the body of a vertebra after fracture of the

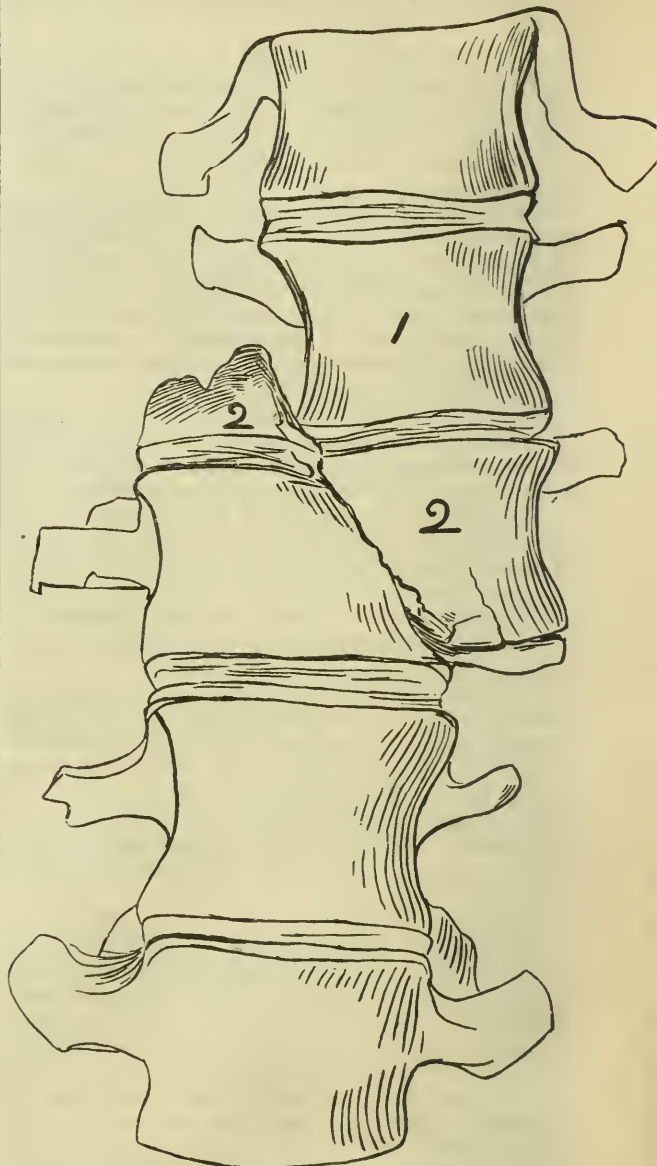


PLATE II. (No. 139, Warren Museum.)

T., æt. 19, run over by a fire engine. Complete paralysis, bed sores, cystitis, and died of exhaustion. There is a very extensive fracture and displacement of the 1st and 2d lumbar vertebræ. Cord completely destroyed.

Five cases have been operated upon at the Boston City Hospital. All ended fatally.

It may be of interest to see the status that this procedure should occupy in surgery. Paré, Heister, and many of the older authors discussed the propriety of excising portions of the vertebræ or trephining, but Henry Cline⁹ first performed the operation at St. Thomas's Hospital, June 16, 1814. The patient lived seventeen days, and Mr. Cline admitted that the operation hastened the end. Lidell¹⁰ failed to find a

⁹ New England Journal of Medicine and Surgery, Vol. IV, No. 1, January, 1815

¹⁰ On Injuries to the Spine. American Journal Medical Sciences, October, 1864, Vol. XLVIII, p. 320.

⁸ Observ. on Injury of the Spine and of the Thigh Bones.

single well-authenticated successful case. It is certainly true that Legoust,¹¹ Jobert,¹² E. Gurlet,¹³ Hamilton,¹⁴ and Sir Charles Bell¹⁵ all condemn the operation in unqualified terms.

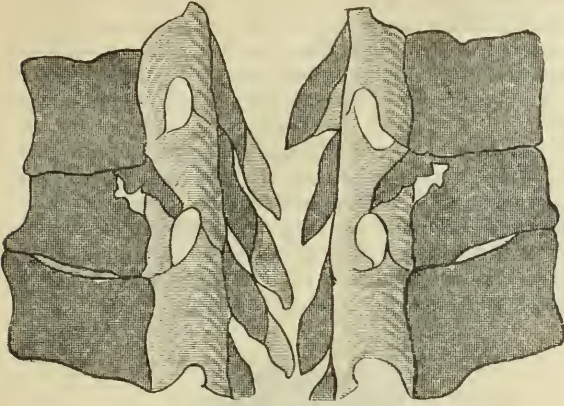


PLATE III.

Gun-shot injuries, however, may be excepted from this sweeping condemnation, and all the reported successful cases of operation closely resembled that done by Louis¹⁶ in 1762, where bony fragments were removed after a gun-shot fracture of the spine.

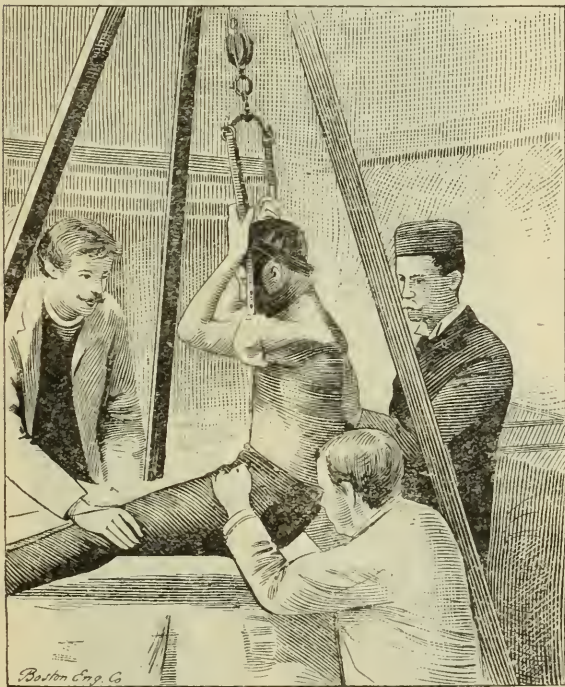


PLATE IV.

The removal of fragments after gun-shot injuries to the spine is perfectly justifiable, and will, I believe, give a fair measure of success. In the War of the Rebellion,¹⁷ "there were twenty-four cases of removal

¹¹ *Chirurgie d'Armée*, pp. 341, 352.

¹² *Plaies d'Armée à feu*, Paris, 1833, p. 125.

¹³ *Handbuch der Lepre von dem Knochenbrüchen Hamm.*, 1864, p. 186.

¹⁴ *Treatise on Fractures and Dislocations*, p. 187.

¹⁵ *Observations on Injuries of the Spine and of the Thigh Bone*, 1824.

¹⁶ *Remarques et Observations sur les Fractures et la Luxation des Vertèbres*. *Mem. Path. Arch. Gen. de Med.*, 1836, LXI, 2 Série, p. 417.

¹⁷ *Hist. of the War of the Rebellion*, Part 1, Surg. Vol., p. 459.

of fragments of the vertebræ after gun-shot fracture, with fatal results in only ten instances." In nine instances, however, of the fourteen examples of recovery, the spinous process, or fragments of it, only were removed. In the five cases of recovery, in which portions of the laminae or the transverse processes were removed, the results were much less satisfactory, nearly all of the patients having serious disability.

On the other hand, the operating on fractures of the spine, not compound, is not a justifiable measure, and without further evidence supporting this operation, it will have to be placed among the impracticable efforts of experimental or venturesome surgery.

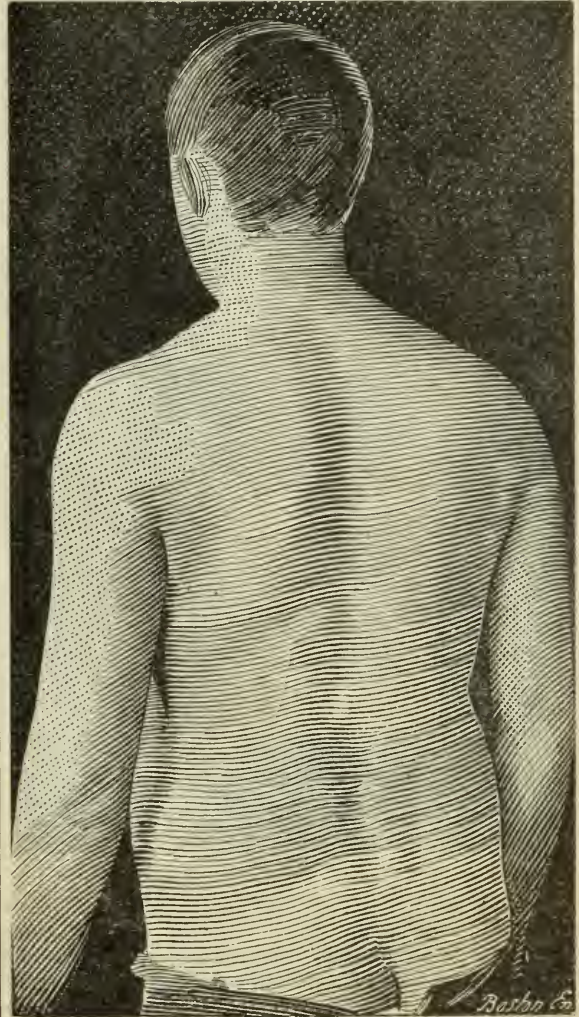


PLATE V.

(c) *Immediate Rectification of the Deformity in Fracture of the Spine and Fixation by Plaster-of-Paris Jacket*. On the 10th of August, 1886, I saw the autopsy of a woman who had been under my care, with a fracture of the spine, in the Boston City Hospital (Plate III, Case 78), and found that a plate of bone from the posterior wall of the body of the twelfth dorsal vertebra had been broken off, in addition to an arching backward of the whole spine. This plate had pressed upon the cord, and had, in thirty-eight hours, led to red and white softening for a distance of fifteen mm. The presence of the plate

anterior to the cord showed me that an operative procedure would have been of no avail, and the *softening* occurred so early in the cord, led me to believe that, if aught was to be done to remedy the damage caused by a fracture of the spine, it must be done at once.¹⁸

The arching of the vertebræ suggested that the difficulty might be overcome by *immediately* pressing back the deformity, and fixing it in this corrected position.

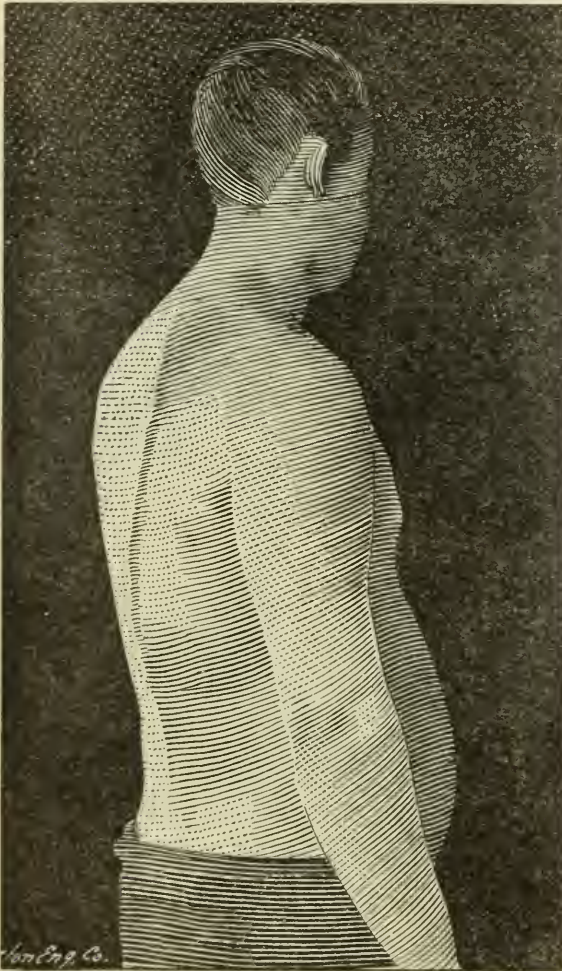


PLATE VI.

I determined to act upon this principle in the next case. On August 24, 1886, Case 17 was admitted, and was seen within twelve hours of the time of his fall of forty feet. The risks of immediate rectification and suspension having been explained to him, he was suspended, as represented in Plate IV, with this difference, that the tripod was placed over the head of the bed, a ward-master was placed upon a small table at either side of the patient, to lift up on the body at the axillæ. This, when one has many assistants, is a great aid to the patient. The back of the patient, while being changed from the horizontal to the perpendicular position, should be carefully supported, and when the patient is brought into an erect position, the buttocks are free from the table.

The deformity, which was at an angle of at least 30°, included the twelfth dorsal vertebra, was reduced, and a plaster-of-Paris jacket was quickly applied. An

¹⁸ Case 80. Red Softening in Cord. Death in eighteen hours.

anæsthetic was not given, for I did not wish to have any danger masked. The patient's sufferings during the suspension, rectification, and application of the jacket were more intense than anything I have ever seen; he nearly collapsed, but the jacket was finished, and stimulants were given. On recovering himself, he said that there had been an immediate return of sensation in his limbs, directly following the reduction of the deformity. His recovery proceeded uninterrupted. On April 23, 1887, for the first time, he walked out. Dr. P. C. Knapp examined him on May 1, 1887, and found in the left thigh and leg no galvanic reaction. All muscles react to faradic current. The right thigh and leg have no faradic reaction. He now walks with a halt in the right leg, and on May 5, 1887, was found acting as a bar-tender. Plates V and VI represent his present condition.

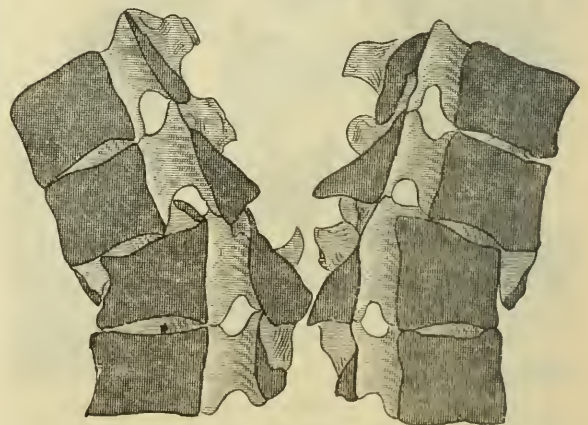
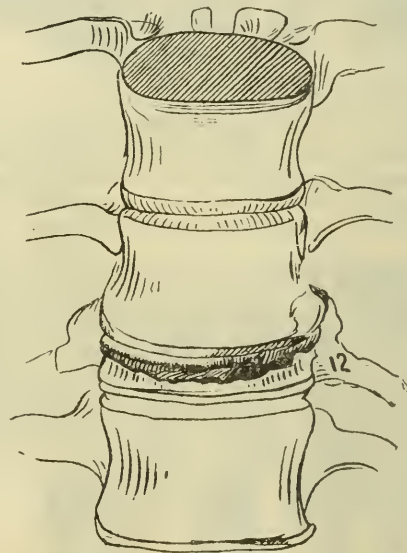


PLATE VII. (No. 140, Warren Museum.)

Fracture of 12th dorsal, with displacement; extensive laceration of inter-vertebral substance; cord almost completely severed; death, 9½ weeks; paralysis, bed sores, cystitis.

This procedure, at the time, I supposed to be an original thought, but soon found that other gentlemen in the same hospital had preceded me.

Five cases have been treated in this manner in the hospital to a completion. Dr. Wm. Ingalls on April 6, 1884, applied a jacket to a fractured spine, the deformity having rectified itself by suspension, but his

patient unfortunately died. Dr. W. P. Bolles, on July 15, 1884, applied a splint of plaster-of-Paris at once to a fractured spine, and his patient recovered, but is useless. Dr. M. F. Gavin, on September 21, 1886, rectified the deformity in a fractured spine, having suspended a patient weighing over 200 pounds. Great dyspnoea and pain occurred. The jacket did absolutely no good, requiring to be cut up on the second day, and gaped nearly an inch. The patient died in two months, of exhaustion.

On November 26, 1886, by the courtesy of Dr. Gavin, I was again enabled to attempt the rectification of a fracture of the tenth dorsal vertebra, and applied a plaster-of-Paris jacket; this case was seen a short time after the fracture occurred. There was no paralysis, and the patient made a good recovery.

Of these five cases two have died, one is useless, and two have recovered.

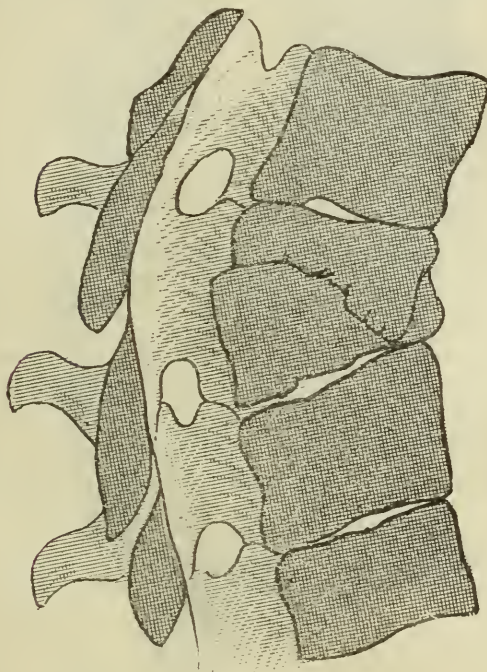


PLATE VIII. (No. 1376, Warren Museum.)

Diagram of a fracture of the body of a vertebra, not narrowing the canal materially.

Of the expediency of rectification of the deformity I can but think that an important lesson can be learned from a study of these drawings of specimens from the Warren Anatomical Museum. Plates I and II show that any efforts would be futile; while Plates VII, VIII, IX, X, and XI, are very suggestive as to the possibility of immediately rectifying the deformity.

The application of the plaster-of-Paris jackets for fracture of the spine is by no means a new idea, and the literature on the subject at my command, gives me the following facts:

In the fall of 1874, Professor Sayre states that he first applied a plaster-of-Paris jacket for Pott's disease and doubtless to his bringing this method of treatment of Pott's disease¹⁹ before the profession, is due the present application of plaster-of-Paris jackets in fresh fractures of the spine.

¹⁹ Succinct History of the Plan of Treatment of Pott's Disease by Suspension and the use of plaster-of-Paris Bandage, p. 4.

On June 25, 1879, J. R. Weist, of Richmond, Indiana, reduced a fracture of the ninth dorsal vertebra during suspension, and applied a plaster-of-Paris jacket. This was followed by a great relief to the pain, uninterrupted improvement, and a recovery of the patient on the 67th day.

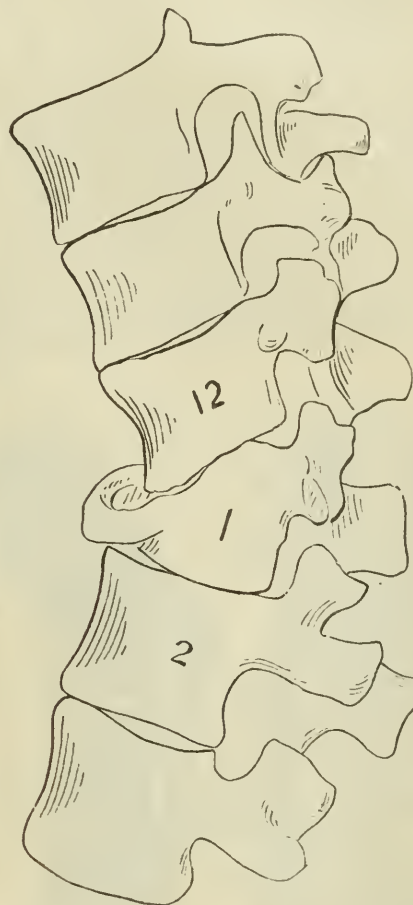


PLATE IX. (No. 941, Warren Museum.)

Fracture of 1st lumbar vert. Female, æt. 19; fall, 20 ft., striking on nates. Spinal canal encroached upon. Symptoms.—Complete paralysis, immediate. Results.—Moderate improvement after 3 weeks; power of sphincters regained.

Dr. Weist says that when he applied the plaster dressing in this case, he was not aware that it had been used in such cases; but he learned from Dr. Sayre that it had been used several times in a similar manner at Bellevue Hospital with very satisfactory results, and says that probably others also have used the plaster jacket in this way. However this may be, Dr. Weist made the report at the request of Professor Sayre, and with the exception of an allusion to a case of Spratley's by Reginald Harrison, shown at the Liverpool Medical Institution²⁰ Dr. Weist's case is the earliest published record of the procedure that I have been able to find.

In the remainder of the year, 1879, I find five cases treated in this manner. König, of Gottingen, in 1880, said that having used suspension and plaster-of-Paris jackets for caries of the vertebrae, where there was paralysis, with great improvement, he was led to apply

²⁰ Surgical Diseases of the Urinary Organs (Lectures on), p. 51, by R. Harrison, at the season, 1878-79.

a similar treatment to fresh fractures of the spine. He did not advocate its employment in all cases, but in his three cases the results were favorable.

He said that doubtless the method had been employed in other hospitals, and he wrote the paper as a contribution to the subject. Wagner, of Königshutte, reported two cases with which he was not at all satisfied. In both cases he was obliged to remove the jacket. He advised caution in the use of the jacket, had seen it produce paralysis, and felt that the replacement might produce alarming or dangerous symptoms. He advocated its application at the expiration of fourteen days. The whole subject was discussed at the German Congress of Surgeons—(19) Berl. Klin. Wochen. 1851, p. 247—in 1881, and was evidently considered a measure worthy of trial in picked cases. Langenbeck mentioned a case which he had treated in this manner in 1862, and which ended in failure. Since then I have accounts of the following cases: One by Berkeley Hill; one by Edouard de Régnier; one by Carson; two cases by H. O. Marcy, private letter.



PLATE X. (No. 4629, Warren Museum.)

Old fracture 12th dorsal. Upper edge has been broken away from body of centrum. 12th dorsal vertebra is crushed anteriorly. Considerable narrowing of canal, opposite upper edge of 12th dorsal vertebra.

C. A., æt. 18; fell on plank floor. Paralysis, bed sores, cystitis; death after 2 8-12 years. Cord considerably disorganized at seat of injury.

No attempt has been made to investigate cases where a jacket has been applied after the tenth day following an injury. This gives us sixteen cases, in which three died, three derived no benefit from the method, and ten were greatly benefited.

The subject may be summarized, and I submit the following conclusions:

First. That, in the *immediate* correction of the deformity and fixation with plaster-of-Paris jacket or other means, we have a rational method of treating a large number of cases of fracture of the spine.

Second. That, considering the hopelessness of results in fracture of the spine when treated expectantly, almost any risk is justifiable.

Third. That the *immediate* correction of the deformity is imperative, *if* softening of the cord can and does occur from pressure, at the end of forty-eight hours.

Fourth. That the suspension of the patient is only a means of rectifying the deformity, that certain fractures could be simply pressed into position while the patient lies prone or supine.

The objections to the treatment are,—

(1) That the expectant plan of treatment gives a small percentage of recoveries.

(2) That there are serious risks, especially in the cervical region, attending the suspension of a patient and the rectification of the deformity with a fractured spine in the way of shock, collapse and death.



PLATE XI. (No. 938, Warren Museum.)

Fracture 4th dorsal; longitudinal section, showing backward displacement and narrowing of canal. Female, æt. 25; fall, 15 feet; paralysis (complete); bed sores; death, 9 weeks.

(3) That in attempting to relieve pressure on the cord, by rectifying the deformity, that we might either sever the spinal cord or make pressure upon it. This is a matter of chance.

My own belief regarding the status that the procedure should occupy in surgery, is: that it will occasionally be a life-saving measure; that it should be applied under anesthesia in all cases of fracture of the spine, which are not conclusively known to be irreparable; and that apart from the chance of recovery that is offered to the patient by this means, it will almost invariably make the patient more comfortable, in that he can be handled more easily.

In conclusion, I wish to acknowledge my indebtedness to Drs. H. W. Cushing, E. G. Brackett, and W. H. Prescott, for valuable assistance rendered, in preparing details of this paper.

SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA.¹

BY SILAS ALLEN POTTER, M.D., OF ROXBURY.

WRITERS upon summer diarrhœa appear to be agreed that fermentation holds an intimate relation to the disease.

Dr. H. C. Haven,² writes, "It will, I think, be universally admitted that, in its totality, summer diarrhœa of infants is a zymotic or fermentative disease."

Maximilian Herz³ states in regard to cholera infantum, "It is pretty generally admitted that putrefaction of food, as Baginsky maintains, is an important cause of cholera infantum."

J. Lewis Smith⁴ says of infantile diarrhœa of summer, "Undoubtedly one of the most important causes is to be found in the very free exhalations arising from decomposing animal and vegetable matter during the heated term, and the disease is always most frequently met with in those localities where the accumulation of filth is the greatest."

It is the object of this paper to collect the more important facts about fermentation, and consider their relation to the disease in question.

The terms sepsis and antiseptis we wish to employ in a broad sense, to indicate, on the one hand, injurious effects resulting from micro-organisms; on the other, influences adverse to the life or activity of micro-organisms.

The alcoholic fermentation is caused chiefly by the yeast fungus, *torula cerevisiæ*; the *bacillus lactis* is certainly one cause of lactic acid fermentation, and the *bacillus butyricus* is one cause of the butyric acid change in rancid butter. Of these three fermentative processes it may be affirmed that the principal organism concerned in their production has probably been determined. The organisms referred to have been isolated, a pure cultivation of them introduced into an appropriate sterilized medium, and the proper chemical decomposition obtained.

Other fermentations, such as the acetic, ammoniacal, viscous, putrid, have not been studied with the accuracy which the later methods of research permit. Though due to bacterial action, it is impossible to designate a particular organism as their sole or chief cause. The micrococci found in putrefying material are yet undifferentiated, and the bacterium termo, believed by Cohn to be the essential cause of putrefaction, has already been proved to be a name covering more than a single variety of organism. It is not improbable that the same may be shown to be the case with the *micrococcus ureæ*, the *bacterium aceti*, and others.

However, it is not so much with the particular organisms producing these changes that we are now concerned, as with the grand fact, apparently accepted by bacteriologists, that the cause of fermentation and putrefaction is vital. "Micro-organisms" writes Carl Fraenkel,⁵ "are the producers of fermentation, and, what in the economy of nature is a still more important part to play, are the cause and the only cause of the putrefaction of organic substances." When it was proved that the exclusion of bacteria from a wound was what averted the traumatic infective dis-

eases, a scientific basis was at once given to antiseptic surgery. If we believe that summer diarrhœa in a very large number of instances would not occur but for fermentation, the recognition of the cause of fermentation is the initial step toward an understanding of the disease.

The action of fermentative organisms in causing diarrhœa is probably indirect, the immediate agents being substances produced by the microbes through the decomposition of the fluids in and upon which they live.

According to Flugge,⁶ the chief products of bacterial action are: gases, as CO_2 , H_2 , CH_4 , H_2S , NH_3 ; water; sulphur; volatile bodies, as trimethylamin, alcohol, formic acid, acetic acid, butyric acid; fixed acids, as lactic, malic, succinic, oxalic, tartaric; sulphoacids, as taurin, amides of the fatty acids, especially leucin, alanin; bodies of the aromatic series, as tyrosin, phenol kresol; reduction products, as indol, hydro-paracumaric acid; complex molecules, as carbo-hydrates, pepton, hydro-lytic ferments; coloring matters; and poisonous alkaloids.

Of these substances two classes, some members of which, at least, are produced by the bacteria of fermentation, are interesting in the study of summer diarrhœa: the acids and poisonous alkaloids.

Acids can excite diarrhœa by immediate irritation of the mucous membrane of the bowel, the alkaloids indirectly by systemic effect. The simpler, less violent cases of diarrhœa can often be traced to the irritation of undigested food and the acrid substances produced by its fermentation; the more sudden and violent cases often appear to call for the agency of a poison.

It was long ago noticed that serious illness often-times followed the eating of decomposing meat, fish or cheese.

Kerner seems to have been the first to suspect that alkaloids were formed by the decomposition of albumen, and in 1820 called attention to the similarity between the poisoning by sausages and atropia.

Panum, in 1856, demonstrated that putrefying substances often contained poisons which, when injected into animals, caused death. That death was not due to the activity of bacteria introduced into the body, he showed by sterilizing the fluid before injection. He also proved that the inflammatory changes in the intestinal mucous membrane of animals poisoned with putrid material was not caused by the bacteria in the putrid fluid but by chemical substances which retained their character even after boiling.

Solmi, of Bologna, gave to these alkaloids formed by the decomposition of proteids, the name of ptomaines.

Neeki, in 1876, first obtained ptomaines in a pure form, and determined their chemical symbols.

Brieger, however, in 1885, produced the most important results which have been obtained in this branch of investigation. From putrefying meat he isolated three alkaloids which he called neuridin ($\text{C}_5\text{H}_{14}\text{N}_2$), neurin ($\text{C}_5\text{H}_{13}\text{NO}$), and cholin ($\text{C}_5\text{H}_{15}\text{NO}_2$). From putrefying fish he obtained neuridin, muscarin ($\text{C}_5\text{H}_{15}\text{NO}_3$), gadanin ($\text{C}_7\text{H}_{17}\text{NO}_2$), and a base allied to æthylendiamin ($\text{C}_2\text{H}_4(\text{NH}_2)_2$ H_3O). From decomposing gelatine he separated neuridin, muscarin and dimethylamin. Of these, neu-

¹ Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.

² Med. Communications of the Mass. Med. Society, 1886.

³ Wiener Klinik, 1882.

⁴ Medical Record, May 25, 1878.

⁵ Grundriss der Bakterienkunde, Berlin, 1887.

⁶ Die Micro-organismen. Leipzig, 1886. Also W. Watson Cheyne, American Journal of the Medical Sciences, October, 1886.

ridin is most constantly found in commencing putrefaction. The presence of the others seemed to depend in some degree upon the special substance undergoing decomposition. From putrefying human bodies Brieger obtained several alkaloids, neuridin, cholin, cadaverin ($C_5 H_{16} N_2$), putrescin ($C_4 H_{12} N_2$), saprin ($C_5 H_{16} N_2$), trimethylamin ($(CH_3)_3 N$), dimethylamin, triethylamin, mydalein, and a substance of undetermined composition.

The physiological action of these various compounds differs widely. Some, as neuridin, cadaverin, putrescin and saprin are either harmless, or must be injected in very large amounts to produce toxic symptoms; others are violent poisons. Of the latter, there are five which bear an interesting relation to summer diarrhoea: neurin, muscarin, cholin, mydalein and the substance of undetermined composition. The action of the first three is essentially identical. The most important symptoms produced by a fatal dose are salivation, vomiting and diarrhoea, dyspnoea, paralysis and death. Mydalein, when injected into guinea-pigs, even in the very minute quantity of three-fortieths of a grain, caused profuse secretion from the eyes, nose, mouth, and intestine, dilated pupils, exophthalmos, an increase of temperature, paralysis, fibrillary twitching of muscles, dyspnoea and death. In cats the result was not essentially different, diarrhoea being prominent as before. The substance whose composition was not determined, produced in rabbits and guinea-pigs, excessive peristalsis and exhausting diarrhoea. In general, it may be said that most of the alkaloids obtained by the decomposition of albumen have a tendency to produce diarrhoea.

It does not follow that, because ptomaines capable of exciting diarrhoea are formed outside of the living human body, they are formed likewise within. There are, however, strong reasons for believing that such may be the case.

Substances capable of putrefaction are present in the digestive canal. Of such, the most common in children is milk, but in neither adults nor children can any article of food be assumed to be absent. In many cases, beside food, there will be mucus, serous exudation from inflammatory surfaces, blood, pus and sloughs.

The micro-organisms which accompany and are believed to cause putrefaction, exist in the digestive tract. Johnston, in the examination of the vomitus of seventeen breast-fed infants affected with summer diarrhoea, found invariably micrococci and what is known as bacterium termo. He discovered in diarrhoeal faeces innumerable bacteria, especially of the two varieties mentioned. Since the digestive canal is not free from bacteria in health, it must be inferred that while the digestive function is normal, certain conditions exist by which organisms are held in subordination. Spallanzani found that when substances, in which putrefaction had already begun, were introduced into a living stomach, the process was checked. It may be supposed that in order to initiate fermentative changes, organisms enter the body in uncontrollable numbers, or that digestion is in whole or in part suspended.

The products of fermentation are found. With the sour vomitus and the acrid or foul stools of summer diarrhoea, all are familiar. The search for alkaloids in diarrhoeal excrement has probably not been made, but such have been found in healthy faeces, and that

freshly-voided faeces are poisonous has been proved by Bouchard. It is probable that the amount of poisonous alkaloids formed in disease is greater than in health, and also that their quantity and the conditions under which they are produced render them less subject to the eliminative action of the body.

What is known of ptomaines throws light upon certain obscure conditions arising in summer diarrhoea. There are cases of cholera infantum in which violent symptoms are followed by speedy death, and yet no appearances adequate to explain the result are revealed by the autopsy. There are also cases of diarrhoea, some acute, others subacute, which a few hours before death show, with the condition called hydrecephaloid, a rise of temperature. The nervous symptoms may be referred to exhaustion. It is difficult, however, to explain the increase of temperature by either exhaustion or a new inflammatory process begun in those last few hours of life. It seems more reasonable to believe that, both in this case and the former, a septicæmia has been induced by the products of putrefaction, either absorbed from the digestive canal, or generated in the exhausted tissues of the body.

It is easily remarked that in no case of summer diarrhoea do the symptoms correspond completely with those following the administration of a given ptomaine to an animal. Of this, an explanation is offered by the fact that a single ptomaine could hardly exist alone in the digestive canal, since both the albumenoids and organisms present are various. Moreover, different ptomaines, though they may have similar, may possess antagonistic powers so that the effect of any one may be modified or even neutralized. It is, therefore, impossible to predict with exactness from experiments outside the human body, what the action of the alkaloids of putrefaction would be when formed within the body.

Many of the expedients which have been found useful in the treatment of summer diarrhoea possess some element unfavorable to the growth of micro-organisms.

The removal of a child from the city to the country or seashore is, in high degree, an antiseptic measure. Investigation of the bacterial contents of the air and earth show that organisms diminish in number as we rise above the surface of the earth, as we penetrate beneath it, and as we go out upon the sea. They are absent in the high Alps, absent or very scarce in the lower strata of the soil, and absent, so far as investigation has gone, in the sea air a thousand miles from land. In the Rue de Rivoli, on the contrary, in the centre of Paris, there are ten times as many microbes in the air, as at the fortifications outside the city; and at Montsouris observatory the north winds blowing over Paris bring many more bacteria than the south winds from the country. The most impure come from the hills of Villeite and Belleville, populous quarters, in which also are cemeteries and slaughter-houses. In other words, where there is decomposing organic material, there are bacteria, and the greater the amount of the one, the larger the number of the other. What is true of air is in a higher degree true of water. Condensed aqueous vapor has been found to contain 900 bacteria to the litre, sewer-water from Clichy contains 80,000,000 to the litre. It is where human beings are crowded together in large numbers that the greatest consumption and excretion of organic matter takes place. It is here, therefore, that the widest necessity exists for those retrograde changes which it is the

peculiar province of fermentative organisms to effect. We are justified, therefore, in looking upon filth and sewage as the grand culture medium of fermentative organisms, the special soil in which flourishes the most formidable cause of summer diarrhoea. Removal from this contaminated environment would, therefore, be demanded by theory, and is approved by practice.

It can readily be seen, however, that the advantage which extra-urban residence naturally possesses can be nullified for any particular place by unhygienic local conditions. The insufficient drainage of a country town, the cesspool under the window of an isolated farmhouse, create the same danger which is to be encountered in the midst of a dense population. It is in all cases the proximity of decomposing organic material which is to be avoided.

The transference of a child from the bottle to the breast is an antiseptic measure. Milk, as it comes from the breast, is free from organisms, and human milk, even when allowed to stand exposed to the air, is said by Baginsky to resist fermentation a number of hours longer than cow's milk.

The heating or boiling of milk is an antiseptic procedure. The ancients used to quench flints in milk to render it more suitable for diarrhoeal patients. Household observation has taught that "boiled milk keeps." The more exact studies of the laboratory have shown that micro-organisms can be killed by sufficient boiling, and that a fluid thus sterilized will remain unchanged until bacteria are again admitted. To employ completely sterilized milk for infant feeding is hardly compatible with the conditions of a nursery. An approach to this can, however, be effected by boiling milk in the same bottle from which it is afterward to be nursed. The bottle should be stoppered with cotton before boiling, and the stopper removed only when the milk is required for use. Milk, thus prepared, will keep sweet in a warm room for twenty-four hours, while unboiled milk standing in a pitcher by its side, will, in that time, have become sour and coagulated. To thus defer for a few hours the capability of milk to ferment, may be all that is necessary in the treatment of some of the minor cases of vomiting and diarrhoea in infants.

All means for emptying the digestive tract either by withholding food or by giving evacuants have an antiseptic value. On the one hand, micro-organisms are deprived of the material necessary for their growth; on the other hand, both organisms and their products are swept away. Evacuants have from an early period been held in favor in the treatment of diarrhoea. The Greek physicians prescribed mild laxatives to remove the "peccant humors," and Piso, who introduced the use of ipecac for its emetic and cathartic effect in the fluxes, described it, in his extravagant language, as "a sacred anchor and most exquisite gift of nature."

Various drugs have been used to produce disinfection of the digestive tract. To determine the comparative efficiency of these in the treatment of summer diarrhoea does not at present seem possible. It would appear that the value of a particular drug does not depend upon the precise grade of its antiseptic power. A milder antiseptic may, all things considered, be more valuable than a stronger. Nor does it seem probable that complete antisepsis of the digestive tract by drugs is as a rule necessary. The fact that the ordinary processes of digestion are conducted in the

presence of bacteria, leads us to think that nature in health exerts a control over micro-organisms. It is probable that she can do something for herself in most cases of disease. The part of medicine, therefore, is so to modify unfavorable conditions as to restore to nature the control which she has lost.

The main positions advocated in this study of summer diarrhoea are:

(1) That micro-organisms bear an important causal relation to a large proportion of cases of summer diarrhoea.

(2) That antisepsis of the digestive tract is an essential element in the treatment of the disease.

(3) That antisepsis should include not only the use of drugs, but the establishment of all conditions known to be unfavorable to the life or activity of micro-organisms.

(4) That, in order to a more scientific use of antisepsis, we require more adequate information as to what organisms are concerned in the production of fermentation, their life history, and the condition favorable and unfavorable to their growth.

REMARKS ABOUT THE DRUM MEMBRANE, WITH CASES.¹

BY E. D. SPEAR, M.D., OF BOSTON.

WHAT I shall talk about to-night will seem of trifling importance to those in our profession who are bearing the heat and burden of the day and to whom the work of a specialist oftentimes seems to savor of arrogance as he attempts to show his brother practitioner the vast importance which particular organs in which *he* is interested hold in the economy of life.

I therefore begin by presuming that I shall be pardoned for bringing little matters to the attention of great observers.

As a reason for presenting so worn a theme as that of the drum membrane of the ear, I would say that I wish to refer to popular impressions regarding it as a factor in the production of hearing. Every one knows the belief respecting it in the minds of the many. If once injured, broken or lost it is believed that the sense of audition departs. This fallacy is held in the minds of the very intelligent.

Of late writers begin to claim that, on the contrary, this membrane merely serves a physiological purpose of protecting the more deeply lying parts of the auditory apparatus, and consider its presence unessential to hearing! The arguments adduced to prove its functions, or rather to deny its usefulness, are supported by observations made upon that organ in its abnormal condition.

A study of the wonderfully delicate adjustments of which the normal membrane is capable, as shown so carefully by one in our midst, should lead us to respect its presence and urge us on all proper occasions to remove causes tending to prevent its full action.

I proceed to show, by a few cases, that inference as to functions drawn from observations made upon such an organ as the ear in a diseased state may with good reason be acted upon in pathological cases similarly affected, though I believe that the practice of following a routine plan in any class of cases should be avoided as likely to prevent the discovery of new methods.

¹ Read at the meeting of the Boston Society for Medical Observation, March 7, 1887.

In our discussion we may formulate these two inquiries.

First. Given a case of partially destroyed membrana, shall we try to close up the perforation?

Second. A case of intact but greatly thickened membrana shall we try to establish a permanent opening?

Two classes of cases claim our notice. Injuries to the drum membrane, of an acute character (perforations or ruptures).

Old perforations; the result of disease.

In the traumatic cases we find: previously unaffected or normal and previously diseased and therefore abnormal membranes.

Representing the first subdivision of traumatic affections is the not uncommon case of, A. B., adult, young woman. Was playfully cuffed upon ear by open hand of a friend who had approached her unawares. Felt concussion of air, heard short sharp report followed by a ringing sound. Felt dizzy; afterwards aware of slight deafness. Membrane is found healthy but with small linear rupture in posterior superior quadrant covered over with a fresh coagulum. Treatment, a placebo. On third day firm union of wound, noise gone and hearing nearly normal. Later perfect hearing.

The comparative rarity of similar cases among the large number of persons who receive blows upon the ear, is accounted for by absence of the favoring circumstances, not because of the infrequency of such accidents. In most cases where the blow falls over the meatus and one would expect a ruptured membrane "forewarned is ably forearmed" for the expectant musculus tensor and stapedius for that matter prepare the ear for the shock. Experience with simple cases like the above allows one to take slight notice of them and to trust entirely to the natural reparative processes so very active in healthy membrane. With such cases the answer to question one is easy.

The following cases, however, show the need of remembering that a ruptured membrane may also include injuries to the deeper structures of the ear. I am here reminded, in passing, that it used to be considered almost positive evidence of the very serious injury, fracture at base of skull, if bloody fluid was seen issuing from an auditory meatus.

A young man, attached to a light artillery company, had been engaged one afternoon in firing salutes. He had escaped injury to his ears by taking the precaution observed by the gunners, who present their faces to the concussion wave and by so doing divide it and lessen the shock. If the line of direction is properly judged and the correct position maintained, a blow, which by striking directly might rupture any membrane, is thus parried and normal ears escape injury. As the last round, the twenty-seventh as it happened, was fired, this gunner felt a shock in his left ear, which became deprived of hearing. When examined the next morning a small linear rupture was found very near the centre of a greatly depressed and opaque membrana. Absolute suspension of hearing was proven by appropriate tests.

Patient had for four months been conscious of having slight tinnitus, "a buzzing," in left ear. This had greatly increased. No vertigo complained of. It was decided that the shocks had impacted the foot-plate of the stapes in the oval window, and by compression

had abolished the function of the labyrinth. The immediate restoration of fair hearing by the use of the Eustachian catheter confirmed this diagnosis. A watch was heard at 30 centimeters. In this case there was evidence of a more or less chronic catarrh of the naso-pharynx and tympanum, and an explanation for so serious an injury to one ear without disturbance of the other, was easily found. The diseased organ, perhaps because of the infiltration of its protecting muscles, though more likely simply because of the disturbance of its mechanism could not withstand the shock.

This remark has an important bearing upon those cases whose type is found among those exposed to loud noises, and in whom the prominent symptom is a high grade of deafness. A few aurists have called this form "boiler-maker's deafness" which would imply a disease peculiar to ears exposed to a constant succession of loud shocks. My observations upon all such cases have shown an accompanying long-standing disease of the tympanum, usually chronic catarrh, and the condition of the sound-conducting apparatus here found explained why the labyrinth should suffer. If loud noises cause deafness then one ought always to find those employed at noisy trades deaf.

I once asked the manager of a stamp-mill if his workmen were not all deaf. He replied "no! I have twenty-one crushing machines in one room and the men who work nearest the noisiest of them can hear perfectly. Only those workmen who have catarrh are affected by the noise."

Another case, illustrating the weakness of diseased membranes, was that of C, a young man who applied for relief of deafness "of a week's duration," which he claimed followed immediately the receipt of a blow from the open hand of a companion with whom he was having a friendly bout. Here was found a large, irregularly oval opening through a very delicate cicatricial membrana. A look at his other ear revealed a membrane likewise delicate, though bearing large patches of calcareous matter. In this case the inference, therefore, was that the suddenly occurring deafness was to be explained on the probability that at the time the injury was received the man's hearing power was far below the average, the result of a former disease of both tympana and that the slight additional loss was noticed because of this fact.

The contrast in the very large perforation without coagula to that of the small linear rupture of a normal membrane clearly showed how delicate had been the reproduced membrane which is always composed of two layers only, a mucous and dermoid, lacking the fibrous middle layer.

Treatment of this case by paper or cotton discs would have been out of the question. The certainty of destroying more tissue by pressure as well as the impossibility of re-establishing a reparative process in the edges of such a structure prevented the trial.

Of ten successive cases of traumatic rupture noted within a short period, seven gave evidence of previous disease in the ear, one of the remaining cases was that of double rupture with history of free hæmorrhage and consequent purulent discharge from exposure to shock of a dynamite explosion.

The question of closing old perforations can be decided by reference to the special case under consideration. A choice of methods, too, remains.

A small opening in an otherwise healthy membrane

should be closed always, provided if the artificial membrane improves the hearing; because, without this, the risks to be incurred from its use would more than counterbalance its possible good effects. I found, in a boy of fourteen, total destruction of the membrane with adhesions about the stapes, in one ear, no hearing. In the other, a large oval perforation at the centre below the malleus. A paper disc over this latter opening so improved the hearing that treatment was decided upon. The paper was applied at intervals sometimes completely closing in the opening, at other times only partially covering it until irritation was caused, when it was removed and the ear left to recover. In one instance, after having been left on four days, congestion of the whole tympanic mucosa followed, and serum filled the tympanum. This attack, unattended with pain, indeed, unnoticed by the patient, with other slight relapses brought about absorption of material previously thrown out, possibly around the articulations of the ossicles and by allowing freer movements, improved the hearing to a point reached by the ear with its membrane as at first restored to its entirety. Future treatment of the case, it is hoped, will bring further improvement.

In the case which follows, a small perforation in a diseased (partially calcified) membrane is allowed to remain open because the hearing power is apparently nearly up to the normal standard and when closed by a paper patch, this is perceptibly diminished.

Observations upon the growth of the outer layer of the normal drum membrane having shown² that this tissue is constantly replaced by the reproduction of cells as on the skin, but that the tendency of their growth is outwards, starting from points on the membrane at or near its centre, towards the periphery, and posteriorly along the wall of the auditory canal.

This was clearly shown by the application of delicate paper discs to the surface of the membrane, which in course of time, were found to have changed their position with relation to fixed points. The rapidity of this movement and its general direction being determined by their relative proximity to the central part of the membrane and by their position in front of or behind the malleus. The discs placed posteriorly moved most rapidly and in the straightest lines, whilst those anteriorly were obliged to take a longer route and were even retarded by the slower growth of the epithelium in this situation. It was observed further that there was a spiral line taken by a disc placed above and in front of the tip of the malleus, by which the posterior periphery of the membrane was reached instead of the anterior.

Experience with paper patches upon the membrane, over perforations, also shows this tendency to displacement so constantly, that in practice it is necessary to readjust the "artificial membrane" periodically, to insure its therapeutic action: permanent closure of the perforation and improvement of the hearing.

By way of further illustrating this subject and with a view of giving additional evidence upon it, the citation of this case is presented.

L. F., adult, placed herself under my care for the relief of deafness accompanied with tinnitus. For six months patient had noticed a discharge from the right

ear which within two months previous to her first visit had stopped, when the left ear began to take on the same condition.

Her ability to hear ordinary conversation was much impaired, and the watch was heard only after contact with the auricle. Upon inspection the right tympanum was found full of fluid without an opening through the membrane. Upon the left side otitis media with sero-purulent discharge through a small perforation in front of and just below the tip of the malleus.

The treatment of the right ear may form the subject of another paper. That of the left resulted in great improvement in hearing and cessation of the discharge, but a perforation remained as above without any active process going on around it. The idea of bringing about the closure of this opening suggested itself, and a bit of "sized foreign note" was accordingly placed in position over it. In attempting to accurately adjust this, my probe unluckily pressed upon one of its edges and caused it to pass into the perforation, where it was only distinguishable by a line of light marking its vertical position. Efforts made with forceps and syringe, failed to replace it and only resulted in pushing it out of sight altogether. The paper was of necessity allowed to remain, and conjectures as to its probable position and future adventures were for many weeks indulged in. As no inconvenience was experienced by the patient then, nor has been since, other than sensations of fullness or heaviness (which were always found to be due to temporary obstruction in the eustachian tube and removed by the air-douche) no interference was necessary. After the lapse of two months time the paper disc was again visible upon the membrane above and close to the perforation. Since this reappearance its progress has been carefully watched and these observations noted. The disc has been covered by epithelium; the line of its advancement has been upwards and a little forwards, and at this writing, six months from the date of its first application, the extent of its journey has been reached, and it has left the membrane near its periphery, just under the anterior fold by a process of detachment brought about by the pressure of underlying layers of epithelium as they have accumulated from time to time. The foreign body was at first upon the inner surface of the membrane to the front of the perforation. It was very slowly brought through the perforation and took up a line of travel anteriorly and upwards. It was observed in Blake's experiments that a disc of paper placed upon a membrane at a spot corresponding to the perforation, in one case travelled downwards and posteriorly. Why did not this also? Plainly because the disc became placed upon the upper edge of the opening in the membrane where the direction of growth was upwards out of reach of those cells moving in the opposite direction (on the further side of the perforation). Further, Blake speaks of a "period of hesitation," at this part of the membrane. Undoubtedly, the dividing line between the two extremes of motion lies just at the tip of the malleus, as these observations would show, and the cause of the hesitation is explained by his having put his disc very near this dividing line where antagonizing forces may be supposed to have been acting. Another interesting question is, why was so much time consumed before the periphery of the membrane was reached? For the reason that its progress was retarded by friction against the edges of the opening, as well as by the

²American Journal of Otology, Oct., 1882. "The progressive growth of the dermoid layer of the normal membrana tympani. C. J. Blake, M.D."

fact that from this very retardation the epidermal coating had grown over the paper and could therefore act upon it only against the frictional resistance of its under surface. Again, because it moved slowly and was therefore being lifted off the membrane, it steadily got further and further from where the most active growth was going on, and received in consequence less and less of its momentum. The practical bearing which these facts seemed to have, suggested the idea that an artificial opening in a membrane intended to bring improvement in hearing by allowing sound waves to fall directly upon the stapes, should be made in front of the umbo of the malleus and would remain open for a longer period of time than those made in the usual positions. All my attempts to carry this theory into practice failed, because the nearness of the promontorium to the membrane prevented the knife from cutting. I have on this account considered the feasibility of using an instrument constructed like the ordinary pneumatic speculum but having a paracentesis knife so connected with it as to permit of a cut being made in the membrane while it is drawn outwards.

This leads to the consideration of our second inquiry; should attempts be made to establish an opening through the membrana?

Much has been written and said upon this subject since the beginning of this century and, notwithstanding the many failures, every aurist desires to find the way. Some have been very heroic in their experiments, and have in their eagerness to succeed greatly overdone the matter.

My slight experience has taught the futility of all such designs, and though some few cases are benefited by the trials, the improvement is to be attributed to the absorption of the products of former inflammations occasioned by the irritation, rather than to the immediate results of the operation itself.

REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

EXCESSIVE VOMITING OF PREGNANCY.

AT a meeting of the Gynecological Society of Dresden, November 4, 1886, CHAZAN¹ reported two interesting cases of this affection. In the first case the pregnant uterus was found to be retroflexed: after correction of the displacement and the introduction of a suitable retaining pessary, vomiting entirely ceased and the pregnancy continued without further disturbance. In the second case, that of a woman pregnant for the fourth time, who suffered from continual vomiting from the third month, no anomaly could be found in the pelvic organs by repeated examinations: it was learned, however, that the woman was inconsolable at the idea of being pregnant and wished to be rid of the product of conception. Vomiting continued many days several times an hour; but if the attention of the patient was entirely diverted by conversation, vomiting ceased for an hour or two and then returned. After the patient had been treated with various drugs for some time without effect, she was again carefully examined under anæsthesia. After this the vomiting suddenly ceased and did not return; apparently, as was learned, because the patient believed that while

under the influence of the anæsthetic the foetus had been removed. On the strength of this case, Chazan expressed the opinion that perhaps in most cases hyperemesis gravidarum was attributable to some affection of the nervous system or of the mind, and not to a genital abnormality, as some authors believe: and in support of his opinion he mentioned the frequent occurrence of excessive vomiting without coincident affection of the genital organs; the comparative rarity of hyperemesis in spite of frequent genital anomalies in pregnant women; the more frequent occurrence of the affection in the better classes; the sudden invasion after some psychical disturbance, and the immediate cessation after mental diversion.

In the discussion which followed Chazan's communication, but little support was accorded to its sweeping generalization, although neurotic and psychic causes were acknowledged to be factors in some cases. LEOPOLD spoke very clearly, and divided the cases of excessive vomiting into three classes:

(1) Those in which there is a displacement of the uterus, especially retroflexion. In these cases the vomiting depends on the excessive stretching of nerves and of the uterine muscle.

(2) Those cases in which only affections of the stomach appear to give rise to excessive vomiting.

(3) The cases in persons of neurotic temperament, wherein no anatomical changes are demonstrable.

LEOPOLD says truly that in each case the cause of the vomiting must be carefully sought for, and that sometimes more than one cause may be operative in a given case. He speaks highly of Credé's prescription, — the administration every five minutes of teaspoonful doses of nourishment, preferably iced milk, the patient lying absolutely quiet and taking the nourishment through a glass tube.

Cocaine is highly spoken of by many observers. Bois² relates the case of a young woman in her third pregnancy, who suffered with gastric disturbances to such a degree that she could take no nourishment whatever. Cocaine, opium, and other drugs, given internally, had no remedial effect. The condition was so serious that abortion was about to be performed when Bois determined to try the effect of local treatment of the uterus. He had made a salve after Beaumetz's formula — cocaine 1.0, vaseline 50.0 — and with this he smeared a tampon and placed it against the cervix, leaving it *in situ* for an hour or two: this was repeated twice a day for three weeks. Gradually the patient improved, took and digested nourishment, and was finally cured.

A NEW EXPLANATION OF RENAL TROUBLES, ECLAMPSIA, AND OTHER PATHOLOGICAL PHENOMENA OF PREGNANCY AND LABOR.

A. F. A. KING (Washington) has written a long paper³ on this subject and advanced a new theory of the renal affections of pregnancy. The paper does not admit of sufficient condensation to warrant its reproduction in this report by abstract; but all who are interested in the subject will do well to read the article in detail. Briefly stated, the author's theory is that "disturbances in the renal circulation and renal functions are produced chiefly by pressure of the gravid uterus upon the abdominal aorta or its branches, or upon the vena cava or its branches, or upon both or all of these, in

¹ Bull. Génér. de Thérapeutique, 1886, No. 11. Centralbl. für Gynäk., 1886, No. 51.

² American Journal of Obstetrics, 1887, Nos. 3 and 4.

³ Centralblatt für Gynäkologie, 1887, No. 2.

consequence of the child and womb not maintaining during pregnancy their normal lateral obliquity above the pelvic brim." The author submits that the normal position of the uterus before the advent of labor is the lateral oblique position, and that "the normal presentation and position of the fetus in utero during pregnancy, before labor begins, is the dorso-anterior position of an oblique presentation." He also declares that the normal position of child and womb is "intrinsically the same in primiparæ as in multiparæ," and that it is abnormal for the foetal head in primiparæ to enter the pelvis before the advent of labor. Dr. King then proceeds to show that "when the normal obliquity of womb and child is maintained during pregnancy, there will be no injurious compression upon any bloodvessels."

The author's theory is ingenious and is modestly presented: he admits that his views are theoretical and only hopes that they may stimulate research which will verify or disprove them. While many will not now accept his premises, those who have large clinical facilities will do well to examine them with care and give them that clinical test which alone will determine their value.

HEMATOMA OF THE EXTERNAL GENITALS AND VAGINA.

LWOFF⁴ has written on this subject, and reported five cases observed by him, which formed during or soon after labor. Regarding the aetiology of these blood-tumors, he concludes that neither the age, the number of the pregnancy, nor the length of labor are in themselves alone causes of the tumor formation; but rather varicose dilatations of the veins in the external genitals, congenital hæmophilia, and congenital anatomo-histological changes in the vessel-walls whereby the latter become more friable: changes in the structure and nourishment of the vessel-walls during labor are also predisposing factors.

The results of these tumors Lwoff groups under five heads:

- (1) Death from hæmorrhage with or without opening of the hæmatoma;
- (2) Death from septic infection through purulent degeneration of the tumor-contents, chiefly after the opening of the sac;
- (3) Opening of the tumor and healing;
- (4) Opening with subsequent formation of fistulous communications from the vagina to the perinæum or into the rectum, and protracted healing;
- (5) Absorption of effusion without opening.

In the way of prophylactic treatment little can be done, except to hasten the second stage of labor in cases complicated with genital varices and especially in those affected with the hæmorrhagic diathesis. During the formation of the tumor one can perhaps restrict its increase by pressure and cold in the form of an ice-bag or by means of a colpeurynter filled with iced-water. One should avoid opening the tumor as long as possible: if, however, the sac must be opened during labor or soon after, or if it bursts spontaneously, a tampon must be carefully packed into the cavity, both for the purpose of stopping hæmorrhage by pressure and to prevent a refilling of the sac. The author discards the sesquichloride of iron, since on account of the formation of loose, fragile clots the danger

of a secondary hæmorrhage is very great, and prefers to tampon the cavity with cotton wads soaked in iodoform and glycerine. If the effused blood breaks down, the cavity should be washed out several times a day with a 1 in 2,000 solution of corrosive sublimate and then dusted with iodoform. If for any reason the sac must be laid open, the result is the more favorable the later incision is performed. [This can hardly be true when there is evidence of beginning disintegration of the clot. REP.]

PROGRESS IN CÆSAREAN SECTION.

Reports from different sources of the continued and increasing success of the new Cæsarean operations are very gratifying to those who confidently expect these operations to ultimately displace in most instances the performance of craniotomy.

In the *Archiv für Gynäkologie*, xxviii, 1, are reports of twelve successful cases by different operators.⁵ WEISS (Schwerin) performed the Porro operation in a iv-gravida with a simple flat pelvis, whose previous labors had been difficult and instrumental (once craniotomy), and followed by a protracted and febrile puerperium. In the fourth labor the vagina was found to be so contracted with cicatrices that in spite of strong pains the cicatricial ring would admit only the index finger and there was imminent danger of rupture of the uterus. Weiss chose the Porro operation in preference to Säger's, because the patient had already had a chill and was feverish, and because in view of the vaginal contraction he thought it wise to prevent the recurrence of pregnancy. The child was saved and the patient left her bed on the twenty-first day.

LEOPOLD (Dresden) reports five cases performed after Säger's method and three after Porro's, in all of which mother and child were saved. The Porro operation was elected in two cases on account of cancer of the cervix, and once because of extreme pelvic contraction and an inflammatory condition of the uterus due to long labor. The Porro cases had a normal convalescence, but required from four to six weeks after the separation of the stump for the funnel-shaped depression in the abdomen to heal completely; whereas, in the Säger cases, convalescence was more rapid, and patients left their beds after fourteen days.

CRÉDÉ (Leipsic) reports two cases after Säger's method, in both instances on account of a flat, rachitic pelvis. Both mothers convalesced normally, and both children were saved. Crédé resected the muscular tissue in both cases, folded in the peritoneal coat and closed the incision with both deep and superficial sutures,—the former of silver, the latter of silk.

SKUTSCH (Jena), who also reports a successful case, says that if there is no especial need of haste it is better to delay the operation until the pains have dilated the cervix, in order to ensure a free exit for the lochia. If, however, the operation is necessarily performed before the cervix is dilated, a drainage-tube should be passed through the os and lochial retention thus prevented.

In the same *Archiv*, xxx, 2, the latest issue, Crédé reports his seventh successful Säger operation, and gives a table furnished him by Säger embracing all the reported cases after this method from May 25, 1882, to April 15, 1887, fifty in number. Of these fifty cases 72 per cent. of the mothers and 92 per cent. of the children were saved. Thirty-four of the cases

⁴ Zeitschr. für Geburtsh. u. Gynäk., xiii, 1. Centralbl. für Gynäk., 1887, No. 18.

⁵ Centralbl. für Gynäk., 1887, No. 20.

cases were German, and of these 88 per cent. of the mothers recovered and 94 per cent. of the children were delivered alive. The fourteen Dresden cases resulted in thirteen maternal recoveries and fourteen living children. In the seven Leipsic cases, the mothers and children were all saved.

It will be seen, therefore, that the mortality of the improved Casarean section, as an elective operation in the hands of experienced operators, is lower than that of craniotomy; and it is not an unreasonable expectation that with the increasing consideration for fetal life, the modern conservative methods will in all enlightened communities displace, in most instances, the destructive operations.

Clinical Memorandum.

TYPHOID FEVER WITH UNUSUAL FEATURES.¹

BY F. E. PORTER, M.D., AUBURNDALE, MASS.

IN August of 1885, I was called to a store to see a man who said he had taken cold during the rain of the week previous; had headache, back and legs ached off and on ever since; nose bled the morning before, face anxious and pale, eyes seemed prominent and larger than usual. Patient thought he had indigestion, and had for a few weeks back resorted to an apothecary for plain soda, which seemed to him to help him. Some rolling and tumbling in bowels, though no diarrhoea, tympanites or sensitiveness to deep pressure in iliac fossæ. Surface dry, pulse 116, temperature 104°, respiration 32.

Advised him to at once go home, take warm bath, apply warm pack to abdomen, and drink, in the course of a couple of hours, a tumbler of water containing

R	Liq. Ammon. Acet.	3i.
	Syr. Limonis	3i. M.

and if sleepless and restless at bed hour take gr. vi Dovers' powder. The next morning he told me he slept well, sweat freely, and felt better. Pulse 94, temperature 103°. At 5 P. M., pulse 100, temperature 104.4°; advised spongings with soda water, and Dover's powders gr. iv. at bed hour, if necessary. On second morning his pulse was 100, temperature 102.8°, respiration 24, bowels had not moved, though often threatened to; tongue brownish coat on sides; tip clean; said he "dreamed last night, and sweat in his sleep." 5.30 P. M., pulse 88, temperature 104.3°, nervous and restless, bowels uneasy.

No discernible change took place until the fifth morning. Pulse was then 92, temperature 102.6°; his friends said he was wandering during the night, and often required a strong man to keep him in bed. Up to this time he had been fed with plain, liquid, nutritious, and in part concentrated nourishment. At 2 P. M. was suddenly called, the patient having thrown himself in delirium about the bed, and could not be held. While there noticed his heart was fast failing, weakened action, frequent stops, irregular, surface growing cold, capillary circulation poor, nails blue, mouth wide open, and gasping respiration. Heaters, hot packs, hot coffee, hot water and brandy, and constant attention alone succeeded in whipping up the heart to renewed action and work.

7 P. M. Violent, and many men had to hold him;

eyes bright and glistening, pupils dilated, saying nothing, but eyeing, hearing, and knowing all, refusing everything. Pulse 140, temperature 102°, respiration 36; strength and power unnaturally increased, throwing men away from him in different directions. Consultation was sought with several physicians, and late in evening Dr. Thayer arrived. While rehearsing the condition in adjoining room, was suddenly called, to find patient wrestling with five men. Codeia, in grain doses, an hour apart was advised. At 2 A. M., after about five hours of extreme exertion, which of itself would inevitably wear out the patient in short time, and being unable to administer ether, which in many directions seemed preferable, I gave one-half grain of morphia subcutaneously; then waiting forty-five minutes for results without finding any, three-eighths more was injected. In fifteen to twenty minutes his exertions began to cease, and a controversial tack set in. At 4.30 A. M., he was asleep, which continued until 9.30 o'clock on the sixth morning. Pulse, temperature, respiration, state of surface, pupils, etc., corresponded to action of morphia in the system. During sleep patient sweat like rain, as indeed he had for past three nights. When he awoke, his mind was perfectly clear, called for milk, toast water, clear water, beef-tea; bowels moved and bladder emptied voluntarily, and the patient commenced to advise about pulling together in pulling him through, though soon after declared to those about him, he could not get well, "was all broke up," declared he must die, at the farthest in a few hours. Large discolored spots were now discovered about his hands, arms, thighs, and knees, one or two about the trunk, with here and there an abrasion, notably over the joints. Petechiae, usually found about the chest and abdomen, were not seen. Another failing of heart's action set in with its attendant symptoms, which were promptly met with hypodermics of brandy, etc.

At 2 P. M., he was fast becoming delirious, and seemed maniacal. Had he the strength of the preceding twenty-four hours, I have no doubt the same fight would have to be repeated. A hypodermic injection of one-quarter grain of morphia sulphate stopped the muscular exertions, though the time was occupied with much talking and occasional sleep. At nearly midnight I left him, with pulse 145, temperature 100°, respiration 45, with directions to have brom. potass., sodium, et ammonium, and chloral hydrate aa. gr. x, in a suitable menstruum given per rectum, should raving again set in. Having a professional man nurse on hand at that time I could rely on the execution of orders. He continued to fail during the night, and at 6 A. M., on the seventh morning of attendance, was called to find the pulse had been failing at the wrist for an hour, and now gone, heart's action 125, respiration sighing, and patient moribund. At seven o'clock all was over.

At 9.30 o'clock the undertaker found me and said my patient was fast growing unrecognizable, parts soft and dusky, abdomen swelling, ecchymotic spots, the size of a dollar to size of hand, appearing on back and legs. I saw him at ten o'clock and again at 2 P. M., when he was beyond recognition.

Extremities were fast amputating themselves,² and

² In confirmation of the above, the undertaker tells me he was obliged to lift the body on a sheet in putting it into a hermetically sealed casket. At the funeral, while carrying the remains into and out of the church, the pall-bearers said that different ends of the coffin were heaviest, according as it tipped during conveyance, and sounds were heard as of fluid in motion while the casket was in their possession.

¹ Read before the Middlesex South District Medical Society.

I told the friends that he died at the point of saturation with the poison; a gross statement to be sure, but one I thought more readily acceptable to them than any more refined elaboration of the condition.

Two or three reflections occur to me as I review this case. One is, the falling of the temperature when the cerebral irritation became pronounced. In this connection I will quote Liebermeister. "A condition of special interest, which sometimes develops itself at the height of the disease has been called by me, irritation of the brain with depression of temperature. Sometimes, about the middle of the second week, at the height of the disease, in a patient who has had continually high temperature and the corresponding functional disturbances of the brain, the brain symptoms suddenly assume an anomalous character; they become such as to suggest meningitis; or well-marked mental disturbances appear, either partaking of the character of melancholia or with maniacal tendencies, the pupils at the same time losing their sensitiveness to light.

"The striking feature of this condition, however, is that the temperature of the body, which has thus far run its ordinary course, and has for the past few days remained at about 104° F., or over, suddenly falls, when the evidences of irritation of the brain appear, and, during the continuance of the brain symptoms, fluctuates in an irregular manner between 98.5° and 100.5° F., or even between 97° and 102°.

"In favorable cases the brain trouble disappears in a few days, or it may not be until a few weeks have elapsed, and then the temperature rises again to a point corresponding to the stage of the disease, and the regular order of things is resumed. . . . It is a condition most apt to supervene in grave cases, and the irritation of the brain appears to result from the influence of a high temperature on that organ. The lowering of temperature which exists during the continuance of irritation of the brain may, perhaps, be most easily explained on the supposition that the controlling nerve centre, which presides over the regulation of temperature, is itself involved in this irritation."³

Another reflection is, the early appearance and despatch of the nervous symptoms. Murchison says, "As a rule, it does not commence until the middle or end of the second week, and it often does not appear until the end of the third week. . . . Still there are exceptional cases where the delirium occurs earlier. Louis mentions two instances where the patients were delirious during the first night. Jenner observed delirium, occasionally one of the earliest symptoms. Bristowe records a case where maniacal deliriums occurred on the second day." In three cases in which Murchison had been consulted, "the illness had at first been regarded as acute mania, and in two of these cases removal of the patient to a lunatic asylum had been contemplated."⁴ Flint says: "Exceptionally it is manifested in the first week, and even when the patient first takes to bed. . . . So far as my observations go, persisting, active or violent delirium, requiring restraint, is an extremely unfavorable symptom."⁵

Lastly, the rapid decomposition after death. In this disease I do not remember ever to have seen such changes recorded. It must imply an unusual amount of the poison received. It is unusual also, to see pa-

tients die thus early in the typhoid run. Emaciation is not pronounced, the fluids and fat are not yet reduced. Must it not mean, that the *materies morbi* is the main factor in this instance; while the fever, an attendant upon the disease, has not as yet more than commenced to work its own destructive processes? I have thought that the excessive muscular exertions, also, were a factor in the rapid destruction. The amount of nerve-power necessary to execute such movements, for so many hours without sleep; the amount of tissue waste of all sorts, with a poisoned nutrition, the blood, hastening to supply the loss of itself, would contribute *degeneration* for *regeneration*. One writer attributes the early appearance of delirium, not to any degree of fever that the patient as yet has had, but to the typhoid poison *per se*. And, I see nothing in the way of supposing, that a material, introduced into the system in amounts sufficient to so soon beget cerebral delusions, fancies, stimulating and perverting its energies to maniacal proportions, can, when driven throughout the economy at a heart gait of one hundred and forty and upwards, render every kind of structure, save the fibrous and bony, sufficiently pathological as, not only to cause early death, but, in warm weather, speedy decomposition beyond any recognition of the individual.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

MARCH 7, 1887, DR. McCOLLOM in the chair.

DR. E. D. SPEAR presented a paper,

REMARKS UPON THE DRUM-MEMBRANES, WITH CASES.¹

DR. C. J. BLAKE spoke very favorably of the use of paper patches in the treatment of perforations, alluding to a case of his own, where the patch disappeared through the hole, subsequently reappearing in the secretion. He favored the use of a long or oval patch.

DR. H. L. MORSE said that he had also passed a patch through a perforation, and in no way had he since known what became of it. At all events, it had produced no bad symptoms. He spoke, also, of the common fallacy of thinking that a perforation must necessarily induce deafness. In a case that he had had under treatment, where injury had been caused by the use of a fountain-syringe in removing plugs of cerumen, he had derived great advantage from the use of Politzer plugs, when other means of restoring the stapes to its normal position had failed.

DR. F. L. JACK reported some cases illustrative of the fair amount of hearing possible, despite large perforations.

DR. LELAND alluded to the employment, of the inside skin of the egg-shell, instead of paper, as having produced better results in his practice. In one case, it was worn without renewal for two months.

—It is said that a tooth immersed in a solution of the tincture of iron in eight parts of water, has its enamel entirely destroyed in one hour.

³ Ziemssen, Vol. I, p. 178.

⁴ Murchison, *Cont. Fevers*, Second Edition, p. 535.

⁵ Flint, Fifth Edition, p. 953.

¹ See page 177 of this number of the Journal.

AMERICAN OPHTHALMOLOGICAL SOCIETY.¹

TWENTY-THIRD ANNUAL MEETING.

CASE OF CONGENITAL ZONULA GRAYISH-WHITE
OPACITY AROUND THE FOVEA,

by O. F. WADSWORTH, M.D., Boston.

The patient was a child eleven months of age. She was unable to sit or stand and could not hold anything in her hands. She appeared to take little notice of anything. Externally the eyes were normal. With the ophthalmoscope the disks did not seem to vary from the normal appearance. The macula was dark red and surrounded by a grayish-white opacity. The remainder of the fundus appeared to be normal. There appeared to be some light perception. Five months later there seemed to be no perception of light. The disk was sharply defined; the central vessel small. The mother had had four healthy children. The fifth, according to the history, had been sick in a similar way as the one under consideration. In all the reported cases some weakness of the general muscles was noted.

SEPARATION OF THE RETINA IN BOTH EYES WITH AL-
BUMINURIA OF PREGNANCY: REPLACEMENT,

by O. F. WADSWORTH, M.D., Boston.

The patient was a married woman, seven and one-half months pregnant. About the beginning of the eighth month edema of the eyelid appeared. This was soon followed by indistinctness of vision. The urine was loaded with albumen and contained hyaline and granular casts. When seen by the speaker there was a general separation of the retina in the right eye. In the left eye there was also separation of the retina but not so distinct. After consultation, it was decided to induce premature labor. This was done and a living child was delivered. Before the completion of labor a convulsion occurred for which bleeding was resorted to. The patient convalesced and vision gradually returned. When last seen the disks were clearer. No separation could be made out in either eye.

Dr. B. ALEXANDER RANDALL, of Philadelphia, read a paper describing

A CASE OF COLOBOMA OF THE OPTIC NERVE.

Dr. F. BULLER, of Montreal, Canada, read a paper describing

A PECULIAR FORM OF GRANULAR CONJUNCTIVITIS
ASSOCIATED WITH ICTHYOSIS.

Two cases in which this combination was present were reported.

SECOND DAY. — AFTERNOON SESSION.

Dr. W. S. DENNETT, of New York, exhibited an ophthalmoscope, in which the mirror was substituted by an electric light.

Dr. LUCIEN HOWE, of Buffalo, presented a small pocket ophthalmoscope, with movable disc.

Dr. Howe also exhibited several photographs of the

INTERIOR OF THE HUMAN EYE.

Dr. EDWARD JACKSON, of Philadelphia, presented a
SET OF SMALL TEST-LENSES, WITH A MODIFIED
TRIAL FRAME.

The lenses are one inch in diameter, and the saving

¹ Concluded from page 161.

in weight is from one-third to three-fourths of the weight of those in common use. The lenses are plano-convex and concave, giving advantages over the double convex and concave by lessening spherical aberration, being easier to combine together, and making it possible to neutralize more perfectly spectacle-glasses, the strength of which it is desired to test. Several lenses had been added to the series usually placed in such sets, including stronger concave sphericals and two astigmatic lenses, which had been found very convenient in testing for astigmatism. It was suggested that all intermediate lenses added to the metric series should be made to divide in half the present interval of one-fourth dioptre, making the interval one-eighth, and preserving the simplicity of the system.

Making the lenses smaller allows the trial frame to be made smaller, and very much lighter, so that the new frame, with the new lenses, weighs less than half the old frames, with lenses of equal strength. The temple of the frame is attached to the lower part of the lens-holder, allowing the lenses to be placed in the back groove of the holder, or withdrawn therefrom through the natural depression of the temple, instead of across the prominences of the brow or cheek. The set and frames are made by Queen & Co., of Philadelphia.

Dr. S. D. RISLEY, of Philadelphia, described an

OPHTHALMOSCOPE WITH CYLINDRICAL LENS.

The ophthalmoscope is of the usual form, but behind the mirror there are two slides, containing the cylindrical glasses. In one slide the cylinders are $+ .50$; 1.00 ; 1.50 ; 2.00 ; 2.50 ; in the other, $+ .25$; $.30$; 4.00 ; 5.00 ; and 6.00 . With these numbers, any desired combination can be made. The axes of the cylinders are rotated by rotating the instrument as a whole. The instrument is especially useful at the bedside for the purpose of correcting a high degree of astigmatism, when present.

A MODIFICATION OF THE REFRACTION OPHTHALMO-
SCOPE, WITH AN ATTACHMENT FOR USING CYLIN-
DRICAL-LENS GLASSES,

by SWAN M. BURNETT, M.D., of Washington, D. C.

The modifications of the ophthalmoscope which were offered by the speaker consisted, first, in a clip behind the instrument, into which the cylinders in the test case can be inserted. The inclination of the axis is read on a graduation on the back of the mirror. The author had found this arrangement satisfactory in verifying the diagnosis of astigmatism made by other methods, and for examining the fundus of the astigmatic eye, free from its anomalous refraction. Secondly, two superposed discs containing lenses which singly, and by combination, give 47 numbers (22 plus and 25 minus lenses), with a regular interval of 0.5 D up to 10.5 plus and minus. Thirdly, a plane circular mirror, with a concave tilting mirror swung in front of it. The plane mirror does not interfere with the tilting mirror when in use, and when it is desired to use the plane mirror alone, the tilting mirror can be detached from its upper bearing, and swung downwards out of the way on its lower bearing. The instrument is very light, and it is made by Queen & Co., of Philadelphia, and its cost is about \$20.00.

TRANSIENT MYOPIA FOLLOWING IRITIS,

by JOHN GREEN, M.D., of St. Louis.

In 1867, the speaker had been the subject of iritis, involving both eyes. During convalescence, he noticed that the dimness of vision was not wholly due to lack of transparency of the media and that vision was improved by the use of concave glasses. He had occasionally observed in other patients with iritis, that as they recovered, vision was benefited by the use of concave glasses. Last April, the speaker had iritis affecting the left eye. He was then able to compare the one eye with the other and found that the myopia induced by the iritis amounted to 1.50 D. This gradually diminished until it disappeared at the end of four weeks, leaving the normal refraction. He had been unable to find accounts of myopia as a transient symptom, during convalescence from iritis.

DISCUSSION.

DR. O. F. WADSWORTH, of Boston. I can confirm Dr. Green's observations with reference to the occurrence of myopia during the convalescence from iritis. Patients who have had no myopia before, are benefited by concave glasses. This has gradually grown weaker. I have seen this repeatedly, but it does not occur in every case.

DR. G. C. HARLAN, of Philadelphia, reported an interesting case recently under his care.

A young man myopic two and one-half D. came under observation several months ago, with the history that he had spots coming before the right eye, and that there had been a sudden decrease of vision. I found a certain amount of choroidal irritation and a posterior polar opacity. This began as a six-armed cross with rectangular arms. These became more diffused during the following six weeks. During this time, there had occurred a marked opacity in the anterior portion of the lens, without traumatism and with only a moderate degree of choroid inflammation. There was no special increase in the myopia so far as the author was able to determine.

EXECUTIVE SESSION.

The report of the Committee on Congress of American Physicians and Surgeons was received, and the following resolution adopted:

Resolved, That the American Ophthalmological Society appoint a representative, and alternate, to the proposed executive committee of arrangements for the Congress of Special Societies, with the provision that in making the appointment this society does not commit itself to an approval of the present sketch in all its details.

Dr. William F. Norris, of Philadelphia, was elected representative to the executive committee of the Congress, and Dr. D. B. St. John Roosa, of New York, was elected alternate.

The nominating committee reported as follows:

Officers for ensuing year: President, Dr. William F. Norris, of Philadelphia; vice-president, Dr. Hasket Derby, of Boston; secretary and treasurer, Dr. O. F. Wadsworth, of Boston; corresponding secretary, Dr. J. S. Prout, of Brooklyn.

The following were elected to membership: Dr. George Cutter, of Brooklyn; Dr. D. C. Cocks, of New York; Dr. H. S. Oppenheimer, of New York; Dr. Charles McIlvaine, of Trenton; Dr. David P. Beck, of Cincinnati.

The next meeting of the Association will be held at New London, Conn., on the third Wednesday of July, 1888.

AMERICAN NEUROLOGICAL ASSOCIATION.¹

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

FRIDAY, JULY 22, 1887.

DR. OTT read a paper on

THERMO-TAXIS.

The speaker called attention to the increased rise of temperature upon nerve-irritation, the effect of atropia upon the nerve-system, and the rise of temperature after the administration of this drug, its maximum effect being produced at the end of two hours. He considered stimulation of the heat-centres was produced by these means. He also called attention to the rise of temperature in cases of tetanus and convulsions.

DR. SPITZKA mentioned two cases of chorea, the temperature, in one case, rising to 104°, and in the other, to 107°. He had no reason to account for that rise of temperature, except the strong muscular action exhibited. He had also seen a case of chorea that resulted fatally, in which the temperature was 103°.

DR. DANA read a paper

ON A CASE OF ANENCEPHALITIS ILLUSTRATING THE SENSORY TRACT.

The case was that of a male child born at full term, weighing eight or nine pounds. There was no deformity, except that the head was rather peculiar, being very long and narrow. The bones were freely movable; the eyes were kept closed. The child died on the second day. At the post-mortem, a yellowish fluid squirted out from the brain. The first nerve was not fully developed. The arterial supply was inferior and undeveloped in some of its branches. The pons varolii was small, as was also the spinal cord. The speaker presented some excellent drawings of sections of the cord and brain, also, of these parts in the normal subject; the smallness of the cord being due to the diminished size of the lateral columns, the anterior columns, also, being narrower than normal. The gray matter of the cord and its cells was fairly developed.

THE TREATMENT OF NEURALGIA BY MEANS OF INTENSE COLD,

by GEORGE W. JACOBY, M.D.

The reader concluded that we possessed two refrigerants, chloride of methyl and the fluid carbonic acid, which can be easily and practically utilized in the treatment of neuralgias.

DR. MILLS asked the reader if he had used rhigolene.

DR. JACOBY replied that he had, but could not obtain the requisite amount of cold. In sciatica, however, it had produced decided relief for a long time, but it requires a great deal of rhigolene. Although it is cheaper, it takes so much that it really makes it expensive.

DR. LLOYD asked what the apparatus used by Dr. Jacoby costs.

DR. JACOBY replied that it cost \$37.50, and one cylinder could only be used four times, but in Paris it could be filled for six francs.

DR. CHARLES K. MILLS, of Philadelphia, presented

¹ Concluded from page 161.

NOTES OF SOME CASES OF MULTIPLE NEURITIS (OR MYELITIS) OF SYPHILITIC ORIGIN, WITH REMARKS ON THE DIFFICULTIES OF DIAGNOSTICATING MULTIPLE NEURITIS FROM SOME FORMS OF MYELITIS.

The differential features given by Chapin, Starr, and others he regards as insufficient. Some of them were misleading. Common both to multiple neuritis and myelitis of the forms indicated, were atrophic paralysis, lost knee-jerk, and degeneration reactions, according to the best observers. Pain and tenderness were, in character, distinctly localized to nerve-trunks or certain muscles, and the absence of symptoms of paresis or paralysis of the bladder and bowels seemed to be the most definite marks of multiple neuritis, but could even these be regarded as positive, or, at least, absolute? It was certainly fallacious to decide in favor of neuritis, because of gradual onset, because the cases got well, because the paralysis was progressive and ascending, or because of the presence of numerous and persistent sensory manifestations.

DR. MILLS remarked that when the nerves and central organs were both involved, it was difficult to say which was first involved. He considered there were cases where it was impossible to discover whether the disease was central or peripheral. If we have paralysis of the muscles with loss of sensation and degeneration, the speaker thought it was neuritis; if sensation was present it was probably central.

DR. EDES stated that he reported a case some years ago in which he found symmetrical lesion in the cord; there was the usual amount of asthenia with rapidly advancing paralysis and atrophy below the knees and elbows; the case resulted fatally. The speaker thought Dr. Mills was right, and that these two things may co-exist, but whether the degeneration of the cord was owing to neuritis he would not be certain. He thought the tendency was to call these cases neuritis.

DR. PUTNAM remarked as to the connection of neuritis and the anterior columns of the spinal cord, the pain felt in polio-myelitis is really neuritic in origin. He had seen cases of pain with a loss of sensibility where the cord appeared to be healthy, but where the brain had spots of softening, the arteries were greatly thickened in the central nervous system. As Dr. Mills had suggested, the different types differ so strongly that we have to conclude we are dealing with a system of disease, and that the spinal cord and peripheral portion are related in some way. As regards the knee-jerk being exaggerated, several cases had been reported; the speaker could add two or three cases; he had examined cases of lead-poisoning and had quite a number of cases where the knee-jerk was exaggerated, where the symptoms would have suggested neuritis; this may be part of the general condition of hyperirritability of the nervous system.

DR. MILLS remarked he would like to get a positive opinion as to whether or not the presence of pain along a nerve trunk and hyperæsthesia can be present in the absence of peripheral nerve disease.

DR. LLOYD suggested the use of electricity as a means of diagnosis in these cases.

DR. STARR did not think this means could be depended upon, as the intensity of the disease was so varied. He thought a great many cases of polio-myelitis began without any sensory symptoms at all, and where it does occur at the beginning, the question comes in as to whether it is not neuritis; he did not re-

member seeing any cases where the cord was affected equally on both sides, one arm would be affected more than the other, and so it would be with the legs. In multiple neuritis both sides were affected similarly; as a rule, cases that he had seen during the past year followed out that idea. The speaker considered it a mistake to consider all cases that recover, neuritis; neuritis is not always favorable in its course, but it is more favorable than the other; there is a form of subacute polio-myelitis which may correspond with neuritis, pain and tenderness being points of great value in diagnosis.

DR. SPITZKA thought the pathological specimens too few to base any definite opinion on. In the last few months he had seen three cases where he would have defied any one to show him that they were cases of acute bulbar paralysis. They were after diphtheria; there was intense neuritis.

DR. DANA remarked that he considered alcoholic paralysis to be multiple neuritis; in these cases he had found the greatest variety of symptoms; in those cases of alcoholic neuritis we find neuritis alone, but cases have been reported where it has been combined with myelitis.

DR. MILLS said that he by no means denied the co-existence of the two diseases, but his desire was for the Association to discuss the different diagnostic points; he did not think electricity, as suggested by Dr. Lloyd, would be of great value; he felt convinced polio-myelitis began with sensory symptoms at times.

DR. FISHER read a paper on

A CASE OF BULBAR PARALYSIS.

The patient was a young married woman who had had several children; her family history was good. In the latter part of 1885, her speech became affected, the writer seeing her in February, 1886. The expression of the face then was characteristic of the disease, the lower lip hanging down and saliva flowing from the corners of the mouth, the tongue was small and atrophied and she could swallow with difficulty; examination of the larynx was almost an impossibility; reflexes were normal, the disease being confined to the hypoglossal and lower portion of the facial nerve; speech at length became utterly impossible, the mind was not affected, but the patient was very excitable and emotional. Emaciation then commenced, deglutition being extremely difficult, her food being confined to fluids. At night severe attacks of dyspnoea appeared, the patient being unable to cough.

At the autopsy the floor of the fourth ventricle, the region over the hypoglossal nerve was small and pale; the specimen after hardening showing an almost entire disappearance of the cells, the facial nerve was not involved in a marked degree.

Another case the writer quoted was that of a man who had syphilis, and who was thirty-five years of age. He had a sudden attack upon the left side of the face; the next month he had another attack upon the opposite side, also a cross paralysis; two months after, he could use the leg and arm again. One year later he had another attack but was not paralyzed, only remaining unconscious for four hours. Another case mentioned ended in recovery.

The writer presented microscopical specimens carefully prepared, showing the disappearance of the cells of the lower part of the facial nerve where the cells were found diminished in number; other sections were

made, but these were the only parts found to be affected in the first case mentioned.

DR. HAMILTON stated that he saw a remarkable case in 1881; it was well marked in the lips and tongue, but death did not occur until 1887; it was pronounced at the Neurological Society of New York where the patient was presented, as bulbar paralysis; at the end of three years it was pronounced hysteria; the patient had complained of symptoms a year before the speaker saw her; she finally died with all the symptoms of bulbar paralysis.

DR. THEO. H. KELLY, New York, read a paper on

HYDROTHERAPY IN MENTAL DISEASES.

The object was to call a more general attention to the different forms of insanity and the methods of application of water in its many forms to these cases, as might be demanded. Reference was made to the past ages in which the use of water as a means of cure was much relied on; the Turkish bath in mental disease being often of great benefit. In mania, acute alcoholism baths are excellent, but in organic disease of the heart and lungs the Turkish bath is to be avoided or indulged but slightly. He considered that it diverted the blood from the central organs. The speaker mentioned the Russian vapor bath which averages from 105° to 110° as useful in some cases; the Roman bath in cases of melancholia; the bath, however, should not be indulged in when very tired or the stomach empty. In cases of nervous irritability the cold-water bath 40° to 60° is excellent, the patient being removed from the bed to the bath, remaining there for three minutes, and then again returned to bed. The tepid bath 80° to 95° and the warm bath 95° to 105° have also been of use in acute mania. The graduated bath should be reduced slowly from 98° to 60° or even 40°, this bath being the most acceptable and the most prompt means of reducing bodily temperature in alcoholic mania. The reader called attention to the wet pack, the shower bath, hot, warm, tepid and cold; also the douche bath, foot bath, sitz bath, the mustard bath, in the latter the genitals must be protected from the action of the mustard, three to six ounces of mustard being used to every thirty to sixty gallons of water. In some cases the use of hot or ice water bags is valuable applied to different parts of the body; in insomnia the hot spinal bag will often induce sleep. The ice cap or ice coil is almost universally used as a means of reducing temperature. The salt water bath, hot or cold, was referred to, those living from the sea-shore using the bag salt, five pounds of the salt to fifty gallons of water.

In conclusion, it might be said that the indications of hydrotherapy in mental diseases are to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis and the elimination of certain substances through the skin, to hasten tissue changes and improve general nutrition, to allay irritability of the peripheral nerves, to procure sleep and relieve cerebral anæmic and hyperanæmia, and in a measure to take the place of drugs.

Balneotherapeutics in insanity are admittedly employed only experimentally as yet, but they are becoming a more exact science and indispensable in the treatment of mental diseases, they deserve a much more extended employment than has yet been accorded them in this country.

The meeting then adjourned until July of 1888.

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PHYSICAL TRAINING FOR THE POLICE.

The problem of what sort of exercise is best adapted to a general, all-around physical perfection (as distinguished from mere brachial, crural, gastrocnemial or other local muscular hypertrophy) is one which deserves, as it is fortunately beginning to receive, the most careful study of medical men. That some systematic treatment is for most men, and we may add for most children, necessary to this end is coming to be generally admitted.

Dr. George Homan, Medical Examiner for the police department of the city of St. Louis, has recently published the results of his examinations of the existing police force of that city, as well as of the new recruits offering for such service. His pamphlet contains one or two conclusions interesting in this connection.

We may remark in passing that the figures recorded by him as the result of the examination of 482 men showed the average physical measurements and weight of all the men examined to be as follows: Height 5 ft. 8.22 in.; mean chest girth at level of one inch above the nipples, 38.13 in.; expansibility of chest, 2.75 in.; girth of waist, 34.13 in.; and weight, 167.13 pounds. The individual maximum and minimum of these dimensions were as follows: Height, 6 ft. 3.50 in. and 5 ft. 3.62 in.; mean chest girth, 48.25 in. and 31 in.; expansion of chest, 4.50 in. and 1.25 in.; girth of waist, 50 in. and 25 in.; weight 279.50 pounds and 110 pounds.

He places very properly more stress upon the play of the chest wall as an indication of vital capacity than upon the absolute circumference of the chest, which depends on adventitious circumstances, as the amount of fat on the ribs, the prominence of the scapula, etc. His chest measurements of such recruits as were added to the force during the last two years, show that the average mean chest girth of 122 such recruits exceeded the average of the regular patrolman about one-fourth of an inch, while the average chest expansibility of the former exceeded that of the latter about two-thirds of an inch.

Now comes the important fact that as a nearly constant result of police service it was found that this respiratory advantage was gradually *lost, or much impaired*, often within less than a year after appointment, and from facts collected and observations made the writer confidently ascribes a very considerable share of the pulmonary disabilities, which he finds to be very common in the force, to the neglect by the department of means to maintain and develop this normal degree of respiratory capacity.

Aside from one hour's drill per week in the manual of arms during the winter months, no bodily or athletic exercise is required of a policeman other than that involved in patrolling the district assigned to him, with the incidental exertion needed on his part to maintain law and order therein, the result being that there is usually plentiful foot and leg exercise to the neglect of other highly important parts of the body.

In repeated instances applicants for appointment coming from occupations requiring all-around exercise, such as porters, mechanics, teamsters, and in whom the respiratory apparatus was found to be of superior excellence as regards both free expansibility and normal breathing sounds, after six months' police service the normal expansion had decreased from one-half to one inch, or even more, and the comparative rigidity of the chest walls was accompanied by impaired or roughened vesicular murmur, with symptoms of circumscribed congestions, incipient catarrhs, and other signs of sluggish pulmonic circulation, the girth of the chest being usually not sensibly changed.

Dr. Homan expresses it as his opinion "that the omission from the department equipment of means for regular systematic chest and arm exercise, and the enforcement of their use as a necessary part of routine duty in any police force on a service-basis similar to the one in St. Louis, indicates a point of vital weakness, and that such lack constitutes an unguarded avenue by which a host of physical evils assail the municipal defenders of life and property.

"A fair degree of speed, with good wind-endurance is recognized as being a necessary physical qualification of the perfect officer, and these requisites can only be secured by appropriate gymnastic drill designed to exercise and harmoniously develop and preserve the entire body."

The writer further says that he has found excellent results in improvement of the chest-play and with it of the tendency to respiratory disorders, to follow the use of hand-weights, sand bags, clubs and other devices for symmetrical physical exercise, to the limited extent to which he has been able to secure their systematic employment. His conclusion is that a certain percentage of the waste to the municipality from pulmonary diseases in the police force is avoidable, and that a system of systematic training which should increase the average breathing capacity, say one-half inch per man, would lessen the total time lost by illness from lung diseases one-third, while the general gain in moral and physical power would be 50 per cent.

DEATH AFTER INOCULATION BY THE METHOD OF PASTEUR.

Two new cases of death after Pasteurization are reported. One of these individuals, belonging to Charente, died sixty days after being bitten, and forty-five days after undergoing Pasteur's treatment.

The second case was that of a woman, aged fifty-seven, named Guele, who was bitten by a mad dog March 27, 1887. The bite, which was about the wrist, was immediately canterized. The patient went to Paris March 29th, and was submitted to anti-rabic inoculations for thirteen days. She then returned to her home in Lalonde, where she was a servant in a family. It was remarked that her temper had become very irritable. About July 16th, the patient was unable to swallow liquids; on the 20th, her limbs became weak, and she fell to the floor. At this period the hydrophobia was well developed, and the patient died on the 21st.

EXPERIMENTAL RESEARCHES ON THE PRODUCTION OF ALCOHOLIC CIRRHOSIS OF THE LIVER.

At the meeting of the Society of Biology, held in Paris, July 16th, Straus communicated the results of some experiments which he had made, with the assistance of his interne, Blocq, on the artificial production in animals of alcoholic cirrhosis of the liver. His experiments pertained to twenty-four hares, in the stomach of which he had directly injected a daily dose of half-an-ounce of a mixture of absolute alcohol, and methyl alcohol, diluted with three parts of water. Immediately upon receiving this injection, the greater part of these animals fell as if paralyzed, and for several hours they lay in deep coma. When, after the expiration of a certain time, these animals were killed, the experimenters invariably found the usual lesions of alcoholic gastritis; thickening of the mucous membrane, ecchymotic petechiæ of the surface, etc., but what especially attracted their attention was the pathological condition of the liver. This organ did not present to the naked eye any very marked alterations; it was smooth on surface as well as on section; the acinic, nevertheless, were surrounded by a reddish gray line, and in animals that had been kept most of the time intoxicated for three or four months, the ultimate perilobular portal spaces were found infiltrated with embryonic cells. In hares that had been kept constantly subjected to the action of the poison for seven or eight months, the hepatic lobules were completely surrounded by a crown of connective-tissue cells, and the experimenters had before them typical cases of annular perilobular and monolobular cirrhosis. "Nothing," says M. Straus, "is more natural than this localization; the alcohol, coming to the liver by the finer branches of the portal vein might be expected, first of all, to exert a baneful action on points where its contact is most intimate." As for the hepatic system of veins (intra-lobular, sub-lobular veins, and hepatic trunks), it never, according to Straus's

researches, participates in the processes of alcoholic cirrhosis.

In the discussion which followed the communication of M. Straus, M. Magnan related the results of some experiments of his own in the induction of chronic alcoholism in dogs. In dogs that are made to take daily a certain quantity of alcohol mixed with their food, one will note after such ingestion, instant staggering, followed by paralysis with coma. When they come to themselves, these animals present oscillations of the head first, then of the limbs, a veritable trembling, resembling in every respect that of the chronic human inebriate. Moreover, these dogs have terrifying hallucinations, for in the night-time they will all at once betake themselves to barking and howling, as if in the presence of a real danger. In a word, alcoholism in the dog is the exact counterpart of alcoholism in the man.

MEDICAL NOTES.

—The United States consul at Palermo, in his dispatch dated Palermo, August 1, 1887, states that "during the week just closed only twelve cases and six deaths from cholera have been reported in the journals. . . . No public official reports have been made thus far, . . . but it is known that many more cases and deaths have occurred than those reported in the journals, a larger number, indeed, having come under my own observation. In view of the temper and character of the people, the authorities naturally desire to keep the matter quiet as long as possible. A few 'demonstrations' have been held, and the municipality threatened because of its having temporarily discontinued the free distribution of rice. Upon the occasion of former threatened epidemics in Palermo, Sicily has been practically quarantined and shut out from all other ports of Italy, thus ruining trade for months. This year, however, she is fortunate in having a Palermitan in the cabinet at Rome . . . to whom she is indebted for perfect freedom to enter Italian ports thus far, after inspection, disinfection, etc."

The United States minister at Copenhagen, in his dispatch under date of July 29, 1887, states that a quarantine order has been issued by the Danish Government July 18, 1887. "According to this order, the provisions of the quarantine law of March 31, 1885, are to be enforced in regard to ships coming from Sicily or Italian continental ports between the Capes St. Maria and Spartivento, and the importation of rags, etc., from these ports is prohibited."

—The New York Board of Health being appealed to by the Park Commissioners for some deodorizer which should keep down the stench from the gas-saturated earth turned up in sub-way excavations in New York City, conducted various experiments, and finally reported success from the use of bromine water, made by dissolving a pound of bromine in a barrel of water. This quantity of solution, costing \$1.00, is said to render two hundred feet of trench free of nuisance.

—The following ingenuous certificate was lately given by a hospital externe to a patient who requested a document to show his incapacity for work: "This is to certify that ——— has been under treatment here for five weeks and therefore is unable to work."

—A Western contemporary says: "Country physicians save more money every year, on an average, than city doctors. Their minds are free, their consciences easy, and their pocket-books flush, even if they cannot 'put on style,' and hold prominent college and government positions."

—In the Pitti Palace, at Florence, is a table, says the *Medical Press*, which for originality in the matter of construction and ghastliness in conception, is probably without a rival. It was made by Giuseppe Sagatti, who passed several years of his life in its manufacture. To the casual observer it gives the impression of a curious mosaic of marbles of different shades and colors, for it looks like polished stone. In reality it is composed of human muscles and viscera. No less than a hundred bodies were made use of for the material. The table is round, and about a yard in diameter, with a pedestal and four claw feet, the whole being formed of petrified human remains. The ornaments of the pedestal are made from the intestines, the claws with hearts, livers, and lungs, the natural color of which is preserved. The table-top is constructed of muscles artistically arranged, and it is bordered with upwards of a hundred eyes, the effect of which is said to be highly artistic, since they retain all their lustre and seem to follow the observer. Sagatti died about fifty years ago. He obtained his bodies from the hospitals, and indurated them by impregnation with mineral salts. To add to the horror which such a piece of furniture is calculated to inspire in the minds of most people, the fate of Count Rittaboca, its last owner, may be related. One Christmas Eve he and his friends were playing cards on this table, when suddenly he jumped up, pale and agitated, overcome by the fixed gaze of these petrified eyes. Yielding to a sudden attack of violent mania, he stabbed himself and fell upon the table. His heirs, as may be imagined, were very pleased to sell this funereal object to the Government, who installed it in its present situation.

BOSTON.

—The death-rate last month in Boston is said to have been the highest on record. Eleven hundred and nineteen persons died in that month, whereas the number for July, 1886, was only 889. Figuring on a basis of 400,000 population, the rate per 1,000 inhabitants was 33.57 per cent. last month. The mean temperature during the month was 73°. It was 73° in July, 1873, and 73.8° in July, 1876; but in those years the death-rate was not excessive. The comparative humidity, however, was very striking, for whereas in 1873 it was 66.4°, and in 1876, 69.4°, this year it was 77°, showing the heat of last month to have been the most oppressive and fatal of any month for fifteen years, which is as far back as the table goes. The

mean barometer during the month was 29.98, the highest (July 5th) 30.20, and the lowest (July 10th) 29.54. The highest temperature was 95° (July 2d), the lowest 61° (July 10th). The greatest daily range was only 26°. Over half of the whole number of July's dead were children under five years of age, while almost half were very young infants. The number dying under one year old was 417; under two years old, 519; under five years old, 567. Diarrhoeal diseases carried off 222 under one year old, 263 under two years, 268 under five years old, and 292 of all ages. Cholera morbus killed 8 persons last month, against 6 in July, 1886; and cholera infantum killed 233 last month, against 170 during the July before.

NEW YORK.

— Among the papers of interest read during the closing days of the meeting of the American Association for the Advancement of Science, was one read by Prof. Albert R. Leeds on "The Scientific Basis of the Feeding of Infants," in which he expressed the opinion that the mortality among bottle-fed infants was largely due to the kind of food ordinarily given them, which he believed to be physiologically as unsuited to the nutrition of a human infant as grass and hay were to the nutrition of a young calf deprived of its mother's milk. Prof. C. M. Woodward, Director of the Manual Training School of St. Louis, read a paper on "The Methods and Results of Manual Training," in which he considered the methods of the manual training schools, the economic results of manual training, the difference between manual training schools and European trade-schools, and the progress of manual training since the meeting of the Association at Philadelphia, three years ago, when the subject was discussed. Prof. J. W. Powell, of Washington, Director of the United States Geological Survey, was elected President of the Association for the ensuing year, and F. W. Putnam, of Cambridge, Mass., Permanent Secretary.

— The seventeenth annual convention of the New York County Superintendents of the Poor was held at Babylon, Long Island, August 15th and 16th, when the abuses of the county almshouses and the obligation of the public to the dependent and helpless classes were ably discussed by Dr. E. H. Howard, warden of the Monroe County Insane Asylum, and others. Among the other papers read was one by Dr. Stephen Smith, Commissioner of Lunacy, on "The Insane Asylums of New York State."

— Dr. Moreau Morris, Chief Inspector of the Summer Corps of the Board of Health, reports that, during the week ending August 13th, the physicians of the Corps visited 4,561 tenement-houses, containing 30,704 families, and prescribed for 1,089 cases of illness, of which more than 500 were diarrhoeal in character. One hundred and fifty-three complaints of the unsanitary condition of premises were made, and 3,161 circulars and 1,512 tickets for St. John's Guild free excursions were distributed.

Miscellany.

ON THE COMMUNICABILITY OF TYPHOID FEVER THROUGH THE AIR.

At the Medical Society of the Hospitals, session July 22d, M. Devaiz communicated the fact of an epidemic of typhoid fever which he had recently witnessed, and which seemed to show that this disease may sometimes be propagated by the air, as well as by drinking-water. The water of the locality had, in fact, been examined very thoroughly, without any micro-organisms being discovered. On the other hand, the dejections of the first patient attacked had been thrown, without previous disinfection, into a privy, near which slept the three persons who next fell victims to the disease. It seemed, therefore, probable that the typhoid germs had been transported by the air, and that it was to this vitiation of the air that the communication of the disease in, at least, some of the instances was due.

MEMBRANOUS ENTERITIS FOLLOWED BY INTESTINAL PERFORATION FROM ULCUS ROTUNDUM.

DR. ROTHMANN described at the session on June 20th of the society for internal medicine, Berlin, (as reported in *Deutsche Medizinisch-Zeitung*, No. 53, 1887) a case of a patient who died with intestinal perforation, who during life had passed those fibrinous masses usually described as characterizing membranous enteritis. The patient, who had been under observation for several years, suffered from intestinal obstruction, and had for nine years had bleeding hæmorrhoids for which he had been successfully operated upon. Soon after this, he was attacked with colicky pains accompanied with vomiting. He complained of pain in the left hypochondrium. The heart showed nothing abnormal. The pain passed off with a sensation as if fluids and gases were passing through a constricted spot in the intestines. At the same time with such sensations fibrinous masses always appeared in the dejections. Two years before, for the first time, there appeared evacuations of dark blood, which ceased after the use of ice and acetate of lead. After a considerable time they ceased, and appeared for the last time in January of the present year. The patient then rallied and looked well. No tumor was to be felt in the abdomen. On the night of June 16th, he was suddenly seized with the severest pain, became very pale and had a small and quick pulse. For the first time vomiting of blood occurred. The abdomen was hard as a board. There was a smothering sensation referred to the sides and the lower abdomen. The symptoms were clearly those of intestinal perforation. Operation was out of the question on account of the marked collapse. Death occurred in twenty hours. Post-mortem section showed round ulcer of the duodenum, and rupture *in loco*, adhesion to the colon at the lower part of the ulcer, while the tear took place at the upper part of it. In the colon was a slight stenosis which evidently corresponded to the place the patient had described as feeling narrowed. There was no other lesion in the colon.

Correspondence.

EXCESSIVE HEAT THE EXCITING CAUSE OF TUBERCULOSIS.

BUFFALO LITHIA SPRINGS, August 11th, 1887.

MR. EDITOR,—In the *Boston Medical and Surgical Journal* of August 4th, appears a communication on "Excessive Heat the Exciting Cause of Tuberculosis." by Dr. Thomas H. Buckler.

This is a subject of great interest to the profession at large, especially to those who are accustomed to practice during the winter months in southern countries, such as Georgia, Florida, Bermuda, Riviera and Italy, where invalids suffering from pulmonary diseases most do congregate. My experience has been that the tuberculosis deposit which undoubtedly takes place during the heated term, may remain in the system much longer than the setting in of cold weather and not develop till the following spring. I refer only to cases of acute miliary tuberculosis. In one of those occurring in my own practice, the disease did not make its appearance until the latter part of March of the next year after an excessively hot summer.

If Dr. Buckler has not already done so, I think he will find by examining the reports of the Charité Hospital, at Berlin, that the mortality from acute miliary tuberculosis is much greater during those winters preceded by excessively hot summers. In many of these cases the anamnesis is unable to reveal the slightest hereditary taint, demonstrating conclusively that excessive heat was the direct exciting cause, as Dr. Buckler suggests. It is strange, however, that this, as it seems to have done, *should* have

escaped the observation of German scientists, who although recording a higher rate of mortality from acute miliary tuberculosis after an exceeding hot summer, do not ascribe the cause of this mortality to excessive summer heat, nor indeed connect the two factors in any way, but seek an explanation of it in hereditary taint and the cold of the succeeding winter. Antithetical, however, is the query whether there are not more consumptives in England than in any other country in the world, in proportion to the number of inhabitants, and less sunshine? It is stated on the other hand, that the mortality from consumption in St. Augustine among those living there all the year round, is much greater than in towns of the same number of inhabitants farther North,—a fact easily accounted for by the excessive summer heat prevailing in Florida.

We are referring, as noted, mostly to acute miliary tuberculosis, excluding chronic phthisis. If now we regard the meteorological differences of climate in England, we find the summer heat relatively as excessive as elsewhere, and doubtless the exposure to it as great, proportionately, as in other countries, although the mean temperature throughout the year may be lower. The antithesis is therefore not real, but only apparent, and the case of excessive summer heat as the exciting cause of tuberculosis is a clear one. The proverbial antipathy of the Italians to going in the sun may account for the small number of cases of acute miliary tuberculosis occurring among them. Avoiding exposure to the sun's rays in hot weather seems almost too simple to be regarded as a prophylactic measure, yet in view of the above facts it is unquestionably a very valuable one.

Yours very truly,

G. HALSTED BOYLAND, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 13, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhoeal Diseases.
New York	1,481,920	741	397	33.15	10.01	1.43	4.68	23.66
Philadelphia	993,801	426	214	25.44	10.94	3.60	1.44	17.76
Brooklyn	745,108	312	176	37.12	9.60	1.60	2.88	30.08
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	199	102	36.72	13.77	2.04	—	30.00
Boston	400,000	237	131	36.96	17.60	2.52	.42	30.24
New Orleans	242,750	114	48	23.76	11.34	—	7.04	6.16
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	97	44	25.75	5.15	—	1.03	14.42
Pittsburgh	210,000	118	61	37.10	11.05	5.95	4.25	23.80
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	95	59	39.90	6.30	1.05	1.05	31.55
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	25	11	24.00	8.00	—	—	16.00
Charleston	60,145	41	15	26.84	9.76	10.32	—	20.64
Portland	40,000	14	5	21.42	21.42	—	—	14.28
Worcester	68,383	25	7	24.00	16.00	4.00	—	12.00
Lowell	64,051	44	25	47.67	4.54	4.54	—	45.13
Cambridge	59,660	30	16	29.99	6.66	3.33	—	19.99
Fall River	56,863	38	25	59.49	10.52	5.26	5.26	49.97
Lynn	45,861	27	15	22.22	11.11	3.70	—	14.80
Lawrence	38,825	14	6	35.70	7.14	—	—	35.70
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	19	14	42.14	—	—	—	42.14
Somerville	29,992	16	5	13.50	25.00	—	—	6.25
Salem	28,084	18	10	33.33	5.55	—	—	33.33
Holyoke	27,894	13	6	69.21	7.69	—	15.38	53.83
Chelsea	25,709	10	7	10.00	20.00	—	—	10.00
Taunton	23,674	14	3	35.70	14.28	7.14	—	28.56
Haverhill	21,795	14	7	28.56	28.56	—	—	28.50
Gloucester	21,713	10	6	20.00	10.00	—	—	20.00
Brockton	20,783	8	3	—	25.00	—	—	—
Newton	19,759	4	4	75.00	—	—	—	75.00
Malden	16,407	5	2	40.00	40.00	—	—	40.00
Fitchburg	15,375	5	3	20.00	20.00	—	—	20.00
Waltham	14,609	5	2	40.00	20.00	—	—	40.00
Newburyport	13,716	4	1	25.00	25.00	—	—	25.00
Northampton	12,896	7	2	28.56	14.28	—	—	28.56

Deaths reported 2,639: under five years of age 1,432; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 909, consumption 282, lung diseases 116, diarrheal diseases 673, diphtheria and croup 72, typhoid fever 60, malarial fever 36, whooping-cough 31, scarlet fever 16, cerebro-spinal meningitis 11, measles five, puerperal fever 3, erysipelas one, small-pox (New York) one. From malarial fever, New Orleans 11, District of Columbia eight, New York seven, Brooklyn four, Philadelphia, Baltimore and Charleston two each. From whooping-cough, Boston nine, New York six, Philadelphia, five, Baltimore four, Pittsburgh, and Milwaukee two each, Brooklyn, New Orleans, and Nashville one each. From scarlet fever, New York six, Philadelphia three, Brooklyn and Pittsburgh two each, Baltimore, Milwaukee, and Lynn one each. From cerebro-spinal meningitis, New York three, Portland, Milwaukee, Cambridge and Somerville one each. From puerperal fever, New York two, Nashville one. From erysipelas, Brooklyn one.

In the 23 cities and greater towns of Massachusetts, with a

population of 1,083,730 (population of the State 1,941,465) the total death-rate for the week was 27.83 against 30.01 and 32.86 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 30th, the death-rate was 23.2. Deaths reported 4,115: infants under one year of age 1,754; acute diseases of the respiratory organs (London) 160; diarrhoea 921, whooping-cough 163, measles 121, scarlet fever 46, diphtheria 25, fever 24.

The death-rates ranged from 13.9 in Derby to 30.1 in Preston; Birmingham 19.9; Bolton 17.6; Bradford 22.3; Hull 17.0; Leeds 27.7; Leicester 25.9; Liverpool 25.3; London 24.8; Manchester 26.7; Newcastle-on-Tyne 24.6; Nottingham 17.5; Sheffield 22.6; Sunderland 14.5.

In Edinburgh 20.0; Glasgow 18.3; Dublin 30.9.

The meteorological record for the week ending August 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																			
Saturday, Aug. 13, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 7	30.00	66.0	73.0	61.0	65.0	44.0	66.0	58.0	N.	N.	N.W.	12	13	12	C.	C.	C.		
Monday, ... 8	30.24	67.0	75.0	55.0	55.0	46.0	60.0	54.0	N.	S.E.	N.W.	8	6	1	C.	C.	C.		
Tuesday, ... 9	30.19	67.0	77.0	58.0	66.0	55.0	73.0	65.0	N.W.	S.E.	S.W.	4	9	6	C.	C.	C.		
Wednes. ... 10	30.03	72.0	83.0	60.0	74.0	54.0	83.0	70.0	W.	S.W.	S.W.	12	12	17	C.	C.	C.		
Thursday, ... 11	29.90	73.0	80.0	67.0	90.0	83.0	88.0	87.0	S.W.	S.W.	S.W.	12	24	16	O.	O.	R.	7	.24
Friday, ... 12	29.82	73.0	86.0	67.0	84.0	51.0	58.0	64.0	S.W.	W.	N.	11	16	12	O.	C.	C.		
Saturday, ... 13	30.06	64.0	72.0	58.0	49.0	36.0	64.0	50.0	N.E.	N.E.	W.	12	11	10	C.	C.	C.		
Mean, the Week.	30.034	68.9	78.0	61.0				64.0										7	.24

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 13, 1887, TO AUGUST 19, 1887.

BAXTER, J. H., colonel and chief medical purveyor. Ordered to proceed from Washington, D. C., to New York City, on public business, and on completion thereof, to return to this city. Par. 5, S. O., No. 187, A. G. O., August 13, 1887.

WOLVERTON, W. D., major and surgeon, Washington Barracks, D. C. Granted leave of absence for twenty days. Par. 3, S. O., No. 171, Division of the Atlantic, August 16, 1887.

BYRNE, CHARLES B., captain and assistant surgeon, Washington Barracks, D. C. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O., No. 171, Division of the Atlantic, August 16, 1887.

WILSON, GEORGE F., captain and assistant surgeon. Granted leave of absence for fifteen days. S. O., No. 78, Department of Dakota, August 8, 1887.

DIETZ, WILLIAM D., first lieutenant and assistant surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O., No. 189, Headquarters of the Army, A. G. O., August 16, 1887.

MCCAW, W. D., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Riley, Kansas, and ordered to his proper station, Fort Leavenworth, Kansas. Par. 3, S. O. 84, Department of Missouri, August 15, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 20, 1887.

ROBINSON, L., medical inspector. Placed on retired list.

GARDNER, J. E., passed assistant surgeon. Detached from Naval Hospital, Norfolk, Va., and ordered to the Fish Commission Steamer "Albatross."

MARTIN, WILLIAM, assistant surgeon. Ordered to Naval Hospital, Norfolk, Va.

REYFEN, VAN, W. K., surgeon. Appointed medical Inspector from August 16, 1887.

SIMONS, M. H., passed assistant surgeon. Appointed surgeon from August 16, 1887.

SOCIETY NOTICE.

The Annual Meeting of the AMERICAN ACADEMY OF MEDICINE will occur at Washington, D.C., beginning Wednesday,

September 3d. The Third Annual Collation will be served at the Hotel Arlington, at nine o'clock on that evening.

RICHARD J. DUNLISON, M.D., Secretary.

OBITUARY.

SUMNER PUTNAM, M.D.

Sumner Putnam, M.D., a prominent physician, of Montpelier, Vermont, well known throughout the State, died August 20th, aged sixty-nine years and six months. He was a member of the State Legislature from Greensboro in 1857 and 1859; had been the medical examiner of the National Life Insurance Company since 1876; had been President of the Vermont State Medical Society, and was treasurer of that organization at the time of his death.

BOOKS AND PAMPHLETS RECEIVED.

The Medico-Chirurgical College of Philadelphia. Sessions of 1887-88.

Second Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1886. Augusta, 1887.

Autobiography of Samuel D. Gross, M.D., D.C.L., Oxon, etc. With Sketches of his Contemporaries. Edited by his Sons. In two Volumes. Philadelphia: George Barrie, Publisher. 1887.

Announcement and Catalogue of the National Medical College, Medical Department and Dental Department of the Columbian University, Washington, D. C. For the Sixty-Sixth Session, 1887-88.

Publications du Progrès Médical, Paris. 14 Rue des Carmes, Paris. Le Charbon des Animaux et de l'homme par T. Straus, Professeur agrégé. Un volume en 8°. 223 pages. avec 4 figures et une planche. Prix, 6 fr.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to the Maternity Hospital, Paris, etc. Translated by Henry D. Fry, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

The Radical Cure of Retro-displacements of the Uterus and Proclivity by Alexander's Operation and Median Corporography. By J. H. Kellogg, M.D., Superintendent Medical and Surgical Sanitarium, Battle Creek, Mich. 1887. (Reprint.)

Colonial and International Congress on Inebriety, London, England, July 6 and 7, 1887. Paper and Addresses by Delegates from the United States of America. Also a Report of a Reception given to T. D. Crothers, M.D., by the President and Council of the Society for the Study of Inebriety in Great Britain.

Original Articles.

THE TRAINING OF NURSES IN PRIVATE PRACTICE.¹

BY ALFRED WORCESTER, M.D., OF WALTHAM.

THERE is a widespread belief that in sickness, as much depends upon the nurse as upon the physician. This belief is founded partly upon fact; for the nurse is the physician's lieutenant, and, of course, it is of as much importance that the medical orders shall be properly executed, as it is that they shall be properly given. But such comparisons evince entire ignorance of the physician's responsibilities. It is his duty not only to give proper directions for the management of every patient under his charge, but also to see that his orders are intelligently obeyed. There is no excuse for him in the fact that trusty agents are not at his hand; for it is his business to provide them, and until he can be sure of intelligent, faithful nursing service, he must not undertake the management of more cases of sickness than he can in person superintend.

Where the family or the friends of the patient undertake the nursing service, the physician is partially relieved of responsibility for any improper execution of his orders. It is his duty, however, in such cases to point out the disadvantages of such untrained nursing, if discovered, and to be then ready to supply suitable nurses, if wanted.

In times of war and in the hospitals, this need of trained nurses has been recognized and met. Thirty-three years ago the Crimean war gave to the world Florence Nightingale, and now, under the banner of the Red Cross, her followers stand ready in every civilized country of the world, to imitate her immortal example. Twenty-five years ago the New England Hospital for women and children began in this country the training of nurses; and now scarcely a single hospital can be found that is not reaping the advantages of trained nursing service. Nor are these advantages limited to the hospitals. Trained nurses find an increasing demand for their services in private practice. In no other department of labor is the standard of excellence so rapidly rising. Nursing is already a profession, and no longer a trade of last resort.

One result of this improved nursing service, and of the increasing demand for it, is the high rate of wages that the graduates of the training schools find no difficulty in obtaining at the very beginning of their private practice. Only the more wealthy families can as yet afford to employ them. The whole question of wages, however, depends upon the proportion of the supply to the demand. And families in moderate circumstances will not be able to have better nursing service until the supply of trained nurses exceeds the present demand for them. When that occurs, the present prices will fall, and nurses on graduation from the schools will have to be content, as have young members of every other profession, to begin at the bottom, and not, as at present they can do, at the middle of the ladder of earnings.

Inasmuch as by far the greater part of our practice is among that class now deprived of the improved nursing service, ought we not to take measures to sup-

ply the increasing demand for it, and to further the spread of its great advantages?

It must be confessed that hitherto the medical profession has not only not taken the initiative in this reform, but has even impeded its progress. Training schools for nurses have been generally at first opposed by the hospital staffs; and the graduates of the training schools have often failed to satisfy the unreasonable expectations of the physicians first employing them. Undoubtedly some of this trouble has been due to the fact that the physicians have been only indirectly concerned in the nurses' training and, accordingly, have not held themselves responsible for the nurses' advancement after graduation. Nor has it been thoroughly understood that the training the new order of nursing rests upon is designed simply to furnish intelligent lieutenants. Without explicit orders, correcting criticism, and the encouragement of confidence, very likely the old-time nurse will do as well as the best trained nurse.

On the other hand, it cannot be denied that the trained nurses on leaving the hospitals have shown an inability to adapt themselves to the varying service of different physicians, and to the circumstances of private practice. This fault is evidently due to the present methods of training, and can be remedied by sending the student nurses out into private practice, under physicians whose coöperation in their training can be secured.

But it is surely unnecessary at this day to dwell upon the slight disadvantages of the new order of nursing. And it is not so much the purpose of this paper to discuss the possible improvement in the present training schools as it is to demonstrate the way in which the supply of trained nurses can be so increased that their services may be had in every village of the land. At present, they can be had only in the larger cities, and even there only the rich can afford their services. Their number, it is true, slowly increases, but not nearly as many nurses as physicians are graduated each year; while, in order to supersede the untrained nurses, it would be necessary to provide probably three times as many trained nurses as there are physicians depending upon their services. It is evident that this large supply, which must be provided before their employment becomes general, cannot be furnished by the present methods of training. The schools connected with the hospitals can train each year only as many nurses as are needed for the work of the hospitals,—a number much less than that of the yearly graduates in medicine.

If, then, new methods of training must be adopted, in order that the growing demand may be met, and that even in the families where the income is small, the patient and the physician may have the great advantage of trained nursing service, it is surely incumbent upon the medical profession to devise and to inaugurate these new methods of training. This duty rests primarily upon the country doctors. In the larger cities the hospital training schools can furnish nurses for the wealthy, and physicians can send their poorer patients to the hospitals, or avail themselves of the excellent system of district nursing—the latest flower in this springtide of charities. But in the smaller cities, and in the towns and villages, the physicians, if they desire the great advantages of this new dispensation, must train their own nurses. It is one of the many new duties that have fallen upon the med-

¹ Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.

ical profession; and it is therefore desirable to have some general plan for its performance.

Fortunately there is no trouble nowadays in finding young and strong women well fitted and eager for such training. The schools in operation have long lists of applicants who wait their chance to enter. Let it be known in any community that the physicians contemplate instituting a training school, and candidates in plenty will come forward. But they have read "Sister Dora," and perhaps Florence Nightingale's famous notes, and although they would prefer not to leave their native towns and their friends, they nevertheless desire thorough training. They stand precisely where the would-be doctors stood a hundred years ago, before medical schools were to be found: they want the physician to teach them. They will gladly work hard for wages that will barely support them, they will gratefully give to the physician most loyal, hearty service, if meanwhile they can be learning the art of nursing. Let us consider how this should be taught.

From the general similarity of the two professions of nursing and of medicine, it is evident that, for excellence in either, much the same kind of training is requisite. The difference between them, however, relieves the nurse of the responsibility of deciding what is the nature of the patient's trouble, and what should be done to relieve it: her only duty is to carry out the treatment ordered, and to note the different symptoms as they occur. The nurse, then, may well be ignorant of the theory, but she must be somewhat acquainted with the practice of medicine. She need not know in any given case why catharsis is advisable, but she must know what to expect when a cathartic is given.

The only exception to this general rule is in the matter of emergencies. In this department, it is necessary to drill the nurse so thoroughly that she will always have her wits in working order, whatever her patient's danger may be. There is no use in expecting her to remember blind rules. She must be taught the principles upon which the rules depend. Better far that the nurse shall remember the blood-starved condition of the brain in syncope, than that she should remember any rule for its relief. She must understand the underlying principle, if common-sense treatment is expected of her.

But training for emergencies, happily, demands only a small fraction of consideration. In order that the nurse in general practice may be able to carry out the medical orders intelligently, and report intelligibly the changes that take place during the physician's absence, she must have a working knowledge of elementary anatomy and physiology; of the general progress of the common diseases; and of the effects of the more powerful drugs.

Student nurses should, therefore, be taught enough anatomy, that they may understand the general workings of the body, and be able to use and to understand anatomical terms descriptive of the body's surface. Some knowledge of the structure and function of the lungs, for instance, is prerequisite to any satisfactory realization of the necessity of pure air. And it is a matter of more than mere convenience to all concerned that the nurse and physician shall be able to understand each other's use of the words stomach and abdomen.

In the hospital training schools, the student nurses

may, perhaps, safely be left to learn what it is important for them to know about the different diseases, as these diseases are met in the wards; but in the country schools, where the nurses' experience is more slowly acquired, they must be taught, before the disease is met, its general characteristics. The special nursing required in typhoid fever, for example, must be taught beforehand, if the nurse is expected to take the best care of her first typhoid patient; and this can best be taught by describing the nature of the disease. The medical student is taught not only how to treat, but how to diagnosticate diseases that he has never seen; and there is no reason why nurses should not likewise be taught the special nursing needed in diseases they have not seen.

As regards *materia medica*, it is not so plain how much and how little nurses should be taught. The bugbear of the nurse's meddling in the physician's province must not prevent her being taught, at least, enough about drugs to prevent her from making grave mistakes in administering medicine. Not only is it convenient, but it is often necessary, to leave medicine, opium, for instance, in the nurse's hands, to be given *pro re nata* or *si opus sit*. In such cases, the nurse must be able to recognize the effects of the drug, and also the indications for its use. There is no danger of the trained nurse's knowing too much, and the more knowledge of medicines she obtains, the less likely will she be to attempt to prescribe them.

The instruction in these branches, if it is to be as systematic as it should be, must be given by the physicians in regular lesson hours. The student nurses can be assembled at their headquarters on certain afternoons or evenings. And, except when in charge of the very sick, it is a benefit to both nurse and patient for the nurse to go out for the freshening walk, and for the stimulus that the lesson gives; and again, these meetings of the student nurses with the physicians are beneficial to both. The nurse feels her instructor's interest in her advancement, and shares somewhat the enthusiasm of his high calling. The physician, on the other hand, finds it not in the least a disadvantage to be thus forced to review his foundation studies; he acquires a higher appreciation of the importance of the sister-art of nursing; he can realize and sweep away the obstacles to the nurse's success. A good working basis for both is thus established, which, in times of anxious watchings, brings forth the fruit of comfort a hundred-fold.

Besides this groundwork that nurses should be taught by their medical instructors, the arts of cooking for the sick, and of keeping the patient and the sick chamber in exquisite order, must be taught them by women who are themselves proficient. The multitude of little ways of giving comfort to the sick, discoveries accumulating rapidly and being disseminated by books, and now also by the nurses' journal, *The Nightingale*, can, after all, be best taught by actual example. In these exceedingly important branches of the nurses' training, the students in the hospital training schools have the advantages of working with trained nurses, and also with nursing their patients in surroundings especially adapted for the purpose. The latter advantages can be had in the country training schools by making a miniature hospital out of some tenement, where a few patients may be collected, and it is absolutely essential in the country training schools to have, at least, the partial service of a trained nurse in teach-

ing others to be nurses. Such a teacher can be the queen of the miniature hospital, and at the same time, at the option of the physicians, can follow them on their rounds, visiting the bedsides where the student nurses are employed, to teach them there whatever, in her more experienced eyes, is needed.

In times of unusual healthfulness, the superintendent nurse can teach them how to write good clinical reports, how to take the temperature and pulse, and how to read aloud acceptably. The books upon nursing can then be studied. Upon an improvised manikin, bandaging, fomenting, poulticing, can be taught, and upon each other, the student nurses can practise massage.

This is a general outline of what every nurse should be taught. But the profession of nursing has already divided itself into specialties. That of nursing the insane can be taught only in the asylums, for physicians themselves have to look thither for the glimmering light of what little has been discovered about the comforting care of minds deranged. It is a matter for general rejoicing that the training school at the McLean Asylum, the pioneer school of its kind, is already furnishing trained nurses for these saddest cases.

Monthly nursing, however, will always be the chief specialty, and in no other department is trained service so fruitful of comfort and security. I need not set forth again in detail what monthly nurses should be taught, for I have done that in my manual upon the subject, but I want to call attention to the excellent opportunities physicians have in their private practice to train nurses in this branch. And, after once showing the student nurse how to prepare the bed and how to dress the patient, how, after delivery, to remove all traces of the labor, and how, during the confinement, to manage the little details of bathing, giving enemas, catheterizing, bandaging the breasts, etc., the physician's work becomes delightfully lightened; nor only this; his patients, also, are relieved in large part of the usual annoyances and ugly features of midwifery cases.

The general plan of a new kind of training school is no longer visionary. Such a school is already in most successful operation in Waltham, the youngest city of Massachusetts. Its first class has lately been graduated. It is not fitting for me to sound their praises; nor need I here, for they have already won honorable mention in the service of many members of this Society. But as an illustrative case, as a demonstration of the feasibility of the plan, I venture, in closing this paper, to report the history of the Waltham Training School.

The scheme originated in the local meeting of the Fellows of this Society. In the winter of 1885 a meeting was called of all interested in the project. Three lady managers were chosen, to whom all the details of management were entrusted, and to whose assistance the success of the school is greatly due. A class of seven student nurses was formed, three of whom have completed the two years' course of training. During their first year they served only under the physicians connected with the school, and they were obliged to assemble in the classroom on five afternoons of the week for lectures and lessons. During the second year they served also under other physicians and in neighboring towns, until the last month of their course when they were again assembled for reviews and examinations previous to their graduation.

A second class of eight is now in process of training, and soon a third class is to be formed, for which there are already many applicants. The student nurses are paid, beside their board, \$9 per month the first year and \$12 the second year. And the school charges respectively \$7 and \$10 per week for their services where the patients can pay; where they cannot, the nursing service like the medical attendance is gratuitous.

The total earnings the first year amounted to only 90 *per cent.* of the expenses, and the management had to draw upon a guaranty fund that had been established to meet any deficiency; but in the second year the earnings exceeded the expenses. Meanwhile the friends of the school have fitted up a dormitory for the student nurses in connection with the private hospital that has grown out of the original scheme.

It is not, however, because of its financial success that claim for attention is made; nor because of the deeply gratifying effect that such training has upon the student nurses in bringing out into perfect blossom that latent womanhood. For in both of these directions great success has been before recorded. Attention is called to the Waltham School because it is felt that a great and general want has been fully supplied. The physicians have only to call, and the nurses come, — to give their orders, and they are obeyed.

In destitute families where hitherto the hard alternatives have been for the physicians to do the nursing service themselves, or to let the cases go from bad to worse through default of proper care, the student nurses now go gladly for day or night service to carry into effect the physician's good intentions. It is in this kind of service that full warrant is found for appealing to the charitably inclined for the little money that is needed to establish such training schools.

THE IMPORTANCE OF EARLY RECOGNITION, DIAGNOSIS AND SURGICAL TREATMENT OF TUMORS OF THE BLADDER.¹

BY GEORGE W. DAVIS, M.D., OF HOLYOKE.

As the methods of examination of the bladder and the means of investigating its diseases are becoming more numerous and exact, results are likewise becoming more positive and certain; diseased states and pathological conditions, formerly not known to exist, are now recognized and understood. With the present rapid development of surgical knowledge, let us hope that attainment to that degree of expertness which shall secure more satisfactory diagnoses and treatment of these obscure conditions (conditions most distressing and fatal), is near at hand.

It is quite possible that the bladder is more frequently the seat of tumor than is usually supposed.

Abnormal states of this organ are often surrounded with so much obscurity as to make diagnosis difficult or uncertain, and it is not improbable that tumor is sometimes overlooked.

At the present time the literature of tumors of the bladder seems very scant; but the reports of cases, and of the removal of such growths are becoming more frequent.

During the years 1882 and 1883 papers were pre-

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

sented to the Medico-Chirurgical Society, in London, by Sir Henry Thompson, calling attention to a new procedure for exploring the bladder, which he named digital exploration of the bladder, or external urethrotomy. This consisted of making a central perineal opening into the membranous portion of the urethra, just large enough to admit the index finger, which being introduced was able to explore the cavity of the bladder and its walls, in very much the same manner, and with nearly the same facility, as in customary examinations of the bladder of the female, through the dilated urethra.

Several cases were cited where the objects of the operation were fully realized, the entire mucous surface of the bladder coming within reach of the exploring finger, so that all the knowledge possible to be attained by the sense of touch was readily secured.

Tumors were in several instances discovered; their size, shape, consistency and location readily ascertained; their degree of hardness, manner of attachment, and much other useful information obtained, rendering the possibility of their removal a question for intelligent consideration.

Other cases were cited where only negative information was obtained, nothing important being found, yet the symptoms were either cured or much relieved.

He also pronounced the exploration almost without danger. The operation being quite simple and easily made, and being presented and advocated by a surgeon of such universal experience and unquestionable authority, appears to have at once taken a place among justifiable surgical procedures.

Opening the membranous urethra had long been done in stricture, retention, etc., but the idea of making such an operation merely to furnish a way into the bladder for diagnostic purposes was new — and excited much interest.

It seems that Professor Volkmann, of Halle, at nearly the same time and independently of Mr. Thompson, made the same exploration, and in Germany it is often designated as the Volkmann-Thompsonian operation.

With the description of his method there was given by Mr. Thompson a list of tumors found and removed, some through the wound of exploration.

The attention of the profession being thus forcibly called to the subject, tumors have come to occupy a more prominent place among the possible or even probable causes of intractable and obscure symptoms referable to the bladder, and so a new field for surgical culture has been opened and a new sphere presented for the relief of cases which have heretofore remained unrecognized and been given over as incurable.

It would seem, however, that Thompson's exploratory incision has not met with much favor in France or Germany, the supra-public or *sectio alta* being almost always preferred by Continental surgeons. Enlarged prostate and great obesity are conditions which interfere with its successful performance.

The bimanual examination of the bladder, sometimes mentioned in connection with the name of Volkmann, is much relied upon by all surgeons, and should never be neglected in any case of doubt. It is made with one or two fingers of one hand in the rectum, the other hand firmly pressing into the pelvis from above the pubes, the weight of an assistant often being necessary to aid in sufficiently forcing the pelvic con-

tents down upon the examining fingers. An anæsthetic is indispensable in this manner of examination, as it is in examination *viâ* the median perineal incision of Thompson. The bladder must be quite empty, and unless there is much obesity a tumor of any considerable size and consistency can hardly escape discovery.

An encysted calculus which has escaped the sound may be thus discovered.

A paper was read by Dr. Max Nitze, of Berlin, at the Berlin Medical Society, Jan. 5, 1887 (reported in the *Berliner Klinische Wochenschrift* of this year, Nos. 8 and 9), in which he gives a careful resumé of the various methods of examination of the bladder, commenting upon the relative advantages of each, but more particularly describing his own method of exploring the cavity and inner surface of the bladder by the sense of sight.

This is made possible by an ingeniously arranged electric light, so introduced that it may be said to be combined with an endoscope, the inner surface being as distinctly seen as though it were examined piecemeal by the light of day after removal from the body. The bladder is made to contain a certain quantity of transparent fluid, thus opening the folds of the mucous membrane and presenting all portions of the mucous surface to view. The field at once visible is as large as a silver dollar, and is described as much resembling the image of the fundus of the eye when seen with the ophthalmoscope.

By changing the position of the mirror in this instrument or kystoscope, as named by Nitze, the entire surface is readily and quickly seen, and any abnormal condition easily recognized. By the use of cocaine its use is rendered painless, and no other anæsthetic is necessary. The danger from heat resulting from the lamp in use is overcome by the circulation of a current of cold water.

Nitze cites cases where his method of examination has succeeded in discovering tumors which were removed, and he is confident its more general use would make earlier diagnosis possible, and so save valuable time.

At a meeting of the Medical Society of Berlin, Jan. 19, 1887, Professor Von Bergmann reported a case of tumor of the bladder, describing its symptoms, diagnosis and removal. In this case Nitze demonstrated to the satisfaction of Von Bergmann the practical working of his instrument, the latter speaking of it in terms of much praise, as being easily introduced and not distending the urethra or neck of the bladder more than a large-sized catheter, and in this case not occasioning any hemorrhage. (See *Berliner Klinische Wochenschrift*, No. 6, 1887.)

If we accept the statements of Nitze and Von Bergmann, we shall be forced to believe that most incisions and severe proceedings for purely diagnostic purposes are soon to be laid aside, and the kystoscope is to reveal to the eye of the diagnostician the actual state, the size and shape of stones or tumors being readily seen and appreciated.

The symptoms in tumor of the bladder are such as suggest the presence of stone, stricture, prostatic hypertrophy, or disease of the kidney.

Dysuria and strangury are present in the course of the development of tumor, and are often the occasion of great suffering and anxiety to the patient, their severity depending largely upon the variety and

location of the growth, its size, the length of time it has existed, the extent of the irritation and inflammation, the relative acidity of the urine, and many other obvious conditions. Cystitis is sometimes present in such intensity as to mask the symptoms more directly proceeding from tumor.

Hæmaturia is perhaps the most constant symptom in tumor of the bladder, but this may result from other causes which must be excluded. Hæmorrhage from the kidney is usually attended with attacks of renal colic and other evidences of renal diseases. Stone in the bladder must be excluded, and search with the catheter or sound for stone may discover the tumor, an indefinite something being felt which does not give the positive evidence of stone. The old, long-beaked sound formerly used for exploration of the bladder is now giving place to the short-beaked catheter furnished with stop-cock so that any degree of distention may be secured.

Soft instruments are much relied upon for exploration of the bladder by many surgeons of large experience.

Should clear water recently injected into the empty bladder return tinged with blood, we have evidence that the hemorrhage is vesical. Fresh blood passing at the end of, or immediately after micturition, must come from the bladder or urethra. The possibility of diseased prostate is suggested by this symptom. Much hemorrhage will suggest the presence of a vascular growth, and the bleeding may be out of all proportion to the size of the tumor, death having resulted from the loss of blood from a tumor of the villous variety, scarcely larger than a pea. (See Coulson, page 115.)

Cases may be attended with attacks of more or less profuse hemorrhage, separated by intervals during which the urine is nearly or quite clear of blood, but often the hemorrhage is continuous and never profuse, slowly exhausting the patient.

Shreds of tissue or tufts of the villous growth may be discharged with the urine or caught in the eye of the catheter, and if examined with the microscope may make the diagnosis certain as to the presence of tumor, and the question of its malignancy may be thus decided. Malignant growths are more rapid in their progress, and the urine may contain evidence of their presence in the form of débris.

Continuous hemorrhage not relieved by treatment or rest and the recumbent position, is strongly suggestive of the presence of a neoplasm, either in the bladder or kidney.

M. Guyon, of Paris, calls attention to the frequent presence of varicocele in tumor of the kidney, and also insists upon search for evidence of increased mobility of this organ, which he states is present to such an extent as to be readily recognized by bimanual examination or palpation, ballotment being perceptible even in the early stages of such neoplastic formations.

This sign is produced by placing one hand in front of the hypochondrium and exerting with the other slight and quick movements or shocks in the lumbar region, this manœuvre sufficing to recognize the mobility of the kidney.

Direct examination of the kidney, however, is acknowledged to be often very difficult, even by Guyon, who claims that in the great majority of cases the diagnosis of bladder tumors can be established

without operation, and relies largely upon the presence of hæmaturia as a symptom. He also says that when a simple catheterization is followed by a continuous bleeding of long duration, a tumor may be almost positively diagnosed.

The importance of an early diagnosis should be emphasized, for if the growth be *non-malignant*, the probability of its successful removal is much greater if attempted early, before it has attained to large size or occasioned destructive changes and exhausted the strength of the patient by prolonged hæmorrhage and suffering. If the symptoms are not yet so distressing as to make removal advisable, only good can result from a knowledge of its presence. In malignant growths of the bladder sufficiently advanced to occasion marked symptoms and admit of diagnosis, there can be little hope of a radical cure by operation, and the question to be decided is, Can an operation alleviate the distressing symptoms, and so become valuable to the patient?

M. Guyon has operated upon thirteen cases of malignant growth of the bladder, and reports that the symptoms determining operations were relieved in all. He states that malignant tumors have scarcely attained to the size of a pea before there is infiltration, and it is already too late to hope for radical cure.

Admitting the truthfulness of M. Guyon's statement, it does not weigh against early operation, as the differentiation between malignant and non-malignant cannot be early determined before operation in most cases.

In the February number of the *Journal de Médecine et de Chirurgie* of Paris, of the present year, was reported a case of epitheliomatous growth removed by M. Guyon, the operation being described as radical. It had not returned after six months. In this case the growth was as large as the end of the thumb and situated in the anterior superior portion of the bladder, so being favorable for Guyon's operation, which is always supra-pubic.

The allotted length of this paper will not permit a careful discussion of the various questions involved in the treatment of these cases, but I will in a general way briefly refer to certain points.

No medication is likely to arrest the growth of neoplasms of the bladder, but if there is a possibility of syphilis in the case, the remedies known to act as its antidote should not be withheld. The general condition of the patient being cared for, the treatment must be of a local and surgical nature. Such symptoms as are particularly distressing must receive attention and be met by the usual remedies. An attempt must be made to control the hæmorrhage by rest and the horizontal position, and by astringent injections, of which, solutions of nitrate of silver and the prochloride of iron, varying in strength from one to three per cent., are most preferred. Antiseptic solutions for douching the bladder will be found indispensable.

The question of removal will be ever before the mind of the surgeon fully determined upon giving the patient every opportunity for relief. The cases of successful removal are now sufficiently numerous to make it no longer a question of doubt as to the duty of the surgeon in any urgent case presenting no marked contra-indications to operation. The usual tendency of this condition being to get worse, and after long months or years of increasing suffering to

finally terminate fatally, the surgeon is, in duty to the patient, bound to explore the bladder in such a manner as shall enable him to act intelligently.

If the sound or catheter, with bimanual examination or the kystoscope of Nitze, or such other methods as may be available, fail to make the condition plain, the bladder should be explored by the finger, and the question of choice between external urethrotomy and the supra-pubic operation must be decided upon.

If it is probable that much operative procedure will be required, as in the repeated passage of forceps for the removal of several growths, or a single large one, the higher operation should be at first selected, for its performance would be necessary, notwithstanding the urethra had been already opened, and we can hardly agree with Mr. Thompson in the opinion that the two operations do not add to the risks in the case. But if the urethra has been opened and a growth discovered, the thorough removal of which will necessitate too much manipulation to be safely done through the dilated neck of the bladder, the operator's duty will plainly be to make the high operation without delay.

There may be found in the July number of *Braithwaite*, 1886, a description of a sound invented by Mr. Thompson, which serves to support the bladder under these circumstances. The extremity of this sound is so notched that the surgeon can, while coming down upon it from above, recognize its exact position, and seizing with a hook the wall of the empty bladder can maintain its elevated position during the operations within its cavity.

The technique of cystotomy for the removal of tumor is mainly the same as in operation for stone.

Every case must present its own peculiar features. Several pairs of forceps with blades of varying width should be at hand. The margins of the blades should be slightly rounded to avoid the wall of the bladder.

The spoon of Volkmann is the proper instrument for scraping away such portions as cannot be completely removed with the forceps.

The removal of vascular growths is likely to be attended with much hæmorrhage, and the operator must be prepared for any emergency arising therefrom.

In the event of the tumor or tumors being very vascular in the female, it may be wise to operate through a vesicovaginal opening made for the purpose, but the surgeon should be very guarded in promising its speedy closure.

I have recently had the care of a woman who had tumors of the bladder of recurrent nature, which were several times removed by Dr. W. H. Baker, of Boston, through a vesicovaginal opening. Owing to a continuance of the symptoms and the recurrence of the growths, the fistula was not closed. At the time of my examination, what seemed to be several soft tumors of small size could be felt. At the post-mortem, six weeks later, there was found less of the gross appearances of tumor than I had expected. What had felt to the examining finger like soft tumors, was really a number of collections of villous tufts, very vascular and presenting to the eye, as well as to the finger, a velvety appearance. About one-fourth of the inner surface of the bladder was lined with this neoplastic formation.

Any one examining this specimen must be im-

pressed with the difficulty necessarily attending the entire removal of the growth in a similar case.²

This very intelligent patient derived much relief from hot douches; but she learned by experience that they would, if too persistently used, aggravate the symptoms they were accustomed to relieve.

As will be remarked, no reference has been made to the pathology, and no attempts at a classification of tumors of the bladder—only certain points have been touched upon. Sufficient, however, may have been said to suggest the possibility of tumor to the mind of some one who may be searching for an explanation of certain obscure bladder symptoms.

GRINDER'S CONSUMPTION.¹

BY FRANCIS J. CANEDY, M.D., SHELBURNE FALLS, MASS.

THERE have been employed in the grinding-room of the Lamson & Goodnow Cutlery Company, at Shelburne Falls, from thirty to fifty men and boys, for the past twenty-five years, giving an average of about forty.

During the past ten years there have died with chronic disease of the air passages twenty-three of these grinders. Seven Irish, seven English, six American, and three Germans, of which five were between sixty and seventy years of age, eight between fifty and sixty, three between forty and fifty, five between thirty and forty, and two between twenty and thirty, and there are now sick confined to the house, three, one English between sixty and seventy, and two Germans, one fifty-five years old, and another about thirty-five. There are still grinding five, in whom the disease is known to have made considerable progress.

This amount of fatal disease of respiratory organs in such a limited number of men, the majority of them considerably past the age at which consumption is most common, points positively to their occupation as a predisposing, if not an exciting cause, of no small importance, and my experience among these cases for the past ten or fifteen years, in the sick room and by the post-mortem table, has convinced me that the name of "grinder's consumption," given the disease by the laity, is a proper one.

That we all inhale no inconsiderable amount of dust in respiration is well known, and that certain occupations, as mining, wood and metal polishing, etc., cause the workers to inhale an atmosphere so loaded with dust of an irritating character as to produce specific lesions of the bronchial tubes and lungs, has become so well established that all the newer books upon diseases of the respiratory organs, treat of this condition under the somewhat hard name of *pneumonokoniosis*, a classification of which is based upon the nature of the dust inhaled, as *anthracosis* in coal miners, *siderosis* in iron and metal polishers, *tobacosis* from tobacco dust, or from the avocation of the sufferers as grinder's consumption, Potter's consumption, mason's and millers' lung. Of all these forms, none seem more certain or fatal in its effects, than the grinder's. Peabody, in some investigations made at Sheffield, England, making the average period they are able to continue their work thirteen years.

¹ Read at the May Meeting of the Franklin District Medical Society.

² The specimen was exhibited to the Society.

The morbid anatomy of grinder's consumption, as I have studied it in three post-mortem examinations, I have found as follows: The bronchial lesions are those of chronic bronchitis, with thickening of the bronchial mucous membrane, associated with ulceration and bronchial dilation, forming bronchiectatic cavities. These cavities, which are a marked feature in some cases, are said to be caused by a combined softening of the bronchial tissues, with traction from without by the newly-formed fibrous tissue.

Fibroid Phthisis.—The bronchial glands are enlarged, some of them to size of small walnuts, gray and gritty on section. Gray nodules of cretaceous matter, from the size of a pin's head to that of a pea, are found disseminated throughout the lungs. But the most distinctive lesions are patches of indurated lung tissue, the predominant form of pulmonary change being of the fibroid type: hardened districts of advanced cirrhosis occur, measuring two inches and upwards in length, breadth and thickness. On section they are gray, tough, and leathery, and covered in by a thickened and adherent pleura. In all of my cases I found quite large and irregular-shaped cavities in the base and posterior portions of one or both lungs, into which, and in some quite through the diameter of which passed bands of this same fibrous tissue.

In one case this process of cirrhosis and breaking-down of lung tissue, had so interfered with the circulation as to produce gangrene, and in several cases in which no post-mortem was made the atmosphere of the sick room has been intolerable for days from this same gangrene of lung. This fibroid induration of lung tissue is quite extensive, is found in both lungs, involving one-half or more of their entire substance, in some cases, and shades gradually into the healthy tissue.

The contraction of this new growth not only destroys the elasticity of the lungs, but actually constricts the areas of intervening healthy lung. The normal capillary circulation is, of course, seriously interfered with, or destroyed in those cirrhotic patches, and in proportion to their extent the entire pulmonary circulation becomes obstructed, and the right ventricle and the venous system distended, this condition of course, being greatly aggravated by exertion, thus accounting for the intermittent pulse, dyspnoea, dilated veins, and cold extremities which are so prominent in some very chronic cases. The course of these morbid processes is insidious and slowly progressive, and as in other forms of lung disease, is more or less modified by inherited tendencies, and such influences and habits as diminish vitality, or affect personal hygiene, especially the use or abuse of alcohol, three-fourths of my cases having been hard drinkers.

The earliest objective symptoms is cough, especially recurrent in winter, accompanied by a somewhat frothy and stringy expectoration, chiefly dependent upon the bronchitis, which is undoubtedly the first morbid process in grinder's consumption. Soon shortness of breath upon exertion, as walking up hill, is complained of, but an examination of the patient shows him to be without fever, and when quiet with no increased frequency of the pulse; this lack of all fever, even when pulmonary lesions are quite advanced being one of the strong points in the differential diagnosis between grinder's and tubercular consumption.

Cases frequently go on for years with no especial

disturbance of health or evidence of the lesions taking place, excepting the cough and the inability to fully inflate the lungs, owing to the chronic interstitial inflammation going on in them. Sooner or later, however, this interstitial inflammation reaches a point in some portion or portions of the lungs, which not only destroys its aerating function, but so interferes with its nutrition, that the tissue begins to break down in a gangrenous or purulent process, and it is frequently not until this stage has been reached, that the case comes into the hands of the physician. We now find the man decidedly ill, with fever, coated tongue, entire loss of appetite, often a terrible cough, which produces great suffering from a circumscribed pleurisy, and if we have not been acquainted with cases of the kind in the past, we will probably make the mistake of thinking the trouble more acute than it will prove to be.

In several of my cases, exposure to cold and wet, especially while under the influence of drink, has served to result in a broncho-pneumonia, the starting point of the breaking up of the lung tissue, from which the man succumbed in from six months to two years. That this is liable to occur in lungs previously healthy we well know, but that it is much more likely to occur in grinder's is beyond question.

The patient is usually confined to his bed from ten to twenty weeks in this first attack, with quite constant fever, though with a temperature rarely above 102° and pulse from 80 to 90, entire loss of appetite, and progressive emaciation. After a month or six weeks an abscess will be sufficiently matured in the portion of lung producing the immediate mischief to find its way into a dilated bronchus, when the patient begins to expectorate large quantities of purulent matter, the fever begins to subside, the tongue cleans, an excellent appetite often follows, under the influence of which some flesh and considerable strength may be regained. The patient begins to sit up, and if it be warm weather, perhaps goes out of doors somewhat, though considerable cough and a profuse purulent expectoration usually remain; the matter probably coming partly from the breaking down of tissue from the walls of the abscess cavity, and partly from the bronchitis and bronchiectatic cavities before mentioned. But, as one might suppose from the pathology of the disease, this period of improvement never advances very far, though two or three of my patients have lived nearly two years after first coming into the bed, in pleasant weather dragging their emaciated forms about the streets, by the aid of a cane, and one patient doing considerable light gardening for one summer. Those who have the most courage to go out of doors live longest, but the most sanguine and determined succumb in the end to the inevitable exhaustion.

Two cases in the convalescent stage of one of these pulmonary abscesses died from hæmorrhage, blood bursting in a large stream from mouth and nose, destroying life almost instantly, from erosion of some large vessels. Aside from these cases I have never seen hæmorrhages.

All cases do not run this course characteristic of the formation of pulmonary abscess, though I think the greater number do. The progress of some cases is exceedingly slow, and covers a period of many years, some under my observation living ten years or more, after being compelled to leave the shop by their cough, most of the time in chronic invalidism, and dying at

last from the exhaustion dependent upon pulmonary disease. As to the treatment of grinder's consumption, little can be said that does not apply in the management of other chronic diseases of the air passages. Of course the first and most important step is to remove the patient from the influence of the exciting cause, namely, the atmosphere of the grinding room, but this, even when done early in the disease, though undoubtedly greatly prolonging life, often fails to save the patient, so persistent are these fibroid changes in the connective tissue of the lungs when once commenced. I have known three deaths from this disease to occur in men who had not worked at grinding or in a shop at all for ten years or more, and for the greater part of the time being considered able-bodied.

In a disease in which induration of tissue and new growth play such an important part as in this, the iodides, owing to their capacity for promoting absorption, naturally suggest themselves to us, but I have never observed any positive benefit from those that I have employed, the potassium and ammonium salts, though I admit, that owing to disturbance of the stomach I have never pushed them very far. For the cough and to promote expectoration of morbid matter, I think much of muriate of ammonia in a mixture combined with the carbonate, spirit of chloroform and licorice to cover the disagreeable taste of the ammonia. In many cases, owing to dilations and contractions of the bronchial tubes, it is very difficult for the patient to clear his lungs of the accumulations of muco-pus, which becomes thickened and blocked up in some of the sacculated bronchial cavities, giving rise to prolonged and exhausting paroxysms of very severe cough. In this condition, this combination of ammonia with a little spirit of chloroform, is more effective than anything else that I have ever tried.

Aside from the usual hygienic management of wasting diseases, as an abundance of nutritious food, large and sunny rooms, particularly sleeping rooms, all the exercise possible in the open air, bathing, cold sponging, etc., nothing is of so much value as the systematic and prolonged use of the pure cod-liver oil. If the prejudice that patients have against it, owing to the fact that most people who take it do not get well, can be overcome, and they coöperate intelligently and earnestly with their physician, their lives may be prolonged from one to three years by its use.

Cod liver oil being valuable as a nutrient, rather than as a medicine it is often given in doses too small to amount to much. Commencing with a teaspoonful, if no more can be digested at first, the patient should get up to from two to three ounces a day in six or eight weeks, this quantity to be continued for months. To quicken the weak and failing appetite, I have found nothing better than a combination of syrup of hypophosphites with dilute phosphoric acid and strychnia, taken before meals. But in spite of all treatment the inevitable tendency of the disease seems to be toward a fatal termination, and I have never seen any recoveries.

— Dr. Louis Heitzman, of New York, has had good success in aborting furuncles by the local use of an eight per cent. salicylic acid plaster, or salve. For the former, he uses empl. saponat. $\mathfrak{z}\text{ii}$, empl. diachyli. $\mathfrak{z}\text{i}$, and acid salicyl. $\mathfrak{z}\text{ii}$. For the basis of the salve, he prefers unguentum aquæ rosæ.

REPORT OF PROGRESS IN GYNÆCOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynecology, Harvard University.

USES OF IODOFORM GAUZE IN GYNÆCOLOGY.

FRITSCH¹ uses nothing but iodoform gauze for tampons. For this purpose, he employs it of the strength of ten per cent., and this can be made stronger by the addition of iodoform powder or iodoform glycerine. The gauze is prepared in long strips, plaited like a fan, which are introduced into the vagina, and can easily be removed by the patient. It remains antiseptic from four to six days, longer than tampons soaked in five per cent. carbolic acid.

Fritsch finds this gauze of especial value in the palliative treatment of carcinoma, and, in contra-distinction to the method by irrigation, calls it the dry method. It more surely relieves the foul discharge, hæmorrhage, and pain, so that patients believe they are entirely well. Cases of cancer which had been sloughing for months were kept odorless until death occurred. In several cases, the uterus had been reduced to a mere shell, the inner surface of which was covered with abundant, somewhat anæmic-looking granulations.

Fritsch first cures the diseased portion, then applies the Pacquelin canter, and then, to control hæmorrhages and diminish the secretions, fills the cavity with iodoform tannin powder. A tampon is then placed in the vagina, which remains five or six days. Subsequent treatment consists in applying, twice a week, iodoform tannin tampons, or when a tendency to hæmorrhage continues, iodoform glycerine tampons, filling the cavity completely.

The author has also had good results with tamponing the uterus with iodoform gauze after the removal of sloughing portions of the placenta, or intra-uterine polypi. He has further used it in the treatment of endometritis of body and neck, and for the introduction of medicaments into the uterus; also to keep the edges of the wound apart in the operation of discission.

In cases of opening the peritoneal cavity, Fritsch has, for three years, used the gauze, instead of the drainage-tube. He has introduced a specially ingenious use of the gauze in the after-treatment of severe laparotomies, where there were inflamed or suppurating surfaces to be rendered aseptic, or in cases of extensive adhesions to control hæmorrhage. Such surfaces he first sprinkles with iodoform, and then places several layers of folded gauze tightly over them, bringing one end out of the abdominal wound. The capillary drainage is complete, and the disinfection within the abdominal cavity is secured as well by shutting the wounded surfaces off from the rest of the peritoneal cavity, by the rapid glueing together of the intestines.

In spite of his free use of iodoform, Fritsch has never seen a case of iodoform-poisoning.

TRACHOMA PUDENDORUM.

Prof. I. M. Tarnovsky² made an interesting communication on this subject before the Obstetrical and Gynecological Society of St. Petersburg. As is well known, Professor Sattler has shown that the secretion from a trachomatous conjunctiva invariably contains micrococci, which differ from ordinary gonococci only

¹ Sammlung Klin. Vorträge, No. 288. Reported in Cent. für Gyn., No. 11, 1887.

² London Medical Record, April 15, 1887, from Russian Journal.

in size. Their cultivation and inoculation always produce true trachoma. He also found that when the gonorrhœal pus from the mother's genitals is introduced into the child's eyes, it gives rise either to purulent conjunctivitis or to trachoma. In view of these facts, Sattler came to the conclusion that trachoma had a gonorrhœal origin. Tarnovsky says that his extensive observations have shown that there undoubtedly exists a true "trachoma pudendorum."

The appearances found are on the mucous surface of the labia majora, and especially of the upper commissure of the labia minora, and consist of small grayish or yellowish nodules, surrounded by a slightly hyperæmic halo. These, in time, grow paler, though they remain raised, and later, form groups, measuring three to four by one-and-one-half to two centimeters. When examined by the finger, they feel somewhat harder than the surrounding tissues, and as though there were sand under the mucous membrane. There is crepitation on scratching with an instrument, and the spots do not bleed easily. Without treatment, they may exist for years, disappearing from one spot to appear at another, and in old cases, the patch may become almost cicatricial.

The microscopical examination shows an "epitheliomatous papilloma," in the cells of which are enormous numbers of micrococci.

As regards the differential diagnosis, Professor Tarnovsky thinks the trachoma might be mistaken chiefly for milium, erosion of the papillæ, or granulating ulcer. The essential symptom is itching, "felt deeply within the vaginal entrance." It decreases from pressure on the genitals, application of cold and smooth bodies, increases at night in a warm bed, and, especially when situated near the clitoris, causes sexual desire, with tendency to masturbation. Sometimes there is no pruritus, but only an increase of feeling and excitement during coition. They sleep always on one side, with their thighs firmly pressed together, and drawn up to the abdomen. They like to sit or ride astride, or to drive in a shaky vehicle, with soft, elastic, springy cushions. Nothing of the kind is observed in cases of pruritus from other causes. It is most frequent in prostitutes, then in married women who have at some time had blenorrhœa, or whose husbands have had gonorrhœa, rarely in young girls or old women.

The best treatment is a net-like, superficial scarification, and subsequent painting with a solution of nitrate of silver, or sulphate of copper or zinc, or with a five per cent. solution of carbolic acid, or a solution of corrosive sublimate. Professor Tarnovsky considers trachoma pudendorum infectious, and thinks it alone may produce gonorrhœal urethritis in men.

STATISTICS OF TOTAL EXTIRPATION OF THE UTERUS FOR CANCER.

Dr. A. Martin³ has collected statistics of the cases of total extirpation of the uterus operated on in his clinic, with reference to the radical cure. Of sixty-six cases operated on from 1880 to 1886, eleven, or eighteen per cent., died as a result of the operation. These cases are, of course, of no value as regards the question of a return of the disease, nor should the cases operated on in 1886 be considered. That leaves forty-four cases operated on before the end of 1885, where, microscopically, the whole of the disease seemed to be removed. Of these, twenty-nine per

cent. had showed a return, and seventy-one per cent. were, at the time of writing, free from disease.

Separating these cases according to the three most common localities, we find that there were three cases of canceroid of the portio vaginalis, of which one showed a return, twenty-eight of carcinoma of the neck, with eleven cases of return, and thirteen of carcinoma of the body, with only one return.

A table is also given of twenty-eight cases of total extirpation, where from the first a radical cure was not to be expected. All had either died or shown a return of the disease, except one operated on in September, 1886, and the fate of one other could not be ascertained.

ON CASTRATION FOR EPILEPSY.

Dr. J. Schramm,⁴ after referring to all the cases of epilepsy treated by castration to be found in the literature, asks whether there are cases of epilepsy without pathological changes in the genital organs, in which the bringing about the menopause, has alone been able to effect a cure.

He recognizes the gravity of removing sound ovaries, and says that only the clearest causal connection between the menstrual process, and the epileptic attacks would justify the operation. He then gives the histories of two cases of a severe form of epilepsy intimately associated with menstruation as regards time of occurrence and intensity. Where other means tried through years had failed, and where the removal of, in the one case perfectly sound ovaries, and in the other, ovaries normal except for a cyst the size of a cherry in the right, was followed after a short interval by complete cessation of the epileptiform attacks. For the interesting details of these cases, the reader is referred to the original.

SIXTY TOTAL EXTIRPATIONS OF THE CANCEROUS UTERUS.

Fritsch⁵ begins this interesting article with a reference to the rapidity with which the operation for the total extirpation of the uterus has gained a footing in Germany, and says that the time is passed when one need be proud of a series of good results as regards the immediate operation, and that the question now should be, "What is definitely gained by the operation?"

Fritsch found in Breslau a large per cent. of cases of cancer in young persons, six per cent. between twenty and twenty-five, nine per cent. between twenty-five and thirty, and the same between thirty and thirty-five. He cannot subscribe to Ruge's division of cancer of the uterus into three forms; at least he doubts that the several varieties can be always strictly differentiated.

As between the high amputation and total extirpation, Fritsch performs the latter almost exclusively. His objections to the former are the greater difficulty in removing the uterus from which the cervix is gone, and the frequent narrowing of the cervical canal and os after high amputation. He considers, on the other hand, total extirpation an easier and less bloody operation. Only when there is a very small nodule of disease which has been early detected, does he perform the high amputation.

The conditions under which he would perform total

³ Berl. Klin. Woch., No. 5, 1887.

⁴ Berl. Klin. Woch., No. 3, 1887.

⁵ Archiv. für Gyn. xix, Band. Heft, III.

extirpation, are, first, mobility of the uterus. The presence of thickenings at the side he considers no contraindication, provided they do not fix the uterus, as they are not necessarily due to an extension of the disease. The apparent size of the cancerous growth is of minor importance, for often a large tumor, filling the vagina, is really confined to the lowest part of the vaginal portion.

He opposes preparatory operations such as removal of portions of the tumor by the knife or curette, and considers it theoretically at least probable that such procedures would favor the passage of cancer-cells along the lymph vessels, and thus render a return of the disease more probable.

The article then explains, in quite minute detail, the advantages of his method of operating, which has been described by Bokelman in a former number of the *Archiv für Gynakologie*. Its peculiarity consists in his first dividing the attachments of the broad ligaments to the uterus, then the anterior cul-de-sac, and lastly posteriorly. If the ovaries and tubes are easily reached he removes them, especially in young women. If the uterus is found to be so enlarged by the presence of fibroids as to render its removal per vaginam impossible, he does not hesitate to perform laparotomy. The bladder and uterus are very seldom wounded.

The results of his sixty cases are as follows: ten per cent. died in the clinic from the immediate effects of the operation, fifty per cent. were either suffering from a return of the disease at the time the article was written, or had already died, and forty per cent. showed no signs of return after an interval of from ten months to three years and two months.

The author does not consider the percentage of recoveries as a definite result, as the time since operation is too short, still as relapses are by far most common during the first year a fair proportion may be considered definitely cured. In conclusion, he says, that if we ask what is of the greatest importance in improving the prognosis, the answer is, "The assistance of the general practitioner. The earlier the disease is discovered the surer can it be cured."

DIAGNOSIS OF BEGINNING CARCINOMA OF THE CERVIX UTERI.

Dr. Stratz⁶ in an article on this subject says that the perfected technique of the operative treatment of cancer of the uterus has rendered its cure possible, provided it is seen at a sufficiently early stage. It is, therefore, important to be able to make a diagnosis early. Even if certain symptoms, as profuse menstruation, leucorrhœa, pain, hæmorrhage following coition, with the exclusion of other causes point to carcinoma, still the difficulty of distinguishing beginning cancer from erosions will always exist. Ruge and Veit recommend the excision of a piece of the erosion for microscopical examination, and by this means making a diagnosis. But even microscopically, it is possible to recognize certain characteristic appearances which are peculiar to carcinomatous erosions. He gives four particular important signs:

(1) The diseased surface is everywhere sharply separated from the sound tissues; it nowhere gradually changes from one to the other.

(2) A difference in level between the diseased part, and the healthy can always be recognized.

(3) The cancerous portions have always a yellowish tint.

(4) The malignant spots show small, yellowish-white, glistening raised points, at least in certain places.

THE INTRA-UTERINE GALVANO-CAUTERY.

Dr. Landowski⁷ recommends the use of the electro-cautery in membranous dysmenorrhœa. He thinks the uterine disorder is frequently a cause of the general cachexia and debility which we usually find in women suffering from this disease. He has applied the galvano-cautery in two cases, after thorough dilatation of the os, the time chosen being five or six days after the cessation of menstruation. In one of the two cases the result was a complete cure; in the other the pain was relieved, but a small piece of membrane the size of a penny continued to be expelled at each menstrual period. This was, in his opinion, due to a small portion of the uterine wall, having escaped the action of the cautery.

M. Apostoli has also employed the intra-uterine cautery in a large number of cases of chronic neuritis and endometritis, with great success. It is not necessary to confine the patient to bed during the intervals between the applications, and improvement, as a rule, follows after a few sittings. He prefers this method over that of scraping with a sharp curette, as being capable of exact graduation, of being more easily localized, and of not being so instantaneous. The result of the cauterization is to cause the formation of a new and healthy mucous membrane.

Clinical Memorandum.

A COMPARISON OF SOME CASES OF CATARACT EXTRACTION, WITH AND WITHOUT IRIDECTOMY.¹

BY CHARLES H. WILLIAMS, M.D.

At the present time, there is a tendency among operators to return to an older form of cataract extraction, in which the lens is removed without making an iridectomy, and these cases are reported in order to compare the results of a few operations with and without the removal of a piece of the iris, done as nearly as possible under the same conditions, and by the same operator. In the operation, as proposed by Daviel, the corneal wound was made downward, and the flap included more than one-half of the corneal circumference. Later, the size of the flap was reduced, and it was made upward, so as to be more protected, and kept in position by the upper eyelid. There was no iridectomy, and, after incising its capsule, the lens was made to find its way through the pupil by using gentle pressure over the lower part of the eye. The principal danger in this operation was the tendency for the edges of the flap to suppurate, and this process often extended to the rest of the cornea, so that some ten per cent. of the cases were lost from this cause, for the wound was so large that the nutrition of the cornea was interfered with. It was difficult to keep the flap

¹ Read before the Boston Society for Medical Improvement, May, 1887.

⁷ Med. and Surg. Reporter, Abstract in Am. Med. Digest, February 15, 1887.

well in place during the healing process, and pathogenic bacteria found here a good soil for development. In order to avoid the suppurative danger, and to give an easier exit to the lens and its cortical fragments, Von Graefe proposed his operation, in which the cut was placed in the sclera, just above the cornea, and the upper part of the iris was excised before removing the lens.

This procedure reduced the cases of corneal suppuration to about two per cent., but the after-effects were not always satisfactory, for, apart from the optical defect caused by a large iridectomy, there was often irritation, or even sympathetic inflammation, caused by the proximity of the wound to the ciliary region, or to the incarceration of portions of the iris in the cicatrix. This led to a diminution in the size of the iridectomy, and to placing the wound more nearly in the sclero-corneal junction. In the operations now proposed, of which that of De Wecker may be taken as a type, the iridectomy is omitted, the wound is made to include the upper third of the corneal margin, and some form of antiseptis is used. He generally employs a solution of cocaine with a small amount of corrosive sublimate, for an anæsthetic, washes the eyelids carefully with a solution of boric or salicylic acid, or the sublimate, carefully disinfects the instruments, and, after the operation is completed, covers the wound with a narrow layer of fine iodoform powder, drops a little eserine solution on the conjunctiva, to contract the pupil and diminish the danger of hernia of the iris into the wound, and closes the eye with a salicylated dressing.

In my cases, the corneal wound included a little more than one-third of the corneal circumference, the capsule was freely incised with a T-shaped opening, and no iridectomy was done. The anæsthetic was cocaine, two per cent., made up in a five per cent. solution of boric acid; and before operating, the conjunctiva and lids were thoroughly washed with a solution of iod-hydrargyrate of potassium, 1 to 10,000, and in my later cases, 1 to 5,000 has been used without irritation. This salt was chosen as a result of some experiments made by Dr. Miguel, who showed that the minimum amount of disinfectant required to prevent fermentation in a litre of sterilized beef-broth was: biniodide of mercury, 0.025; carbolic acid, 3.; bichloride of mercury, 0.070; boric acid, 7.5.

The biniodide (red iodide) of mercury is, however, very insoluble in water, and in order to use it, Panas has prepared a solution of biniodide of mercury 0.05, alcohol 20.00, water 1,000.00, which gives a strength of the salt of only 1 to 20,000, and, on account of the alcohol, seems to me a little more irritating than the solution used in these cases. The biniodide of mercury is quite soluble in solutions of the iodides, and, by mixing a given amount of this salt with a slightly greater amount of iodide of potassium, a solution can be readily made in water, which, when evaporated, gives the yellow iod-hydrargyrate of potassium.

When this salt is dissolved in water, a decomposition takes place, and we then get again merely a solution of the red iodide of mercury in the iodide of potash, so that, for practical purposes, instead of using the compound salt, which is not often kept by the apothecaries, it answers just as well to order:

Hydrarg. iod. rub.	02
Potass. iod.	03
Aque	200 00

which gives about a six-ounce mixture, of 1 to 10,000 of the mercurial salt.

To return to the operations: after the lens has been extracted, eserine was used in two cases, where there was a decided tendency for the iris to prolapse into the wound. In one case it retracted well, but in the other, No. 2, it was necessary to excise a small portion of the iris before bandaging the eye, and here it was found that the semi-fluid vitreous pressing behind the iris had kept it forced into the wound. In the other cases, the iris retracted well without eserine after the extraction of the lens, and no hernia formed in the course of the healing.

It has been stated by De Wecker that extreme care is needed after the operation to keep the patient perfectly quiet, and for this reason, he is said to decline to do this form of operation during the summer months; but as all the cases reported were done during June, July, and August, and the details of No. 8 show a most unusual amount of restlessness on the part of the patient, it would seem that this form of operation need not be declined for this reason, especially as, under the same conditions, it has given me better results than the modified Graefe.

In order to compare the results obtained by the two forms of operation, with and without an iridectomy, the average length of treatment and result of my Graefe operations done during the summer months for the previous five years is compared with the results from the modified-flap operations done last summer, much to the advantage of the latter. The hot, and presumably the least favorable, months of the year have been taken for comparison, since the conditions were there equal, and because, on account of my service at the Eye and Ear Infirmary during the summer, a number of cases could be collected.

MODIFIED GRAEFE OPERATIONS (with iridectomy).

Time of Operation.	Average Length of Treatment. Days.	Average Resulting Vision.
June, July, August, 1881.	18.6	0.16
June, July, August, 1882.	26.	0.18
July, August, 1883.	17.3	0.20
July, August, 1884.	21.8	0.13
July, August, 1885.	15.3	0.17
For the five years, 19.8		For five years, 0.17

MODIFIED FLAP OPERATIONS (without iridectomy).

June, July, August, 1886.	13.75	0.39
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From this, it appears that the average length of treatment in the later operations has been reduced from 19.8 days to 13.75 days, and that the resulting vision has been increased from $\frac{17}{100}$ to $\frac{39}{100}$. Of course, the number of cases here mentioned is too small to warrant our drawing any conclusion as to the general superiority of one form of operation over the other, and in the first series, no antiseptic was used, whereas, in the last, a partial antiseptis was tried. Yet, with this exception, the cases were all done under the same conditions, and by the same operator, and they are reported in the hope that other surgeons will give comparative figures which may throw some light on this interesting question. The details of the cases are appended:

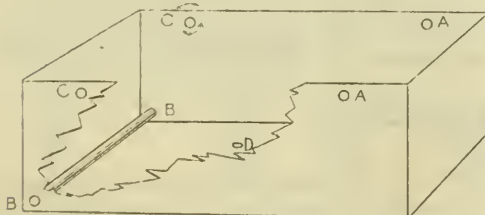
EIGHT CASES OF EXTRACTION OF SENILE CATARACT BY A MODIFIED FLAP OPERATION.

No.	Sex. Age. Health.	Duration of Cata- ract. Functional Examination.	Operation.	Convalescence.	Duration of Treatment.	Vision.
1	Male. 72 years. Good.	4 years. Normal.	June 5, 1886. O. D. Normal operation and convalescence. Eye first opened on the seventh day. Parts in good position; wound well healed. Under atropine, the iris was found to be adherent to the capsule at several points. Pupil dilates irregularly. 14 days.		June 19, 1886. $\bar{c}+12.D.V.=0.2$ July 17, 1886. $\bar{c}+10.D.V.=<0.5$ Aug. 18, 1886. $\bar{c}+10.D.V.=0.8$ Reads Sn 0.5 $\bar{c}+13.D.$	
2	Male. 41 years. Good.	3 years. Normal.	June 8, 1886. O. S. After the extraction was completed, a hernia of iris into the wound, which eserine would not reduce. Iridectomy followed by a small loss of semi-fluid vitreous. Eye first opened on seventh day. Parts well healed, and in good position. 12 days.		June 20, 1886. $\bar{c}+9.D.V.=0.4$ July 22, 1886. $\bar{c}+10.D.V.=0.4$ Reads Sn 0.5 $\bar{c}+14.D.$	
3	Female. 72 years. Fair.	Normal.	June 23, 1886. O. S. Normal operation and convalescence. 16 days.		July 9, 1886. $\bar{c}+11.D.V.=<0.2$ July 28, 1886. $\bar{c}+10.D.V.=0.2$ Reads Sn. 1.25 with +15.D.	
4	Male. 71 years. Good.	Normal.	July 17, 1886. O. S. After extraction, a tendency to prolapse of iris controlled by eserine. Eye first opened on sixth day. Wound well healed; central movable pupil. 12 days.		July 29, 1886. $\bar{c}+10.D.V.=0.2$	
5	Female. 62 years. Good.	Normal.	July 21, 1886. O. D. Operation normal. Eye first opened on sixth day. Pupil drawn a little upward by attachment of upper part of iris at periphery to the wound. Slight iritis. 20 days.		Aug. 10, 1886. $\bar{c}+11.D.V.=0.25$ Aug. 19, 1886. $\bar{c}+11.D.V.=0.3$	
6	Male. 61 years. Good.	4 years. Normal.	August 1, 1886. O. S. Normal operation and convalescence. Eye first opened on sixth day. Wound well healed; parts in good position. Small amount of capsule in pupil. 12 days. February 16, 1887. Capsule has cleared from pupil.		Aug. 13, 1886. $\bar{c}+11.D.V.=<0.3$ Feb. 16, 1887. $\bar{c}+12.D.V.=1$ Reads Sn. 0.5 with +16.	
7	Male. 70 years. Good.	1 year.	August 4, 1886. O. S. Patient rather uncontrollable. After corneal cut was finished, patient contracted the muscles of eyeball, and forced out a small amount of semi-fluid vitreous. Lens, at same time, displaced downward. Extracted with a scoop. Patient removed bandage on the third day, and appeared demented. Friends removed him on the tenth day, saying that he was often out of his head. 10 days.		Aug. 14, 1886. $\bar{c}+11.D.V.=0.1$	
8	Male. 55 yrs. (?) Poor.	6 years. No functional examination, as cannot communicate with patient, on account of absolute deafness and double cataract.	August 25, 1886. Operation normal. During afternoon after operation, took off his bandage several times, and refused to stay in bed. Cannot give him any directions, on account of his deafness. Twenty-four hours after the operation was up and dressed, with the bandage pushed to the top of his head. Wound entirely closed. Anterior chamber re-established, and some flakes of cortical floating in the pupil, and in front of the iris, at lower part of anterior chamber. No attempt was made to continue the bandage, on account of the uncontrollability of the patient. Convalescence normal. No re-opening of wound, no pain, very little redness of eyeball. Patient refused to stay in bed, and room was kept dimly lighted, to prevent his running into the furniture. When discharged, had some capsule in pupil. 14 days.		Sept. 8, 1886. $\bar{c}+10.D.V.=<0.1$ Sept. 15, 1886. $\bar{c}+10.D.V.=0.1$	

New Instruments.

A SIMPLE APPLIANCE FOR ROLLING GYPSUM BANDAGES.

BY HORACE G. WETHERILL, M.D., OF TRENTON, N. J.



In the issue of the JOURNAL of April 28, 1887, there is a description of a simple box for rolling dry gypsum bandages, and as I have had in use for five years a very simple box devised by myself which has not been described and has the advantage of easy construction by any handy man with few tools in a few minutes, many of your readers will be able to make and operate it for themselves.

It is made from a cigar box of the usual size, and enough small rod iron or heavy wire to make two cranks and one guide for the bandage to roll over.

Holes were made in the box at A and A, B and B, C and C, and the guide is placed through those at B, in the lower corner of the box.

With a common screw (D) or screw eye the box is firmly screwed through its bottom to a board or table.

The bandage is then rolled on the crank placed through the holes A A, and after all is on that is desired or that the spindle will hold, the end of the bandage is led under the guide B B, and started on the

crank placed through the holes C C, so that the crank may be turned in the direction indicated by the arrows.

Now plenty of plaster (the coarser the better) is put on the bandage between the guide-rod B and the spindle A A, and with the left hand on the roll at A A, to regulate the tension, the crank C C is started with the right hand; this carries the plaster down against the rod B B, which rubs the open meshes of the cloth full as the plaster is rolled over and over till all is taken up and more is needed. Plenty of plaster should be kept on the descending cloth, and it can be made to take up as much or as little plaster as the operator pleases, by regulating the speed of the bandage; all excess falls off as the bandage rises over the crank C C, if this is turned in the right direction.

I have made bandages with plaster in this way in my office with only a newspaper under the box to catch the droppings, for five years, as I said, with no dirt or flying plaster off the paper and only the plaster on my hands that came from taking the completed bandage off the spindle by a few reverse turns and pressure against the side of the box. My bandages are always satisfactory and set well, as I am careful in selecting good plaster, and use a very open scrim of only about twenty-eight or thirty threads to the inch.

I will gladly give any reader further information about this box if he will take the trouble to write me, as this sketch is hastily written and I am in doubt about its being perfectly clear, and will also be pleased to hear from any who find it of use, and a means of saving one of those little expenses we are so often called upon to meet.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MAY, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. C. H. WILLIAMS reported

A COMPARISON OF SOME CASES OF CATARACT OPERATION, WITH AND WITHOUT IRIDECTOMY.¹

DR. WADSWORTH said that he thought Dr. Williams had emphasized too much the difference in the amount of sloughing in the old flap-operation and in Von Graefe's linear operation. If his memory served him, Von Graefe's own flap-operations, when compared with his own linear operations, showed by no means the difference in percentage of sloughing that Dr. Williams had stated as generally existing. Then the modern idea of sloughing is that it is an effect of sepsis, and this should be remembered when comparing the results of a method with antiseptic precautions with those of another method without antiseptics.

It is yet to be proved how far the new operation is to be trusted to give success with a round pupil. So far, all admit that prolapse of the iris, which cannot be replaced, occurs not very infrequently. If this happened at the time of operation, iridectomy may be done then; if it happen later, it is often impossible, even by iridectomy, to prevent the healing of the iris into the wound—a mischance of some moment. Again, the amount of vision possible with iridectomy is as good as can be expected with a round pupil. Dr. Wadsworth had more than once obtained vision better than one, by the modified Graefe operation.

The original operation of Von Graefe did go too far toward the ciliary region, and did sometimes excite sympathetic inflammation. As modified, it was less dangerous in this respect, but sympathetic inflammation had occurred with the earlier flap-operation, and will occasionally occur with any operation.

Dr. Wadsworth believed the new operation must still be considered *sub judice*. Dr. Gruening had stated that De Wecker himself performed iridectomy during the summer months, believing it to be safer.

DR. CHARLES F. FOLSOM read a paper on the

EARLY SYMPTOMS OF GENERAL PARALYSIS.²

DR. WEBBER said that the paper touches one of the most important points in mental medicine. He supposes that the early symptoms may be summed up as those of brain-tire. The intellectual part of the brain is tired, and its action is abnormal or defective. In making the diagnosis, attention must be paid to the past mental and medical history of the patient, and to slight changes of manner, such as can be observed only by the family and business associates, and to which they would pay no attention until warned by the physician. Thorough cross-questioning, on his part, is desirable, and diagnosis will be a matter needing great care. There may or may not be motor changes, but intellectual changes will never be absent, such as inability to carry on sustained reasoning, or to keep on doing the same thing. The more attention that is paid to this disease by physicians in general practice, so

much the oftener will it be recognized in its early stage.

Any physician who meets with such cases must often act, if he means to do his duty by his patient, before he can make a sure diagnosis. The speaker does not believe it possible, during the early stage, to make a diagnosis beyond the chance of mistake. If the patient is treated and recovers, a certain class of authors will assume that there has been an error of diagnosis. The speaker wished to say nothing as to the treatment. It had been outlined by Dr. Folsom, and details must vary with the case.

DR. GOLDSMITH, present by invitation, said that he had been so unfortunate as to hear only the summing up of the paper. He referred to the great importance of early recognition of the disease. He does not know but that it must be a matter of theory whether cerebral exhaustion can ever be diagnosticated from general paralysis, or whether general paralysis is not a mere symptom of cerebral exhaustion. In many cases, the symptoms are very slight at first. We cannot be sure of paralysis until there are some paralytic, as well as mental symptoms present, and by that time, most observers are agreed that recovery does not take place.

He remarked that cerebral exhaustion is most likely to occur in persons of a neurasthenic type, and that general paralysis happens most often in those not of this type. If, therefore, in a given case, excellent business ability and common sense were recognized as part of the past history, he would be more suspicious of general paralysis than with the same symptoms in a neurasthenic patient. Dr. Goldsmith continued by saying that the study of the connection existing between syphilis and general paralysis is exceedingly interesting. His own opinion agrees with that of many others, that general paralysis is not a part of syphilis, but rather that it occurs where the nervous system has been deteriorated by previous syphilis, and thus the way has been prepared for it. It comes on long after the initial lesion, and has no post-mortem appearances characteristic of syphilis, in these respects offering an analogy to locomotor ataxia.

The connection between syphilis and the disease under consideration may be illustrated by cases like the following: A man had general paralysis six years after contracting syphilis, and his wife seven years after she received it. The wife's sister had a primary sore on the arm when sixteen years old, and had general paralysis eight years later. The argument is that three people in one family, one of them quite young, had one disease at a somewhat similar period, after having contracted the other. The speaker does not think he has seen much good result from iodine in the treatment, although he has nothing better to offer, and would use it if there were a history of recent syphilis, and the case were seen early. He thinks, however, that early recognition is important. Complete rest is an essential in the treatment.

DR. REYNOLDS inquired if the special senses become degenerated in the early stages.

DR. FOLSOM answered, that degeneration may begin anywhere. As a general thing, however, the special senses are not among the first to deteriorate.

DR. MINOT asked if there may be arrest in the progress of the disease without recovery.

DR. FOLSOM said that there can be no question of that.

¹ See page 202 of the Journal.

² Reserved for later publication.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, June 20, 1887.

DR. CHARLES A. LEALE read a paper on

THE PREVENTION OF CHRONIC DISEASE AMONG THE CHILDREN OF NEW YORK CITY,

in which he incidentally gave an account of the work of the St. John's Guild during the summer of 1886. For a number of years past, an appropriation has been made for the purpose of enabling the Health Department of the city to maintain a special corps of physicians to visit the tenement districts during the hot months of July and August; but no such special appropriation could be secured last year, and it was consequently necessary to abandon this service.

At a meeting of the Board of Managers of St. John's Guild, it was therefore determined to make an appropriation of their own funds for supplying this deficiency as far as possible; and three members of the board gratuitously volunteered to give up their summer vacations for this object, and devote the time to the furtherance of this new work. The members of the committee thus volunteering were Mr. John P. Faure, Secretary of the Guild, and Drs. B. V. Tompkins and C. A. Leale. Dr. Leale was chosen President, and in order to accomplish the most good, six physicians among those best fitted to perform the duties were chosen from a long list of those familiar with the English, French, German, Italian, Spanish and Hebrew languages, so that the greatest possible number of sick children might be benefited. The most densely-populated parts of the city were selected as those requiring most urgent attention, and they were divided into six districts; to each of which a physician was assigned.

This work began on the 3d of August, and ended on the 13th of September, and during this time 3,659 families were visited; representing 7,146 adults and 10,086 children. Among these there were found 217 sick adults, and 3,376 sick children. The most prevailing diseases were measles, diphtheria, scarlet fever, scrofula, and syphilis, and, in nearly every case these 3,376 children were not only without proper medical care, but were living in places rendering complete recovery to the large majority almost impossible. The vast importance of improving the sanitary conditions being therefore duly recognized, the summer corps of physicians were directed to make special investigations in regard to the sanitary condition of all visited, and, as a result, they reported that 699 premises were in good sanitary condition, 2,097 were in a fair sanitary condition, and that 863 families were surrounded by bad sanitary conditions or were living in illegal places unfit for human habitation. These were immediately reported to the Board of Health for correction.

To give the sick children the benefit of as much fresh air as was possible, 6,312 free tickets were distributed for the excursions of the St. John's Guild floating hospital, where they were given a sufficient quantity of food, and a hearty meal was furnished to their mothers. To twenty-four very sick children were given tickets admitting them and their guardians for a week or two at the hospital at Cedar Grove, Staten Island, where it was found they were greatly benefited. The very large number of children left with organic heart disease, following scarlet fever, was particularly noticed.

During the entire service the summer corps of physicians devoted, on an average, four hours daily to their work, and one evening of the week they met, together with the members of the supervising committee mentioned, to report verbally the results of their observations, compare notes, and seek counsel in difficult cases. All cases of special importance were referred to the committee for investigation and consultation. Some of these were of such character as required prompt action for the protection of themselves and neighbors. A little girl was found to be suffering from syphilitic ulceration of both eyes, and otherwise poisoned, as the result of a rape. When visited she was found living in two rooms with her father, mother and grandmother, all of whom were in such a drunken condition as to render them completely helpless. Another child, a boy, was found selling fish while his fingers, mouth and some other parts were in an ulcerating syphilitic condition. He had contracted the disease in a neighboring city, and, returning to his home, gave it to his grandmother, mother, and two sisters, and to two infants beside.

At the termination of the service final reports were made by the visiting physicians. One of them wrote; "The cause of the great death-rate among children under five years of age I found to be attributable to over-crowding filth, filthy habits, and bad drainage. Upon a hot summer's day to enter a room in a rear house, whose walls were cracked and besmeared with refuse, and perhaps dead vermin, occupied by a family of six or eight, harboring three or four boarders, upon the floor of which might be seen soiled linen, particles of food and children with a mother standing about the red-hot stove, washing and cooking, and perhaps attending to a sick child, lying in a dark bedroom, suffering from cholera infantum, diphtheria, or scarlet or typhoid fever, was a spectacle frequently indeed brought to my attention." The greater portion of this physician's district was inhabited by Hebrews who had lately emigrated from Austria, Hungary, Poland, Roumania, and Prussia.

Another, whose district also lay in a region densely crowded with a foreign population, wrote: "I noticed a great number of cases of diseases of the eye and ear among the younger children, and these diseases I found to be particularly prevalent among those that were subjected to especially bad hygienic influences. All the houses, without any exception, are over-crowded, and are in a frightfully filthy condition; the rear houses, in addition, being dark and badly ventilated. Here you find as many as twelve to fourteen people occupying one apartment — this apartment consisting, as a rule, of three rooms. In some of these apartments you find the father, mother and grown-up sons and daughters all sleeping, you might say, in one room, without any regard for delicacy or decency. The mortality among the very young children in these houses is of the very highest percentage. If they are overtaken by sickness, their vitality being in such a low state, it almost always results fatally unless they can be removed to some locality where fresh air can be obtained. Even one excursion on the salt water, or in the country, will act like a charm in some cases; the results being better than could be secured with any medicine. The cases that are especially benefited are general debility and marasmus."

A third physician wrote: "From what I learned during the few weeks I had for observation, I am con-

vienced that, to the children of the poorer classes, the Floating Hospital has proved an inestimable boon, not only in affording relief to those suffering from acute disease, but in fortifying others against the terrible effects of over-crowding and bad ventilation. At the request of Secretary Faure, I inspected the Seaside Nursery on Staten Island, and was much pleased with that institution, where I found everything provided for the comfort of those requiring hospital treatment and fresh sea-air. . . . In the small yard of a rear tenement, groups of sickly children were seen playing around an almost open cess-pool, a so-called 'school-sink.' These children have characteristic appearances; they are stunted in growth, pale, and, as a rule, have some form of ophthalmia. Rheumatism is also a frequent visitor to these miserable abodes, and leaves, in many of those who survive, some form of heart disease. Out of more than thirty children found in one of these small yards, only one could be said to be in vigorous health."

During the month of December, the Board of Trustees of St. John's Guild, desiring to obtain further information in regard to the sanitary condition of the places visited by the special summer corps of physicians, made a request that a re-inspection of the worst places should be made, and Dr. Leale gave the following as a sample of the reports received from the physicians: "Not often have I been so agreeably disappointed as I was last Friday and Saturday, when I re-visited the 'pest-holes' which have been changed to human dwellings. While there is still room for improvement, it shows what can be done to better the condition of the poor. I firmly believe the work done by the Guild during the last two weeks exceeded that of the entire season, for 'an ounce of prevention is worth a pound of cure,' and your noble institution surely prevented a vast amount of sickness by its attention to sanitary inspection."

Dr. Leale then went on to say: Such was a portion of the reports that I made to the Trustees of an institution, which had over a quarter-of-a-million of sick and crippled children under its care, and which, with its unique opportunities, had probably done more than any other to prevent disease among children. No child is received without a physician's certificate, stating that the child is sick, and naming the affection from which it is suffering (excluding all those of a contagious character); and this certificate entitles the bearer either to the benefits of our Floating Hospital, which feeds and takes the children, with their mothers, on daily excursions to the ocean during the heated term, or to a permit for a stay of two weeks at our Seaside Nursery, which has an ocean beach on one side, and a beautiful grove of shade-trees on the other. It is unnecessary to ask what such work does towards the prevention of disease and premature death, as a single visit will demonstrate its usefulness. At one of my visits, there were over thirteen hundred sick children with their guardians, on one of the daily excursions, and I saw numbers under five years of age with chronic diseases. There were many epileptics, idiots, and deformed. Several had curvature of the spine or hip-joint disease, bow-legs or club-foot, while tuberculosis, syphilis, and scrofula claimed a large share. The great number of cases of neglected eye, ear, and throat diseases, also, only too plainly told the story of the necessity of prevention, in early life, of permanent disability.

DR. GEORGE T. HARRISON read a paper on the INDICATIONS FOR THE INDUCTION OF PREMATURE LABOR.

In general terms, he said it might be stated that the object we seek to attain in the induction of premature labor was to give a better prognosis in those cases in which the further continuance of pregnancy, or childbirth at term, involves great dangers to mother or child, or both, by an artificial interruption of pregnancy at a time when the fœtus is capable of maintaining existence outside of the uterus. As the chief danger to the mother in the performance of this operation did not lie, as was formerly supposed, in the mechanical irritation of the uterus, but in septic infection, it could confidently be affirmed that if proper antiseptic precautions were observed, this danger was an avoidable one.

The first and most important indication for the induction of premature labor was undoubtedly furnished by pelvic deformity of a moderate degree. Theoretically, this indication was clear enough, but in practice, a number of difficulties might arise in its fulfilment. In the first place, the means for pelvic measurement at our command were by no means perfect, as they only enabled us to attain to an approximation to correctness. In the next place, the exact period of gestation might be exceedingly difficult to decide in certain cases somewhat deviating from the normal. Irregularities were especially prone to occur in cases of contracted pelvis, from the fact that the head was prevented from entering the pelvic cavity, and thus certain signs of pregnancy were modified.

Having fixed the date of gestation as accurately as possible, the next question was to decide in what week of pregnancy the induction of premature labor was indicated. The earlier the labor was induced, so much the less danger of injury to the soft parts of the mother, and so much greater the chances that the child would be born alive; but, at the same time, the prospect of the child's continuing its existence diminished in proportion to its prematurity. On the contrary, the later the labor was induced, the greater the danger to the mother and child, but the better the prognosis for the preservation of the life of the latter, if it come into the world living. The problem we had to solve, then, was to choose such a time when the child could traverse the pelvis without injury to itself or the mother. In order to do this, it was necessary to form an accurate idea of the size of the pelvis and of the child's head.

In the flat pelvis, the kind of deformity most frequently met with in practice, we had simply to ascertain the measurement of the conjugate diameter. In the case of the equally contracted pelvis the problem was much more intricate. Here it was necessary to introduce the entire hand into the vagina in order to form an idea of the pelvic cavity, and errors were often likely to be made, notwithstanding every precaution to the contrary. The determination of the size of the child's head also presented many difficulties. Schroeder ascertained from careful measurements of the heads of sixty-eight prematurely born children that the head was larger from the twenty-eighth to the fortieth week of utero-gestation than was generally supposed to be the case. It must, however, be borne in mind, Dr. Harrison said, that the heads of immature children are more easily moulded and much

more compressible than obtained in the case of the head of the child at term.

Other criteria which might serve as a guide were the facts, based upon experience, that large and powerful women give birth to large children, and that the weight of the child increases with the age of the mother and with the number of preceding births. The transverse diameter of the heads of the children of young primiparæ was relatively small, while the contrary was true in those multiparæ who were comparatively old. The method proposed by Frankenhäuser and Roth, of determining the relation between the head of the fetus and the pelvis of the mother, he thought worthy of trial. This method consisted in pressing the child's head into the pelvis, and, by means of the fingers in the vagina, ascertaining if it were possible for the head to descend below the brim. According to Frankenhäuser, this examination should be repeated every eight days, and operative interference should only be resorted to when the descent of the head below the brim seems no longer possible.

As to the degree of pelvic contraction which justifies a resort to the induction of premature labor, Dr. Harrison believed that in the simple flat pelvis a conjugate diameter of seven and one-half centimeters, or seven centimeters in very exceptional circumstances, should be the extreme limit. In the case of the equally contracted pelvis, when the shortest diameter was at least eight centimeters, it might be affirmed that the operation was justifiable. As a rule, the thirty-sixth week was to be selected, and only exceptionally should the term of gestation be anticipated by operating in the thirty-fourth week.

Secondly, an indication for inducing premature labor was given by certain severe diseases which endanger the mother's life and are amenable to no other treatment, while, on the other hand, either a disappearance or at all events an amelioration of the symptoms may confidently be expected with the termination of the pregnancy. One of the most interesting diseases coming under this category was uncontrollable vomiting appearing late in pregnancy. Occasionally it threatened such dangers that operative interference was imperatively demanded, and such a case, which he had recently seen in consultation, Dr. Harrison narrated. In this instance, however, premature labor began spontaneously before artificial measures for bringing it on had been taken.

Another disease of paramount importance which might indicate this operation was nephritis; although it was important that a distinction should be made between those cases in which the anatomical and functional disturbances of the kidneys are evolved by the state of pregnancy, and those in which the disease is an interstitial or parenchymatous nephritis which either existed prior to conception or has been produced during the course of the gestation. As to the induction of premature labor to ward off attacks of eclampsia, this, as was well known, had been a fertile source of controversy; but Dr. Harrison believed that the indication was clear and decided when the urine shows a constantly increasing quantity of albumen and cells in a state of fatty degeneration, and when all the therapeutical resources at the command of the physician have proved unavailing. Again, an excessive degree of edema and transudation with the serous cavities might demand the performance of this operation.

To make the differential diagnosis between the two

forms of nephritis mentioned, which had been termed *nephritis gravidarum* and *nephritis in gravitate*, was no easy task. The clinical phenomena are so nearly alike that the previous history of the case and the course could alone decide as to which form was present in any given case. It was abundantly demonstrated by numerous observations that in chronic nephritis in pregnant women there was a great tendency to abortion and premature labor, and not so much to attacks of eclampsia.

A third indication of premature labor, in the interest of the child, is met with in certain cases in which former experience has shown that the children die at a certain date of gestation, when this time is not far removed from the end of pregnancy. Some cases of *nephritis gravidarum* came under this category. If syphilis was the cause of the death of the fetus the artificial interruption of pregnancy, Dr. Harrison thought, was contraindicated; for, in the first place, he said, according to Kassowitz, in latent syphilis of the father or mother, the death of the fetus took place in each ensuing pregnancy somewhat later, so that in successive pregnancies there came into the world first abortive fruits, then immature macerated, then prematurely born macerated, and finally mature, but diseased, children; still later mature healthy children. On the other hand, we gained nothing by the artificial interruption of pregnancy before the expected time of the death of the fetus; for the child was already diseased, and might be considered as lost.

In cases, however, in which chlorosis or other anæmia of the mother, or change in the umbilical cord or placenta, had caused the death of the fetus, the indication of premature labor before the time which experience had shown to be the critical period might be the means of bringing a living child into the world.

It was rare that diseases of the heart or lungs gave an indication for this operation, though they occasionally did. Lastly, an indication for the anticipation of the term of gestation was furnished by those dangerous and incurable diseases of the mother which would probably cause death before the end of pregnancy, in order to avoid the performance of the Cæsarean section post mortem, or in articulo mortis.

In the discussion which followed the reading of the paper, Dr. Leale expressed the opinion that in syphilitic cases it was sometimes desirable to induce premature labor, since by this means a living child might be brought into the world, which, although diseased, might be restored to health under appropriate treatment, but which, if left to the course of nature, would inevitably be still-born. By this means a living child might be gained in the series of Kassowitz referred to by Dr. Harrison.

Dr. H. M. BIGGS presented, on behalf of Deputy Coroner Jenkins the specimens from a case of

RUPTURED AORTIC ANEURISM,

the rupture taking place at the junction of the transverse with the ascending arch of the aorta, and entering the left lung. There were also evidences of acute endarteritis of the aorta, and of the beginning of a small aneurism near the orifice of the right innominate artery.

Dr. C. S. WOOD then referred to a somewhat similar case which had occurred in his own practice, the specimens of which he had presented at a meeting of a sister society.

Recent Literature.

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By ROBERTS BARTHOLOW, A.M., M.D., LL.D. Third edition, enlarged and improved, with 110 illustrations. 8vo. pp. xxiv. 304. Philadelphia: Lea Brothers & Co. 1887.

The fact that the volume before us has reached a third edition is evidence of the favor with which it has been received. Though distinctly inferior, as a scientific treatise, to the works of De Watteville and Erb, it nevertheless is a useful and trustworthy practical manual. The present edition has been fully revised, and has taken note of many of the recent contributions to electro-therapeutics, especially in the domain of surgery, but we regret that the author has not dealt with the question of density in the application of galvanism, or given his voice in favor of Erb's electrodes, which are now adopted as the standard.

A Manual of Obstetrics. By A. F. A. KING, A.M., M.D. Third edition; 12mo, 379 pages. Philadelphia: Lea Brothers & Co. 1886.

With commendable zeal the author in preparing this edition has striven to keep pace with the recent advances in obstetric science. Some portions of the book have been rewritten, and every chapter bears evidence of careful revision: there are forty-one additional pages. The value of the work is much enhanced by the new illustrations, forty-three in number, and by the more extensive use of paragraph headings.

Altogether the book is a very good one; and while we have in no way changed our opinion of manuals, as expressed in our notice of the second edition of this book, we would much prefer that a student should master a manual like this one than that he should have only a vague and indifferant knowledge of one of the larger treatises.

Transactions of the American Gynecological Society. Vol. II. New York: D. Appleton & Co. 1887.

These yearly volumes are noteworthy as presenting from time to time the results of the thought and experience of the most distinguished men in this branch of the profession in America. As such they claim our attention, and challenge our criticism. While the individual papers differ in merit, there are always some which from their originality deserve especial notice. As in all branches of science, so in gynecology, there are always certain subjects which are in the stage of trial, which are the burning questions of the day, and which more than any others are being talked about, written about, and tested in practice.

Such subjects have always had a prominent place in these transactions, and the present volume is no exception to the rule. The most notable papers in the sense above indicated, are three which discuss the uses of electricity in its various forms in gynecology. Dr. Engelmann, in a very elaborate paper, gives in minute detail the methods and uses of the different electric currents, describes the various instruments, and enumerates the different affections in which this agent has been tried, with the rules for its employment. The paper has its chief value in the precise rules it gives for the kind, strength, direction and intensity of the current to be used, instead of the vague general

directions which have almost uniformly been the rule before. According to Engelmann, the range of diseases in which it may be advantageously employed is very large, and the chief criticism we would make is, that the author has conceived the scope of its application to be wider than future experience will show is warranted.

Two papers on special uses of this agent emphasize the growing importance of electricity in the therapeutics of gynecology. One is on the "Treatment of Procidentia by the Galvano-cautery," by Dr. John Byrne, the other on "Electrolysis in Gynecological Surgery," by Dr. Wm. H. Baker. The latter paper deals principally with its employment in cases of fibroids, thirteen out of fourteen cases of which were relieved of suffering and somewhat diminished in size.

Anything which Dr. T. A. Emmet has to say is worthy of attention, and in the paper which he has contributed to this volume on "Pelvic Inflammation," there are a few points which deserve notice. He has been surprised to find that cases where he has diagnosed "thickening of the broad ligaments," and which later have been operated on for the removal of diseased Fallopian tubes, have shown little evidence of previous attacks of cellulitis. This he explains by presupposing in all cases of inflammation of the tube except those of gonorrhœal origin, a cellulitis, which by absorption and contraction of the tissues after the active stage is over, has drawn up the vaginal wall, and drawn down the tube until they are very nearly in apposition. The broad ligament is somewhat flattened out, but not thickened, and the bloodvessels which have lost their support, and from long-continued obstruction to the circulation become distended, are what are felt as a "thickening of the broad ligament" itself. As the veins become partly emptied after death, this condition may easily be overlooked.

Dr. Englemann enters his protest against the indiscriminate removal of tubes, even when diseased, and feels sure that prolonged local treatment will, in many instances, be followed by a complete cure.

Other notable papers are, "The Influence of Maternal Impressions on the Fœtus," by Dr. Fordyce Barker, in which he argues in favor of the positive influence of such impressions on the child in utero; and "The Value of the Bluish Coloration of the Vaginal Entrance as a sign of Pregnancy," by Dr. J. R. Chadwick, where for the first time the subject has been investigated clinically, and definite facts with regard to it established by statistics. These facts are: I, That its absence is not to be accepted as evidence that pregnancy does not exist, especially in the first three months, when satisfactory evidence is most needed; and, II, That from (and including), the second month this color is generally present, and often of such character as to be diagnostic.

The other papers in the volume will well repay perusal, and as a whole, compares favorably with its predecessors.

— At a recent meeting of the Berlin Medical Society, Professor Virchow announced that Dom Da Costa Alvarenda, a Portuguese physician, had, to show the esteem in which he held German medical science, bequeathed a sum of about £3000 to the Society; the same testator is reported to have left a similar sum to the Philadelphia College of Physicians, of which he was an honorary member.

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PARATRIPTICS.

THERE is a clumsy Greek word which means literally to *strike or rub against*. It has lately been proposed to strain a figurative meaning out of this word (which has not yet risen to the dignity of a place in standard medical lexicography), and apply it to that class of nerve-modifiers which are believed to be re-strainers of organic waste: tea, coffee, tobacco, wine, coca, etc. It is generally admitted that these substances do, to some extent, limit nervous and muscular expenditure, but their mode of action is largely a matter of conjecture. Nor is it perfectly clear how, in restricting tissue-waste, they can be force-givers (*dynamophorous* was the euphonious word coined by Gubler to express this property). Liebig, we believe it was, who first advanced the explanation that such substances as alcohol supply force to the economy by being themselves consumed, instead of the tissue-elements. Later researches seemed to throw doubt on this hypothesis, although the best authorities seem now agreed, as a result of rigid experimentation, that, at least, one of these "paratriptics," alcohol, in part undergoes transformation in the organism, yielding up force.

Whatever may be the true explanation of the *modus operandi* of these agents, it is none the less a matter of common experience that, under certain circumstances, and within certain limits, they act the part of food, making the ingestion of less food necessary, and facilitating the performance of work. This seems to be emphatically true of coca, the leaf of which is to the Indian of the mountains "the delight, the support, and in some measure, the necessity of his life." Certainly, if there be any one thing which has impressed travellers in Bolivia and Peru, it is the immense amount of work which the natives can accomplish on the most meagre alimentary rations, when supplemented by a supply of their favorite coca.

With regard to tobacco, which Von Bibra calls the "universal stimulant," this narcotic being used by 800,000,000 of the human race, we are not prepared

to endorse all that has been said in its praise, nor do we think that this "weed" has been deserving of all the opprobrium that has been heaped upon it from King James's anti-tobacco tirade to the present time. Certain it is that, while many are harmed by it, many, on the other hand, affirm that it is a "lightener of labor, and a facilitator of thought." In this connection, it is interesting to read what a high literary authority, who is, by the way, not a physiologist, says of the benefits which, we suppose, that he has personally experienced from the occasional pipe or cigar.¹ The citation is a curious one, as an attempt to explain on physiological principles an action which is common to all the so-called "paratriptics" — an explanation anticipated by Anstie:

"What do we do to ourselves when we smoke? In the first place, we stimulate or increase the normal molecular activity of the sympathetic system of nerves. By so doing, we slightly increase the secretion of saliva and of the gastric, pancreatic, and intestinal juices. We accomplish these all-important secretory actions with a smaller discharge of nerve-force. We economize nerve-force in digestion, and by this we mean to say that we perform the work of digesting food just as well as before, and still have more of the coördinating and controlling nerve-power left with which to perform the other functions of life. Thus, at the outset, tobacco exhibits itself as an *economizer of life*. Such is the inevitable inference from its stimulant action on the sympathetic."

The conclusions² reached by a well-known medical authority, who has made personal researches on this subject, are as follows: "Tobacco, when the food is sufficient to preserve the weight of the body, increases that weight; and when the food is insufficient, and the body, in consequence, loses weight, tobacco restrains that loss."

It would be easy to pursue the subject, and show that similar results and conclusions have attended researches and experiments undertaken to ascertain the physiological effects of tea, coffee, and alcohol.

The author of the article on "Sedentary Men and Stimulants," in the *North American Review* for August, 1887, discusses with much good sense the action of paratriptics in their relation to the conditions of the laboring and sedentary man. The former wastes his muscles out of all proportion to his brain, while the latter does the exact reverse, and both thus destroy the relations which should exist between their food and necessary repair. Both must eat the same food, and each is compelled to swallow more than he needs for one portion of the body, in order that he may obtain sufficient nourishment for another. The writer goes on to show that, while the laboring man can stand this by virtue of the muscular labor which he performs, the sedentary man, to nourish his overtaxed brain, must eat too largely and too abundantly for the unemployed portion of his body. Hence "dyspepsia"

¹ John Fiske. Tobacco and Alcohol. New York: Leopold & Holt.

² W. A. Hammond. Physiological Effects of Alcohol and Tobacco. American Journal Medical Sciences, Vol. 22, p. 319.

and "biliousness" result. "It is certain," he says, "that sedentary men (unless their appetites are restricted) are quite as heavy eaters as laborers, and rarely escape the disorders mentioned. The exceptions comprise chiefly those who, 'by the habitual use of the so-called paratriptics — tea, coffee, tobacco, wine, etc. — daily lessen the waste of the brain, and thus diminish the amount of necessary food.'"

The article concludes with a tirade upon what the writer calls "*the greatest gastronomic sin of the times, an indulgence in all forms of freshly-baked bread*," whose suppression "would cause biliousness and dyspepsia largely to cease to afflict sedentary men;" and with the remark that, of all the paratriptics, "it may finally be said that only personal trial or skilled advice can determine which is best suited to each individual."

We cannot forbear expressing the opinion that Dr. Searle's fresh-bread theory of the causation of dyspepsia and biliousness is rather crude; there are too many exceptions to admit of its being received as a general law. At the same time, it is probably true that it is the excess of foods of all kinds, which are consumed above the needs of the system, or its ability to appropriate them, which is the principal factor in the production of those complaints.

The statement, moreover, that sedentary men eat as much food as laboring men who perform exhaustive muscular toil must be taken with grave reservations. It will, we feel sure, when examined in the light of experience and careful statistics, be found to be wanting in fact.

THE ABUSES AT THE WARD'S ISLAND INSANE ASYLUM.

THE Standing Committee on the Insane of the New York State Board of Charities, consisting of Dr. John J. Milhau and Messrs. Craig and Foster, having made a thorough examination of the three thousand folios of testimony taken during their investigation in July, have now presented their report in regard to the existing abuses at the City Insane Asylum on Ward's Island. The Medical Staff, we are glad to observe, is in no way involved in the general condemnation of existing conditions.

While the cost of food and maintenance, including clothing and care, is extremely low for this class of individuals — amounting to less than thirty-three cents per capita a day — the Committee is unable to find, on the whole, any deficiency in the quality of the food supplied as compared with the purchase or the market price thereof, or bad faith or gross negligence on the part of the Board of Charities and Correction, whose business it is to furnish such supplies. As to the improper character of the food itself, the testimony is cumulative and undisputed, and proves conclusively that the dietary is insufficient in variety and nutritious qualities. It is also shown that with the exception of one article — the bread, which is fairly satis-

factory — the cooking is bad, and necessarily so, because of the inadequate appliances in a kitchen intended for 500 to supply the wants of over 1,700 patients, besides attendants. The Committee, therefore, find that "this condition of things is wrong and shameful; especially does it so appear in view of the fact that those who are compelled to eat the mixtures set before them are sick persons requiring a wholesome diet."

The unwise economy which is evident in the food supplied to the institution is exhibited in its buildings. The asylum building proper has a capacity of 1,000 patients; but the population at the time of the investigation was nearly 2,000; while the annex on Ward's Island, and the branch on Randall's Island, ought in the opinion of the Committee to be condemned as uninhabitable. In speaking of the evils produced by overcrowding, the Committee say: "It is not difficult to imagine the general condition, with patients huddled together, many of them without sufficient air space, in associate dormitories, and most of them deprived of day rooms, which have been filled with beds, and confined to long wards as cheerless and comfortless as are these miserable masses of humanity which crowd them. The day attendants, compelled to pass fifteen working hours in these repulsive places and in the arduous duties of restraining and quieting the excitements which are responsive to such environments, are at night compelled to sleep two or three and six or seven in small and uncomfortable rooms. In this condition violent wards must become more disturbed, and filthy wards more demoralized, even with the best material for educated attendants. But the worst effect is that, while the salaries of these officers are not relatively low, the general situation repels not only the best, but even ordinarily good men, who would otherwise become applicants for their position, and attracts such as have no due appreciation, and perhaps not even a dull apprehension, of the depressing and disturbing influences to be overcome."

In regard to the treatment by the attendants, the circumstantial evidence received was such as to show beyond all doubt that there are numerous and continual injuries and indignities inflicted upon the patients by the attendants. Overworked, irritable, and ignorant attendants, who need the constant direction and discipline of persons other than themselves, and whose antecedent experiences have never resulted in self-restraint, are placed in positions of absolute and exclusive control of badly crowded and excited patients, without appeal or remedy except on unverified reports to absent medical authorities. The presumption that offences are continually practised by such attendants upon patients in such conditions is of the highest degree of probability. "This moral certainty of abuses abounding in the wards of this asylum," the report goes on to say, "is, if possible, further established by evidence amounting to almost mathematical demonstration. . . . Comparison shows that only a small proportion of such acts of personal violence committed

by attendants on patients, which are not witnessed by any member of the medical staff, are ever reported and proved to the satisfaction of the medical authorities."

In the matter of medical treatment the Committee quote the opinion of Drs. Trautman and Macdonald, that proper distinction had not and could not be made in favor of the treatment of the acute insane, and that not even proper care and attention had been or could be given to the chronic insane.

In closing their report, the Committee say: "The facts proved show that the abuses which have been continued, and against perpetual protests, endured, in the New York City Asylum for the Insane are the effects of permanent causes. The difficulties which have hitherto resisted all efforts for the removal of these causes will not yield to attempts of reform on the surface of the affairs or administration of this asylum, for these causes are, as we have seen, general and inherent in the Department of Charities and Correction, or in the Department of Estimate and Apportionment, or are resultants of lines of error in the relations of the two departments."

For provisional relief, the following immediate remedies are demanded and proposed:

(1) The Board of Charities and Correction to give to the Board of Estimate and Apportionment plans and specifications for all buildings and improvements, in respect of which special appropriations are asked or needed, and also annual accounts and reports, and all necessary information for the general appropriations.

(2) The Board of Estimate and Apportionment to transfer a certain residue of \$50,000, and to make further special appropriations, such as may be necessary for proper buildings and improvements on the farm at Central Islip, Long Island, and to make sufficient apportionment for temporary buildings and accommodations, as well as for the current expenses of the institution.

(3) The Board of Charities and Correction diligently to push forward the necessary preparations for the transfer of patients to the farm. The buildings for the accommodation of such patients to be on the cottage plan, none to exceed two stories in height, and all to be inexpensive and in accordance with principles illustrated by the Alt Sherbitz Asylum in Saxony.

(4) The Board of Charities and Correction to reform, as far as possible, the various abuses pointed out as now existing in the Ward's Island Asylum, and to provide adequate, healthy, and cheerful rooms for all patients and attendants; to institute schools for the patients, and training schools for the attendants, both of which have been found successful experiments in the State insane asylums; and to give increased facilities for healthful and productive labor of the patients on the farm and otherwise.

(5) The Board of Charities and Correction, so soon as the new conditions and environment hoped for make it possible, to provide for the treatment of the acute insane, separate from the care of the chronic in-

sane, under the advice of the General Superintendent of both city asylums, and of the State Commissioner in Lunacy.

In order to secure permanency in the reforms thus suggested, the Committee recommend:

(1) Either the management and government of both the insane asylums (on Ward's and Blackwell's Islands), with all their various branches, to be given to a Board of Trustees composed of men and women appointed by the Mayor, to whom they should report; or, as the alternative preferred, all matters referring to the insane to be intrusted to one independent Commissioner, appointed by, and responsible to, the Mayor. If this plan were carried out, the Department of Charities and Correction would have to be reorganized, and might well be divided into four separate departments, each with an individual head, respectively, for (1) insane asylums; (2) institutions for children; (3) all the hospitals and the almshouse; and (4) the workhouse, the several city prisons, and the penitentiary.

(2) On the omission of the city to provide such permanent, as well as provisional relief, the State to intervene in accordance with the existing laws relative to the care of the insane within its borders. The Willard Asylum Act, passed in 1865, which requires counties to send their insane to State institutions, does not except the counties of New York and Kings, but, as no provision for the insane of these counties has thus far been made in the six State institutions, the powers of the State Board of Charities under this act and supplemental acts have heretofore been practically inoperative in the counties in question.

LAPAROTOMY FOR PELVIC PERITONITIS AND SALPINGITIS.

THE paper on "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," read at the recent meeting of the Massachusetts Medical Society, and published in the issue of the JOURNAL for August 18th, was of value and interest as indicating the future possibilities of cure in diseases formerly regarded as beyond the reach of surgery and medicine, and the conclusions of Dr. Irish have received striking confirmation by four cases lately reported by Terrillon to the Academy of Medicine, Paris.

One of these patients was a young woman, aged twenty years, pale and weakly. This woman had her first child at the age of sixteen and a half years, and the second, two years later. From the first confinement she made a good recovery, the second was followed by a smart attack of pelvic peritonitis. An imperfect convalescence followed; then the patient suffered from exhaustive metrorrhagias, continuous pains in the abdomen, and inflammatory recrudescences from time to time. Laparotomy was performed May 21, 1887, and on the right side Terrillon removed an impervious Fallopian tube of large size, full of muco-pus,

with a diminutive nodulated ovary containing a small abscess; all adherent to the peritoneum. The Fallopian tube on the left side, which was also removed, was similar to the right, and the right ovary, as large as a hen's egg was transformed into a blood cyst.

At the time of the report (May 31st) the patient was regarded as out of danger, and rapidly convalescing.

Another patient had been for seven years suffering from salpingitis and peritonitis. Both Fallopian tubes with ovaries were removed; they were enormously thickened and dilated, full of blood clots, impervious and adherent to the ovaries by false membranes. The operation was followed by restoration to health and cessation of the metrorrhagia. The other two cases (the last of which was treated by laparotomy in March), were similar in kind to the one just mentioned.

Terrillon, in commenting on these observations called attention to the probable origin of the peritoneal inflammations accompanying these cases, and his view strikingly coincides with that of one of the speakers at the Massachusetts Medical Society Meeting, respecting the extension from some inflamed mucous surface of the localized peritoneal inflammation: "There exists," he says, "an inflammation of the mucous membrane of the tubes. According to the clinical characters and the lesions observed, this inflammation seems to have begun in the uterine mucosa. It invades the mucosa of the Fallopian tube, overflows the tube (so to speak) by its fibrinated extremity and spreads over the adjoining peritoneum and ovary. A localized peritonitis thus results. These lesions account for the pain and peritoneal accidents of the onset, the hæmorrhages of the mucous membrane of the uterus and Fallopian tubes, whose vascularity is augmented, the sufferings referred to the region of the ovaries and lower part of the abdomen, and the disorders of the nervous system and digestive tube accompanying. They also account for the persistence of the functional disturbances, despite the means employed to ameliorate them, and the necessity of radical surgical interference which alone can effect a cure."

MEDICAL NOTES.

—The *Revue d'Anthropologie* gives the number of centenarians dying in France of late years as follows: in 1879, 38; in 1880, 31; in 1881, 38; in 1882, 44; in 1883, 51.

—Dr. Charles G. Stockton, of Buffalo, has been elected to succeed the late Dr. Thomas F. Rochester as Professor of Practice of Medicine and Clinical Medicine in the medical faculty of the University of Buffalo.

—Cable dispatches to the daily press report the death from hydrophobia of Viscount Doneraile, of the Irish peerage, who was attacked by hydrophobia, resulting from the bite of a fox received last January. Lord Doneraile was bitten on the hand by a tame fox,

a vixen, which he kept as a pet. The coachman, who came to his assistance, was also badly bitten, on the leg as well as on the hand. At the time Lord Doneraile thought that the fox was only out of temper, as it did not appear out of health. As a precaution, however, the animal was shut up, and on the third day it was found dead. A veterinary surgeon examined the body and pronounced the attack a case of rabies. Lord Doneraile started immediately for Paris, taking the coachman with him, for treatment by Dr. Pasteur. Thus, within five days of being bitten, the two patients were in Pasteur's hands. The fate of the coachman is not stated. We await with interest further and more authentic details of the case.

—Drs. Cyrus Edson and Willard Parker, of New York, having differed in their opinions as expressed in articles written for the *Epoch*, on the point of what color is best for summer clothing, and Dr. Edson having said that dark clothes are best because black radiates heat more freely than white, and having cited the polar bear as best adapted by color to hold the bodily heat, the *Sanitary Engineer* says that Dr. Parker is right and Dr. Edson is wrong. The experiments of Coulier (*Expériences sur les étoffes qui servent à confectionner les vêtements Militaires*.—*Jour. de la Physiologie*, 1858), show that the difference of absorption and radiation between different colors of the same stuff are not perceptible in the shade at temperatures between 70° and 100° F., while the white is much less absorbent than the black when exposed to the rays of the sun. Hence the common opinion which favors light clothing for hot weather is right.

—The *St. Louis Medical and Surgical Journal* referring to the lately published letters of Wagner, the composer, written from the court of the late King of Bavaria, says that they show clearly a state of inverted sexual instinct on the part of the musician in his relations with the mad king. Wagner spent much time and description over the designing of gorgeous female toilettes which he wore in the presence of the king. In the letters the writer enters into all the petty minutæ concerning the material, cut and trimming of the various garments which go to make up female finery, from the lace chemise and dainty hose to décolleté corsets and trailing robes.

—The Spanish Society of Hygiene invite essays suitable for publication in the form of pamphlets or tracts, on the following topics: 1. The Hygiene of Work in Second Childhood. 2. Methods of obviating the Evil Effects produced on the Sight by faulty Conditions of Schools, and the Methods of Instruction. A prize of \$50 will be given for the best essay on each subject. Foreigners may compete, and the essays may be written in Spanish, French, Italian, Portuguese, or Latin. The length should be that of a sixteen-page pamphlet. The MSS. must not be signed, but must bear a motto, and accompanied by a sealed envelope bearing the same motto outside, and containing the name of the writer within. The essays

must be addressed to "La Sociedad de Higiene, Montera No. 22, Madrid, before September 30, 1887. The awards will be announced at the opening of the academical session.

Miscellany.

HYGIENE IN FRENCH SCHOOLS.

THE Paris correspondent of the *Lancet*, writing under date of August 9th, says: "The Academy of Medicine has, to-day, been occupied in the discussion of the conclusions come to by a Committee appointed to report on intellectual overwork in schools and other places of education. After considerable discussion, in which MM. Lagenan, Trélat, Hardy, and Brouardel joined, the following conclusions were adopted: 'The Academy of Medicine calls the attention of the public authorities to the necessity of modifying, in conformity with the laws of hygiene, and the necessities of the physical development of children and young people, the present arrangements of our scholastic establishments. It thinks that the colleges and lycées for boarders should be removed to the country; that wide, open spaces should be set apart for games; and that the class-rooms should be improved as regards lighting and ventilation.' Without dealing with the course of study, which it desires to see simplified, the Academy calls special attention to the following points: Increase of the time for sleep as regards young children; for all pupils, a diminution of the time devoted to study and classes—that is to say, to sedentary occupations—and a proportional increase of the time for amusement and exercise; the absolute necessity of submitting all the pupils to daily exercise in physical training, proportioned to their age; namely, walking, running, jumping, formations, evolutions, regulated and prescribed movements, gymnastics with apparatus, fencing of every kind, games of strength, etc."

CARMINATIVES, AND THE ABSORPTION OF GAS BY THE INTESTINES.

THE *Practitioner* reproduces from the St. Bartholomew's Hospital Reports, Vol. XXII, some experiments just published, which were performed several years ago by Drs. Lauder Brunton and Cash, with a view to determine how carminatives act in relieving flatulence. The gases used in the experiments were atmospheric air, carbonic acid gas, hydrogen, marsh gas, coal gas, and sulphuretted hydrogen. With the exception of one experiment the oil of cloves was the only carminative used. In each experiment they first tested the gases alone, and then again after the administration of the carminative. They found that little or no absorption took place when atmospheric air, hydrogen, coal gas, or marsh gas was used, and the addition of the carminative did not seem to increase the absorption. It was only in the case of carbonic acid that the carminative seemed to aid in absorption, and this was due probably more to the effect on the movements of the intestine than to direct absorption of gas. The oil of cloves caused a marked increase in the secretion of the intestine—a fact which

perhaps explains the advisability of combining carminatives with purgatives. In regard to sulphuretted hydrogen it was found that its absorption proceeded so rapidly as to produce even fatal poisoning, but carminatives did not exert much influence in increasing the absorption.

A NEW AID IN THE DIAGNOSIS OF GASTRIC DISEASE.

IT is a point of capital importance in the diagnosis and treatment of diseases of the stomach, to determine the motor power of the organ, or, to be more accurate, the period that elapses between the entrance of food through the cardiac orifice and its exit through the pylorus. The chemical properties of salol have enabled Ewald (*Weiner med. Presse*, 1887, No. 28) to accomplish this desirable object. The decomposition of this substance, and consequent appearance of salicylic acid in the urine, does not begin until it has passed into the small intestine. Salol may be mingled with the contents of the stomach, and kept at the temperature of the body for hours, without decomposition. This fact was determined by Ewald in twenty-five experiments. On the other hand, it is rapidly decomposed in the alkaline secretions of the intestine. In healthy persons salicylic acid appears in the urine in from one-half to one hour after the administration of salol. If this limit is overstepped, the delay may be attributed to pathological changes in the stomach. In eight typical cases of dilatation of the stomach studied by Ewald, salicylic acid could not be found in the urine until from two to three hours after the ingestion of salol, and in two obscure cases the same observer was enabled to detect dilatation by means of this delayed reaction.

This interesting observation is applicable, not only as a means of diagnosis, but as a test of the effect of treatment; for, by means of it Ewald has been enabled to determine that both electricity and massage hasten the passage of the chyme into the intestine.—*Medical News*.

A NEW SEXUAL SEDATIVE, *SALIX NIGRA*.

J. HUTCHINSON, M.D., writes in the *British Medical Journal*, July 30th, of his experience with the *salix nigra* or pussy-willow, his attention having been called to the virtues of the drug by a report in the "Transactions of the Texas State Medical Association," from Dr. Paine, who prescribed it successfully in cases of ovarian hyperæsthesia, uterine neuralgia, etc., and also in spermatorrhœa and nocturnal pollution. His verdict upon the drug is that it is a powerful sexual sedative, similar in its action to bromide, but without its depressing qualities.

Dr. Hutchinson obtained a supply of the fluid extract, and has been employing it for some months. The most numerous class of cases in which he exhibited the drug were women of nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when, along with the general *malaise*, is added a very decided pain in one or other ovary. They also suffered from hemicrania, the pain being situated above the left eyebrow, and resembling the feeling as if a nail were being driven into the skull

(clavus). Many of them, too, complained of pain under the left breast, and extending round to the back. On one or two occasions, he has noticed patients complaining of the above symptoms, and in only a moderate degree, under favorable conditions — as for example, long-continued anxiety or alcoholism — go from bad to worse, till they become hystero-epileptics. In cases of this kind, it is supposed that the centre of inhibition has in some way got out of gear, and the severity of the symptoms depends upon the amount of disturbance in this nerve-centre.

In cases where the ovarian distress was the symptom for which advice was sought, as being, in the patient's eyes, the most prominent, he usually succeeded in eliciting other indications of an irritable nervous system, and placed them upon half-drachm doses of the fluid extract of *salix nigra*, three times a day. In quite seventy-five per cent. of the patients so treated, a great amount of relief was obtained after two or three days' treatment. Not only was the ovarian hyperæsthesia relieved, but the nervous palpitation of the heart was abated, and the patient felt in every way stronger.

He has also given the drug in two cases of nocturnal emissions with marked benefit. The pollution ceased entirely while the drug was being taken, and for several months thereafter. Virile power and passion were not much, if at all diminished, but the relief from the ailment gave great satisfaction.

Correspondence.

THE UNIVERSITY OF MICHIGAN NOT GUILTY.

MEDICAL DEPARTMENT, UNIVERSITY OF MICHIGAN,
ANN ARBOR, August 23, 1887.

MR. EDITOR,—In your issue of August 11, on page 143 is a communication signed "Reader," whose object is to bestow deserved censure on the vicious haste with which some medical schools allow their students to complete the professional course. In mentioning a definite example your correspondent says, "The first course of lectures in this instance was taken at Ann Arbor, and the whole course was less than one year. The same college let a man through a few years ago, out of pity, after having decided that he was incompetent, because he attempted (?) suicide." The italics are mine. To the first sentence quoted I make no objection, though the author might have added the statement that by no possibility could the graduation have been recommended by the Medical Faculty of the University of Michigan. The second sentence is so ambiguous that one would wish that the author were as perspicuous a writer as he is a well-intentioned "Reader." The "same college" referred to is *not* the College of Medicine and Surgery at Ann Arbor. I think that no body of men is more earnestly endeavoring to elevate the standard of medical education in this country than the Medical Faculty at Ann Arbor. Yours respectfully,

HENRY SEWALL, M.D.,
Professor of Physiology.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 20, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhæal Diseases.
New York	1,481,920	758	363	32.00	11.05	3.08	3.12	23.40
Philadelphia	993,801	413	291	24.24	10.56	9.28	2.64	14.43
Brooklyn	745,108	359	193	28.96	8.40	1.40	4.24	22.68
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	182	89	30.80	8.40	3.30	1.65	21.45
Boston	400,000	213	90	22.05	11.25	2.70	2.25	17.55
New Orleans	242,750	116	28	22.36	14.62	.26	1.04	2.08
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	96	43	26.00	12.48	6.24	4.16	15.60
Pittsburgh	210,000	66	28	39.52	15.15	9.12	6.08	22.80
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	80	59	38.75	5.00	—	—	33.75
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	22	8	27.24	13.62	4.54	—	13.62
Charleston	60,145	41	13	21.96	19.52	7.32	—	9.76
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	33	16	30.30	12.12	3.03	3.03	24.24
Lowell	64,051	51	26	50.96	3.92	3.92	—	43.12
Cambridge	59,660	36	18	33.33	15.50	2.78	—	30.58
Fall River	56,863	40	24	45.40	2.50	—	—	42.50
Lynn	45,861	26	8	15.40	23.10	—	3.85	11.55
Lawrence	38,825	22	13	40.86	4.54	4.54	—	31.78
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	25	12	44.00	16.00	—	12.00	28.00
Somerville	29,992	7	2	42.84	—	14.28	—	14.28
Salem	28,084	13	5	54.76	27.38	—	13.69	41.07
Holyoke	27,894	11	6	36.36	9.09	—	9.09	27.27
Chelsea	25,709	9	7	33.33	—	—	—	33.33
Taunton	23,674	11	7	36.36	18.18	9.09	—	27.27
Haverhill	21,795	9	3	33.33	22.22	—	—	33.33
Gloucester	21,713	6	2	66.66	16.66	—	—	66.66
Brockton	20,783	9	5	33.33	—	—	—	33.33
Newton	19,759	7	2	14.28	14.28	—	—	14.28
Malden	16,407	6	0	16.66	33.33	—	—	16.66
Fitchburg	15,375	6	1	16.66	—	—	—	16.66
Waltham	14,609	6	3	16.66	—	—	—	16.66
Newburyport	13,716	6	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,685: under five years of age 1,175; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 709, consumption 288, lung diseases 113, diarrhoeal diseases 467, diphtheria and croup 79, typhoid fever 74, malarial fever 36, whooping-cough 18, scarlet fever 12, cerebro-spinal meningitis 12, measles five, erysipelas three, puerperal fever two, small-pox (New York) one. From malarial fever, New Orleans 12, New York nine, Brooklyn five, Philadelphia four, Baltimore three, Charleston two, Nashville one. From whooping-cough, New York five, Baltimore four, Boston three, Brooklyn two, Philadelphia, Milwaukee, Nashville and Somerville one each. From scarlet fever, New York six, Philadelphia three, Brooklyn, Boston and Lawrence one each. From cerebro-spinal meningitis, New York six, Milwaukee two, Philadelphia, District of Columbia, Pittsburgh and Worcester one each. From measles, New York, Boston, Milwaukee, Fall River and New Bedford one each. From erysipelas, New York two, Baltimore one. From puerperal fever, New Orleans and District of Columbia one each.

In the 21 cities and greater towns of Massachusetts, with a population of 1,051,335 (population of the State 1,941,465) the total death-rate for the week was 27.05 against 27.83 and 30.01 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 20th, the death-rate was 22.9. Deaths reported 4,050: infants under one year of age 1,790; acute diseases of the respiratory organs (London) 158; diarrhoeal diseases 973, whooping-cough 125, measles 93, scarlet fever 54, fever 30, diphtheria 17.

The death-rates ranged from 13.2 in Brighton to 39.3 in Preston; Birmingham 22.2; Bradford 22.5; Hull 20.7; Leeds 21.5; Leicester 27.3; Liverpool 26.8; London 21.8; Manchester 26.3; Newcastle-on-Tyne 29.6; Nottingham 23.3; Shetfield 26.7.

In Edinburgh 17.6; Glasgow 16.4; Dublin 29.6.

The meteorological record for the week ending August 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Aug. 20, 1887.																			
Sunday, ... 14	30.01	66.0	76.0	54.0	61.0	31.0	63.0	55.0	N.W.	N.	S.W.	8	4	8	C.	F.	C.		
Monday, ... 15	29.87	71.0	79.0	59.0	80.0	44.0	74.0	62.0	W.	W.	S.W.	7	4	8	C.	F.	C.		
Tuesday, ... 16	29.76	71.0	79.0	63.0	59.0	61.0	63.0	65.0	W.	S.E.	W.	4	6	8	C.	F.	C.		
Wednes. ... 17	29.94	66.0	77.0	62.0	54.0	57.0	62.0	61.0	N.W.	E.	S.	11	16	14	C.	F.	C.		
Thursday, 18	29.74	70.0	76.0	64.0	65.0	73.0	61.0	67.0	S.E.	S.	W.	8	18	14	R.	O.	C.		
Friday, ... 19	29.86	75.0	85.0	63.0	59.0	61.0	66.0	66.0	W.	S.W.	W.	12	18	8	C.	F.	C.		
Saturday, ... 20	29.92	65.0	73.0	61.0	54.0	58.0	59.0	60.0	N.W.	S.	N.	7	3	7	O.	O.	O.		
Mean, the Week.	29.87	69.0	78.0	61.0				62.0										16½	.64

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 20, 1887, TO AUGUST 26, 1887

BAILY, JOSEPH C., lieutenant colonel and assistant medical purveyor. Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

TREMAINE, W. S., major and surgeon. Found incapacitated for active service, by an army retiring board, and extension of leave of absence on account of sickness still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

BARTHOLF, JOHN H., major and surgeon. Leave of absence extended one month. Par. 7, S. O. 196, A. G. O., August 24, 1887.

PATZKI, JULIUS H., captain and assistant surgeon. Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

MATTHEWS, WASHINGTON, captain and assistant surgeon. Ordered to proceed to Phoenix, Arizona Ter., on public business, and on completion thereof to return to his proper station, S. G. O. Par. 21, S. O. 195, A. G. O., August 23, 1887.

TAYLOR, BLAIR D., captain and assistant surgeon. Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 193, A. G. O., August 20, 1887.

SWIFT, E. L., first lieutenant and assistant surgeon. Ordered to report in person to Commanding General, Division of the Pacific, for duty with troops at Round Valley, Indian Reservation. Par. 20, S. O., 195, A. G. O., August 23, 1887.

JOHNSON, HENRY, captain and medical storekeeper. Ordered in addition to his present duties, to take charge of the office and perform the duties of acting assistant medical purveyor in New York City during the temporary absence on leave of Lieutenant Colonel Jos. C. Baily, assistant medical purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 20, 1887.

LONG, W. H., surgeon. Leave extended six days on account of sickness, August 13, 1887.

FESSENDEN, C. S. D., surgeon. Leave extended thirty days on account of sickness, August 19, 1887.

GODFREY, JOHN, surgeon. Granted leave of absence for thirty days, August 17, 1887.

GLENNAN, A. H., passed assistant surgeon. Granted leave of absence for thirty days, August 18, 1887.

MCINTOSH, W. P., assistant surgeon. Granted leave of absence for twenty-five days on account of sickness, August 17, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Woman's Medical College of Pennsylvania, Philadelphia. Thirty-Eighth Annual Announcement, May, 1887.

McGill University Annual Calendar. Faculty of Medicine. Fifty-Fifth Session, 1887-88. Montreal, 1887.

Un Nouveau Dilatateur du Col Uterin. Par le Docteur Trosifontaines, Chirurgien adjoint des Hospices de Liège. Liège, 1887.

Druitt's Surgeon's Vade Mecum. A Manual of Modern Surgery. Edited by Stanley Boyd, M.B., B.S., London, etc. Twelfth Edition, with 373 wood engravings. Philadelphia: Lea Brothers & Co. 1887.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary. Third edition re-written and enlarged. London: J. & A. Churchill. 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. New York: Wm. Wood & Co. 1886. (Reprint.)

Plant Chemistry as Illustrated in the Production of Sugar from Sorghum. By Helen C. de S. Abbott, Fellow of the American Association for the Advancement of Science; Member of the Academy of Natural Sciences, etc. Philadelphia, 1887.

Arsherättelse (den Attonde) från Sabbatsbergs Sjukhus I Stockholm för 1886. Afgifven af Dr. F. W. Warfvinge, Sjukhusets Direktör och Öfverläkare vid dess medicinska afdelning. Stockholm: Isaac Marcus' Boktryckeri-Aktiebolag. 1887.

The Students' Guide to Diseases of the Eye. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon to St. Thomas' Hospital, etc. Third American from the Fourth English Edition. With a Chapter on Examination for Color Perception. By Wm. Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea, Brothers & Co. 1887.

Original Articles.

THE RELATION OF TEA-DRINKING TO DISORDERS OF THE NERVOUS SYSTEM.¹

BY WILLIAM N. BULLARD, M.D., OF BOSTON.

THE action of tea, as generally drunk, upon the system is two-fold: (1) mechanical, and (2) physiological. It acts mechanically upon the stomach through the bulk of fluid introduced, causing, when taken in large quantities, a certain distension, and it also, thus taken, acts to produce, aside from any chemical effect, a mechanical diuresis. As usually swallowed, also, that is, hot, and almost boiling, it acts as a direct irritant to the mucous membrane of the stomach, tending to bring on a condition of gastric catarrh (Lauder Brunton), and likewise, as a powerful stimulant to the heart, both directly through the diaphragm, and indirectly through stimulation of the gastric nerves.

The physiological action of tea is less well known. That it is, in large doses, a cerebral stimulant there is no question, but beyond this, the exact method of its action upon the nervous system, and how far each of its constituents plays a part therein, still remains undetermined. Much more is clear in regard to its action on the digestive organs, and, had I time, I should be glad to place before you the results of some of the extremely interesting experiments made by late investigators. As it is, I can only refer to them in the most hasty way, before passing on to the proper subject of this paper.

In the first place, Dr. Roberts has found that tea has a strongly inhibitory action upon the salivary digestion, even when in very minute proportion, completely paralyzing the action of the saliva. This he supposed to be due to the action of the tannin. This action may be partially avoided, either by drinking the tea after the meal in such a way that the salivary digestion has taken place before the ingestion of the tea, or by the addition of a little carbonate of soda, which seems to enable the saliva to act. The deterrent effect of tea upon the gastric digestion is well known. Aside from any irritating action upon the gastric mucous membrane, it uniformly retards both peptic and pancreatic digestion, and, in this way, exerts a very strong injurious influence over the whole system. According to the investigations of Dr. James W. Fraser, very lately published, it retards "the digestion and absorption of all the nitrogenized proximate principles of dietetic substances, when peptic and pancreatic digestion are taken together."

From these physiological data, it is easy to see what effect we should naturally expect from the abuse of tea. How these expectations are verified clinically, I have already, in part, endeavored to show in regard to one class of cases.

More than a year ago, in April, 1886, I published a short paper containing an account of some investigations on the subject of chronic tea-poisoning. At that time, I had examined one hundred and sixty-three cases of tea-drinkers, mostly women, and also for purposes of comparison, one hundred and forty-eight persons in whom symptoms existed more or less closely resembling those caused by tea-poisoning, but

in whom I was not inclined to attribute the symptoms to the abuse of tea. The results which I arrived at from that investigation are as follows:

- (1) That the action of tea is cumulative.
- (2) That its action is more pronounced on the young, and on those subject to anæmia, or in a depressed physical condition, although persons otherwise healthy not infrequently show toxic symptoms.
- (3) That among the class of people under consideration,² who, as a rule, use medium grades of Oolong and Souchong (English Breakfast Tea), the average amount needed to cause toxic symptoms is a little less than five cups *per diem*.
- (4) That chronic tea-poisoning is a frequent affection, and that its most common symptoms are loss of appetite, dyspepsia, palpitation, headache, vomiting and nausea, combined with nervousness and various forms of functional nervous affections, hysterical or neuralgic. These symptoms are frequently accompanied by constipation, and pain in the left side or cardiac region.

These results have thus far only been confirmed by further observation and examination of this class of tea-drinkers.

But it is not on these, as a whole, that I desire to dwell. My especial object, to-day, is to present to you as clearly and definitely as possible the relation which exists between long-continued or chronic tea-drinking and various forms of nervous derangement. First, however, I desire to state distinctly that in what follows, reference is made only to *chronic* tea-drinkers. I do not intend to discuss to-day the symptoms produced by acute tea-poisoning, that is, those following the inhibition of a single large dose of tea, or of a few such doses, nor do we refer to professional tea-tasters. On the contrary, those cases we are considering belong to that large class, mostly composed of women, who, for weeks, months, or years, are accustomed to drink daily a considerable amount of tea, often without taking a proper supply of other nourishment, and frequently when they are, from other causes, in an exhausted or anæmic condition. And here we beg leave to emphasize a fact, which may, perchance, seem to some to be almost self-evident, but which yet has apparently not been clearly comprehended by some of the more recent writers on this subject, and this is that the effect of tea varies much in different persons, according to their physical condition and to other circumstances, and again, in the same person at different times. On those of sedentary habits or of weak constitution, tea has undoubtedly a stronger influence than on those who are constantly engaged in active exercise in the open air, and who are physically vigorous. Moreover, much depends on the amount of food taken with the tea, or at other times. Many women drink their tea, not only with their meals, but at other times also, thereby increasing its deleterious influence, while not a few, and these are the cases in which it specially shows its bad effects, use the tea as a stimulant to support themselves for their daily work, while they take little or no other food. The amount of tea taken in this way which will cause unpleasant symptoms is often much smaller than that which can be taken in a proper manner without any evil results. Again, as people become

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

² Those who applied for medical treatment at the Out-Patient Department of the Carney Hospital, or at the Women's Room in the Boston Dispensary.

weak or anemic from overwork, from want of fresh air, or from any other cause, the amount of tea which they could previously take with impunity exerts its toxic action upon the enfeebled system, so that the same person may, at different times and under different circumstances, be variously affected by the same amount.

These things being premised, we will pass to the consideration of the special subject of this paper.

It is the great prominence of functional affections of the nervous system, which, in combination with the other symptoms, gives its peculiar character to the symptom-complex of tea-poisoning. It is precisely these (functional) affections of the nervous system, which, when they assume a prominent position in connection with the ordinary symptoms of dyspepsia, should lead us to consider the probability of the toxic action of tea. What these symptoms are, I will endeavor to state. So far as my personal observations go, they are always functional; but it is not impossible that a long-continued inhibition of very large doses of tea, after the premonitory symptoms had been neglected, might, in addition to other causes, eventually help to produce some organic lesion in those previously predisposed. But of this I have personally seen no evidence.

The first sign of disorder of the nervous system in chronic tea-drinkers is their general restlessness and nervousness. The normal condition of the nervous system is disturbed and replaced by a condition of hyper-excitability or of less stable equilibrium. This is shown by their want of calmness, their general restlessness and irritability, and the desire to be constantly moving, while at the same time there is a subjective sensation of loss of self-control and of inability to act slowly. Such persons are subject to exaggerated efforts from ordinary impressions; they are easily startled, jump at unexpected noises or sensations, or, in other words, react too freely to slight external influences. The moral balance is also affected. This general condition occurs in nearly all those who have been for any length of time under the toxic influence of tea. Indeed, so universal is it in persons of this class that I should hesitate to make a diagnosis of chronic tea poisoning in a case where it was absent, unless the other symptoms were so marked as to render the affection unmistakable. As the toxic effect of the tea increases, this symptom or series of symptoms is apt to increase in severity and may assume some definite form or develop in some special direction. Some patients, for example, labor under a constant fear that something terrible is about to happen, though without any idea as to the nature of the terrible event which is to occur; others, again, say that they become excited whenever they are in a crowd, feeling as though they were afraid of some one, although they knew all the while that this sensation is wholly causeless. From these conditions it is but a step to the various forms of mental weakness and to hysteria.

The next most frequent symptom of nervous origin is palpitation, which was noted in forty-nine per cent. of our cases, and which probably occurred in a still larger proportion. It is but fair, however, to state that this symptom is not complained of in some otherwise well-developed cases, and that at the time of examination no irregularity of the heart-beat in them could be detected.

These two symptoms, nervousness and palpitation, are, however, common to a large variety of affections, and may be produced in many different ways. In chronic tea poisoning they may be caused either directly by the direct action of the tea upon the nervous system, or indirectly through the production of gastric or intestinal dyspepsia. Nervousness, moreover, is so common a concomitant of anæmia or physical depression from any cause that, considered by itself, it could not be judged as in any way distinctive, and it is only from its undue development in proportion to the other symptoms that it acquires value as a factor in the diagnosis. The last clause applies also to palpitation, which frequently occurs, though perhaps not to quite the same extent, in simple dyspepsia, where tea is out of the question. Inasmuch, then, as these two symptoms, nervousness and palpitation, are of such common occurrence in other affections, and, as in the case of the latter symptom, it is not certain that all cases are of nervous origin, we shall for the present make a distinction between them and the more definite symptoms of nervous disorder which accompany chronic tea poisoning, and consider the latter by themselves, only placing among them the more extreme cases of nervousness, such as those already mentioned, where some special form is assumed.

In considering, therefore, the proportion of cases in which symptoms of nervous disorders occur, we shall leave out of account those in which nothing more definite than nervousness or palpitation was noted. For while unquestionably many of these cases, probably by far the greater proportion, really belong under this heading, inasmuch as it is impossible with our present knowledge to determine how far this is the case, it seems advisable to consider in this class only those symptoms about which no doubt can be expressed. We shall likewise omit from our classification among cases which have special nervous symptoms all those in which bilateral headaches occurred, unless there appear some distinct reason for the belief that these headaches were either neuralgias proper or otherwise of true nervous origin.

CASES WITH SPECIAL NERVOUS SYMPTOMS.

The total number of cases of this class of which I have records, is fifty. The principal divisions are as follows:

Neuralgia	20	Hysteria	6
Hemicrania	11	Mental Asthenia	3
Migraine	8	(Tremor)	5) ³

By far the most common form of special nervous disorder found in chronic tea drinkers is neuralgia, and of this I have records of twenty cases. The neuralgia does not appear to have any special tendency to affect any particular nerve or group of nerves, but it apparently attacks the *locus minimæ resistantiæ*, being found in one person in one portion of the body, in another person in some other. The most frequent form was facial neuralgia, which occurred in six cases. Intercostal neuralgia was found in five, occipital neuralgia (including occipital headaches) in five, and sciatica in four. General neuralgia was found in two; brachial, abdominal, lingual and post-auricular in one each.

The average number of cups of tea drunk in each case was:

³ See later.

Intercostal Neuralgia	5 cases.	1.4 cups per diem.
Occipital Neuralgia	5 cases.	5.5 " "
Facial Neuralgia	2 cases.	6.25 " "
Sciatica	2 cases.	5.25 " "
General Neuralgia	1 case.	8.00 " "
Brachial Neuralgia	1 case.	5.00 " "
Abdominal Neuralgia	1 case.	6.00 " "
Post-auricular Neuralgia	1 case.	6.00 " "
Total average		5.40 " "

That all these cases of neuralgia are directly due to tea we do not believe; indeed, in some of the cases there is proof of other causes; but in all of them there is reason to suppose that the tea has played some part. In a large proportion of these cases there was either neuralgia in more than one part of the body, or else some other symptom directly referable to the nervous system.

I will here relate one of the more typical cases.

CASE I. A woman, twenty-three years of age, came to the Out-Patient Department of the Carney Hospital on the 30th of March, 1885. She was suffering at that time from abdominal neuralgia, a dull pain in the sciatic region, and pain over the left breast. Palpitation. Constipation. Appetite good. Is nursing a child fifteen months old. She drinks tea, five cups or more a day, taking it at every meal, and between meals also. No coffee.

Physical examination shows some tenderness over the left half of the abdomen. Nothing abnormal detected about the heart or elsewhere. Diagnosis: hyperlactation. Tea. Abdominal neuralgia. Treatment: iron. Liquorice powder. To stop tea. To wean the baby.

This patient was seen again in March, 1887, two years later. She stated that she was decidedly better for a considerable time after her visit to the hospital. She had stopped the tea as directed, though she still took one cup occasionally. She had some pain in the left side ever since she was at the hospital, though this had been better for some time after. One year ago she had another child.

She is subject to pains all over at times, but especially in the arms and on the right side of the body. She has now a right facial neuralgia of a week's standing, due to a carious tooth. She has no headaches and but slight dyspeptic trouble. Palpitation, however, is severe. She is very nervous and easily frightened.

How much of the neuralgia present in this case was due to the influence of tea, and how much was due to other causes, anæmia from excessive nursing and a naturally neurotic disposition, it is impossible to say. It is only by collecting a large number of cases like the foregoing and by collation and comparison thereof that we can arrive at any reliable conclusion. The persistence of the nervousness, palpitation and neuralgia so long after the giving up of the tea proves, of course, that the tea is no longer in any part an active cause of their presence. But, on the other hand, there can be but little question that it has in combination with other factors aided in bringing the system into a condition of diminished or depressed nervous vitality, from which it has not been able to recover while under unfavorable surroundings.

Next to neuralgia the most frequent form of special nervous disturbance met with in cases of chronic tea poisoning is migraine and hemicrania. We shall consider these separately, classing under migraine all bilateral headaches, accompanied by nausea or vomiting, not apparently connected with gastric difficulties, and recurring with more or less frequency.

Migraine.—We have under this head five reliable cases. It is on account of the great difficulty of determining the precise source of these headaches that I separated them from the group of hemicrania; yet the same rules apply in a general way to both.

CASE II. Woman, sixty. First seen May 18, 1885. Complaints of dull frontal headache, which is followed by general weakness of all the muscles, so that she can scarcely move about. The headache is accompanied by nausea, but there is no vomiting. She is subject to attacks of vertigo and is afraid of falling. Appetite poor. Bowels irregular. Drinks *strong* tea — "pure black" — three times a day, and occasionally between meals. Mother has attacks of sleep, which last so long, that she has to be wakened.

May 26, 1885. Improved.

Patient was next seen in June, 1887. States that the headaches ceased entirely, but have lately recommenced again under the form of a right hemicrania. There is no nausea or vomiting with the headaches, but she is weak and has to lie down when they come. Dizziness slight, much less than formerly. Appetite fair. Bowels regular. Stopped the tea as directed in 1885, and, otherwise than the headaches, which have lately reappeared has been perfectly well since. Drinks no coffee. Never had neuralgia or rheumatism.

(This case which has been placed under migraine, should, perhaps, in view of the later history, rather come under the head of hemicrania. It illustrates the closeness of the relation between the two.)

Hemicrania.—Of this we have eleven cases accompanying tea poisoning, not including one case in which the patient drank both tea and coffee. The connection between hemicrania and tea is certainly a very close one. Alcott, as far back as 1839, called attention to tea as a cause of migraine. Whether it be so or not, which I consider doubtful, there can be no question but that there is a close relation between this affection and tea drinking. Since my attention has been drawn to the subject I cannot recollect having seen a single case of hemicrania in which the patient did not drink tea in greater or less quantity.

Hemicrania existed in eleven per cent. of our tea-patients. In some of these, it could not have been entirely due to the tea, inasmuch as it had been inherited, or had existed before the tea-drinking began. In spite of Alcott's statement, and those of other writers in this direction, I cannot help feeling that the influence of tea as a *causative* factor in hemicrania has been exaggerated. That it may, and, in certain cases, does tend to increase the frequency and severity of the attacks, is possible. But the evidence tends much more in a different direction. It points to the fact that hemicrania, or the condition of the system which exists in hemicrania, is one which specially craves the momentary stimulus imparted by tea, and causes a demand for it which is easily gratified. There is in my mind but little doubt that the relationship between tea and hemicrania is due rather to the demand of the nervous system in these patients for a mild stimulant, rendering them more inclined than the average to drink tea, than to any causative effect which the tea may exert. The average amount of tea-drinking in our cases of hemicrania was 4.5 cups (seven cases), or, omitting one case in which the patient was very much debilitated, having apex catarrh, and nursing, at the same time, a baby seven months old, and where the

amount drunk was only two cups *per diem* — an exceptionally small amount to have any serious effect — the average was 4.9 cups.

Paræsthesia. The only other form of sensory neurosis which has been present in any of our cases is paræsthesia. This occurred in two cases, in one of which numbness of the hands and feet was complained of; in the other, burning of the palms and soles, and a sensation as of cold water pouring over the head and forehead. In the latter case, the symptoms were promptly cured by phosphoric acid and the omission of tea. In the former case, the symptoms mentioned, in company with neuralgia, palpitation, and general nervousness, continued for two years, the patient not having given up the use of tea, and not having been under medical treatment. These two cases are not of sufficient importance to lead us to suppose, in the absence of other evidence, that the tea had any direct connection with the paræsthesia. The amount drunk was not excessive in either case, in one only four, and in the other 4.5 cups *per diem*.

MOTOR NEUROSES.

There is no evidence in any case that I have thus far seen that tea, as drunk in the cases we have under consideration, has any marked effect in producing motor neuroses. There is, on the other hand no question but that, when such neuroses exist, if they be not organic, tea should be carefully avoided, as tending to further and promote their development. This is especially the case in chorea and all allied affections.

We find among our cases one in which the patient, a boy sixteen years old, began to have choreic movements two years after he had given up the tea (green tea), which he had previously drunk in excess. This was unquestionably a mere coincidence. Among all the cases of chorea which have come under my personal observation within the last three years, and of which very full and careful records have been kept — seventy-five — not one has been found in which tea-drinking could be assigned as the cause.

Tremor occurred in five cases. Two of these were probably cases of organic disease, two had mental symptoms and others of a character unusual in chronic tea-poisoning, leaving only one in which there seemed a fair probability that the tremor might have been due to the tea. There is no question but that tremor due to tea occurs in tea-tasters, and is frequent in cases of acute tea-poisoning, and Slayter, of Halifax, relates a very interesting case of delirium tremens caused by chewing tea, but in the class of cases of which I treat here, I have thus far failed to find any evidence of its occurrence.

Muscular cramps, or tonic contraction of muscles, occurred in three cases. In none of these was the history sufficiently definite to enable us to refer them to the tea.

HYSTERIA AND NEURASTHENIA.

Neurasthenia. This term serves to cover a number of cases having more or less indefinite symptoms, and standing, as it were, midway between simple nervousness and marked hysteria. The word, as Dr. Wood states, "denotes not a distinct disease, but a condition of the body." It is commonly used to comprise those indefinite forms of functional nervous exhaustion which cannot, as yet, be placed in any other category. As our knowledge of functional nervous conditions advances, and we are enabled to classify them more ac-

curately, more and more cases will be removed from the domain of neurasthenia, and placed under some more exact and appropriate title. As things are now, it is impossible to draw any accurate line between those cases which should naturally be classed here, and those which should more properly fall under other headings. Many cases of exaggerated nervousness are named neurasthenic, and many cases of slight or even moderately advanced hysteria come under this head. For this reason, we shall not consider any cases here, but shall try to define and classify more accurately all those cases which were thus designated in the records or elsewhere.

(Of the four cases which were placed originally under this title, two fairly belong under the head of hysteria, and two to the class of exaggerated nervousness to which I have already referred. The latter cases point to a certain mental asthenia, and, if more strongly developed, might justly be placed among the milder forms of monomaniacal weakness.)

Hysteria. Under this heading I have placed six cases, including all those of functional paralysis.

I. Woman, sixty. Drinks three to four bowls of tea *per diem*, though she has lately diminished the quantity to two or three bowls. Is emotional; cries very easily. Globus hystericus. Temporary paresis of right arm, accompanied by pain.

II. Woman, fifty. Drinks strong tea, six cups or more *per diem*. Has functional paralysis of the vocal cords.

III. Woman, thirty-four. Came to Carney Hospital, May 6, 1885. Had then been emotional and hysterical for two years. Complained, at that time, of nervousness, general weakness, palpitation, and loss of appetite, and was subject to bilateral frontal headaches. Drank tea at each meal, and between meals. Treatment: to leave off drinking tea. Dilute phosphoric acid.

Was next seen two years later, in May, 1887. States that she got well after her visit to the hospital, and has been well since. Slept better, and was not so nervous after leaving off the tea, which she did completely for a time. Now takes two cups of tea *per diem* with meals, sometimes replacing one with a cup of coffee. Except that she is slightly nervous and has a little dyspepsia, is perfectly well. Never had either rheumatism or neuralgia.

IV. Woman, forty-five. Always nervous, but lately worse, and irritable with the children and other people. Feels as though she wanted to cry. Subject to hemiplegia on the left side. Pain just below the right scapula, and also in the left side. Occasional palpitation. Appetite fair. Constipation. Occasional severe pain over the epigastrium; otherwise, no dyspeptic symptoms. Youngest child three years old. No uterine symptoms. Drinks about five cups of tea a day; coffee rarely. Is pale, thin, and weak. Tongue and lips pale. Heart normal in size; systolic souffle over pulmonary artery. Nothing else abnormal detected anywhere.

The other two cases are of the same general character as the preceding. In one of them, among the prominent symptoms were lingual neuralgia and functional aphonia.

These cases are of considerable interest as pointing to the influence of tea on hysterical women. That it exerts a specially deleterious effect on the majority of this class there can be but little doubt. That a few

large doses of strong tea act to stimulate the nerves is well known, but the depressing effect of regularly repeated small doses continued over a considerable length of time has been less frequently emphasized.

Certainly the number of those suffering from hysteria among our tea-patients was an uncommonly large one, six out of about 170, this is one out of 28, and this from a general clinic and not from one specially devoted to nervous disease.

In cases of this class I believe it to be of the first importance that either all tea should be strictly prohibited, or that it should be given only on the order of the physician and with great circumspection. I regard it as extremely probable, though not yet absolutely proved, that in all cases where the nervous system is deranged, as in hysteria, and the allied affections, the action of tea is more powerful than on the normal subject and its influence for good or evil increased.

Mental Asthenia.—In those cases of nervous instability in which the mental symptoms are especially prominent, we are naturally led to be more than ordinarily cautious. The general principles which apply in cases of hysteria hold good also here. Happily most of these cases, though extremely trying both to the family and to the physician, will, under proper care and treatment, attain an ultimate cure. Chronic by nature, many of these cases test the skill and patience even of the specialist.

Having now given some of the data gathered from our observations on chronic tea-poisoning in regard to the frequency with which it is accompanied by the various forms of neurosis, it behooves us to state as clearly as possible our opinion in regard to the relation existing between the two. The conclusions which we have reached are as follows:

(1) Chronic tea-poisoning produces a condition of irritability or hyperexcitability of the nervous system, and does this both directly by the action of the tea upon the nervous system and indirectly by the production of gastric derangement.

(2) Tea taken frequently and in moderate doses for a considerable period of time tends therefore to place the nervous system in a condition in which it is more easily affected injuriously by slight external influences. It therefore favors the production of many forms of functional neuroses, and, if such neuroses already exist, aids in their continuance.

(3) There is no evidence that tea taken in the manner described causes any organic nervous lesion, but it is probable that if such nervous lesion should exist, tea thus taken might tend to cause an aggravation and continuance of certain symptoms.

(4) There is no evidence that chronic tea-poisoning produces unaided any serious functional neurosis in persons not in any way specially predisposed thereto. It does, however, in the manner above described act as an important factor in the production of neuralgia, hysteria and allied affections.

(5) When taken constantly in very large doses dyspeptic symptoms usually intervene before irreparable harm is done to the nervous system.

(6) In hemichrania and possibly some other functional neuroses there is probably a craving on the part of the nervous system for a slight stimulation, which is better afforded by tea than by any other equally accessible article, and for this reason patients with hemichrania are so frequently tea-drinkers.

In conclusion, I beg to say that I should be glad to receive information from members of this Society in regard to the frequency with which tea is used among their patients and in the various places where they practice, and of the results which have come under their observation.

A CONTRIBUTION TO THE STUDY OF THE ETIOLOGY OF THE SUMMER DIARRHŒA OF INFANTS.¹

BY HENRY C. HAVEN, M.D., OF BOSTON.

In a communication entitled "The Etiology and Treatment of the Summer Diarrhœa of Infants," presented to this Society at its last annual meeting, I expressed myself somewhat as follows:—

"According to the United States Census of 1880 Massachusetts has a percentage of total deaths under one year to aggregate deaths of 21.99; the lowest State but one, Pennsylvania.

"Massachusetts has a percentage of total deaths from diarrhœal diseases to aggregate deaths of 7.83, only four of the thirty States ranking lower: yet in this same State in 1884 there were 2,089 deaths from cholera infantum, and in the twenty-two years from 1863 to 1884 40,006 infants died from the same cause.

"These figures only partially show the total mortality from diarrhœal diseases under one year; for according to the State Registration Report the number of deaths in Boston from cholera infantum in 1884 was 504, while by the fuller report of the Boston Board of Health the number of infants dying from diarrhœal diseases was 710, a difference of 206. . . .

"Urbane Residence. A second condition which meets with general acceptance as a necessary factor is Density of Population, which, as a rule, is only found in cities and large towns.

"This view is, so far as I know, at present held by all the writers on the subject, whether English, Continental or American.

"The following are fair representative quotations:—

"Dr. Eustace Smith, in his 'Practical Treatise on the Diseases of Children,' makes the following statement as to the causation of 'choleraic diarrhœa': 'It is especially a complaint of warm weather, and summer heat must be looked upon as a powerful predisposing cause of the disease. Other agencies, however, must come in as exciting causes, for the affection is not common in country places, and indeed is rarely seen out of cities.'

"Meigs and Pepper in their book 'Diseases of Children' say of 'Enterocolitis,' 'The most active causes of the disease are the heats of summer, residence in large cities, — and this includes higher heat than residence in rural districts, — with greater density of population and more copious filth emanations and improper alimentation.'

"Dr. J. Lewis Smith, in 'Diseases of Infancy and Childhood,' says 'that "cholera infantum," or as it is sometimes called "choleriform diarrhœa," is a disease of the summer months, and with exceptional cases, of the cities.'

"Dr. Lewis Starr states in regard to its etiology that, 'like enterocolitis, it is a disease of cities,'² find-

¹ Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.

² Italics mine.

ing its victims chiefly among those that live in poverty and squalor."

"It seems as if there could be no question as to these views being correct, and yet in studying the occurrence of the disease in Massachusetts from the mortality reports during the five years from 1880 to 1884, certain apparent facts present themselves which it is difficult to reconcile with the ordinarily accepted opinions.

"A few preliminary words are necessary as to the character and value of these statistics. They are taken from the State Registration reports which are deficient in many respects.

"I have only been able to group the deaths from cholera infantum instead of, as I wished, the deaths under one year from all the diarrhoeal diseases; the later being nowhere accessible. I have assumed, however, that a death registered from cholera infantum must at least be a death caused by diarrhoeal disease in an infant. To just the extent that this assumption is not correct the conclusions are invalidated, but it seems to me it must only be in exceptional cases that a death from cholera infantum does *not* mean a death from diarrhoeal disease; and such exception again may as well occur in the city as in the country.

"That cholera infantum in Massachusetts is practically the same disease that we have under consideration is shown by the chart, which gives the curve by months of the mean State mortality for five years (*vide* Chart I). The curve in the city and country is presumably the same, although the registration reports do not give the data for constructing graphic curves which will verify this statement.

"To return, however, to the statistics of the mortality from cholera infantum in Massachusetts. On studying the number of cases occurring in every town in the State during the five years from 1880 to 1884 I find such apparently contradictory facts that, without a more definite knowledge of the *exact* cause of death and of the differing conditions prevailing in the different towns, it does not seem safe to draw any deductions from the statistics.

"I will only call attention to one table (Table A) which seems of some value.

"In this the deaths from cholera infantum are compared with the population, with the births, and with the total deaths under one year in the three following groups:

"(1) Seventeen cities with a population of over 15,000; a total population of 892,077.

"(2) The towns of 15,000 to 5,000; a total population of 331,644.

"(3) The towns under 5,000 (country districts); a total population of 559,364.

"In this table several rather startling figures meet the eye. In the per cent. of cholera infantum deaths to total deaths *under one year* the city and country are *identical*, 27.4. In the per cent. of cholera infantum deaths to births the country shows the best, but even here not as well as the towns of 5,000 to 15,000 population. In the per cent. of all deaths under one to births the cities show the worst, but the towns of 5,000 to 15,000 and the country districts show a very small difference, and that *against* the country.

"That is, these figures, as far as they go, show that while the prevalent opinion is correct that the city is (for some reason) less healthy than the country for babies — inasmuch as 18.1 of those born die under one

year in the city against 13.4 in the country, and as, moreover, 5.4 infants under one year die in 1,000 of the population, against 2.4 in the country, more than twice as many — they do *not* verify the ordinarily accepted opinion as to the relative frequency of cholera infantum in the two districts compared as a cause of death in infancy.

"How far these apparent facts will be corroborated by the further study I hope to make is uncertain."

The object of this paper is to present the results of a further study made during the past year.

As neither the deaths under one year from cholera infantum or diarrhoeal diseases are stated in the State Registrar's report I have had a rescript made from the original returns of the Age (in months and days), Sex, Color, Birthplace, Residence, and Nationality of every infant dying under one year of age in Massachusetts in the five years 1880 to 1884, together with the date and cause of death.

The deaths from diarrhoeal diseases include all these registered as dying from any of the following causes: — Cholera Infantum, Cholera Morbus, Diarrhoea, Dysentery, Enteritis, Entero-Colitis, Gastritis, Gastro-Enteritis, Gastro-Intestinal Catarrh, Inflammation of the Bowels, and Inflammation of the Stomach.

It was said in the former paper: "The curve [the curve, that is, of the mean monthly mortality from Cholera Infantum] is presumably the same in the city and country, although the registration reports do not give the necessary data for their separate construction."

Actual statistics show the following average mean monthly mortality in Massachusetts during the years 1880–1884, from deaths under one year from diarrhoeal diseases (in the State as a whole, and in the city and country districts, respectively; *vide* Charts II and III).

It will be seen that the original assumption is entirely borne out, the curves being identical in the two districts.

The second study that has been made from the actual statistics is in reference to the extent of the effect of urban residence.

Is it, as is generally supposed, a most important factor in the production of infantile diarrhoeal disease, or can the suggestion of the statistics compiled from the registration report [Table A] be proved a fact by a more exact statistical examination?

To determine this, the total deaths under one year from diarrhoeal diseases have been substituted, in Table A, for the deaths from cholera infantum, and the percentages figured on this basis. (*Vide* Table B.)

In order, moreover, to make the comparative test between city and country districts even more severe than in the former study, from the registrar's report I have included in the "country district" no towns having more than 3,000 population. In the former study, all towns under 5,000 were included in the country district.

The correctness of the statistics from which Table B is constructed cannot, it seems to me, be questioned. If not, it proves conclusively that in Massachusetts, at least, the factor of urban residence has not, during the last five years, entered into the etiological sum of the summer diarrhoea of infants to any *considerable* extent.

To be sure, in the comparison of deaths from either cholera infantum or diarrhoeal diseases to population, the city compares most unfavorably with the country; but this is a most fallacious comparison, as has been explained above, and should be studied only in connection

CHART II.

Average Deaths, under One Year of Age, from Diarrhoeal Diseases, in Massachusetts, for Five Years, 1880-84.

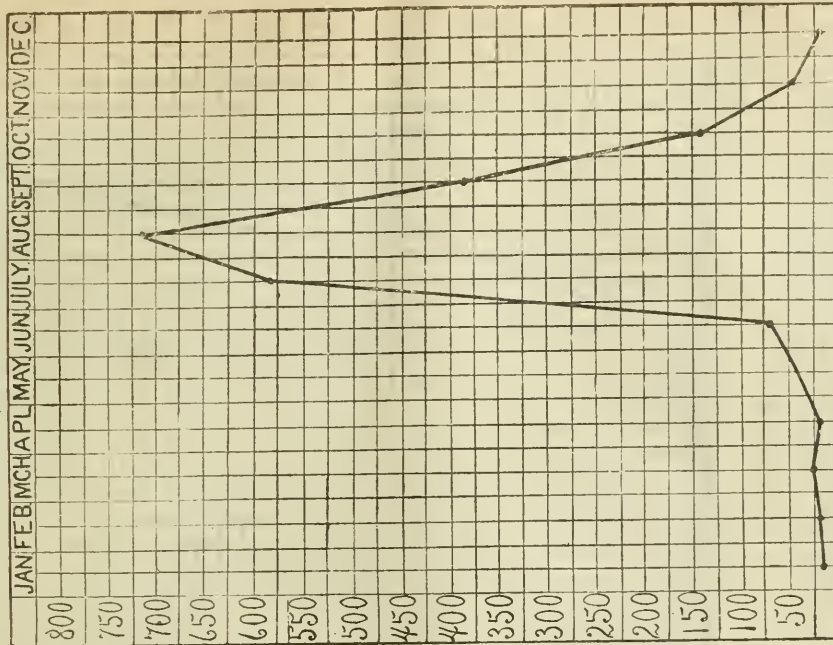
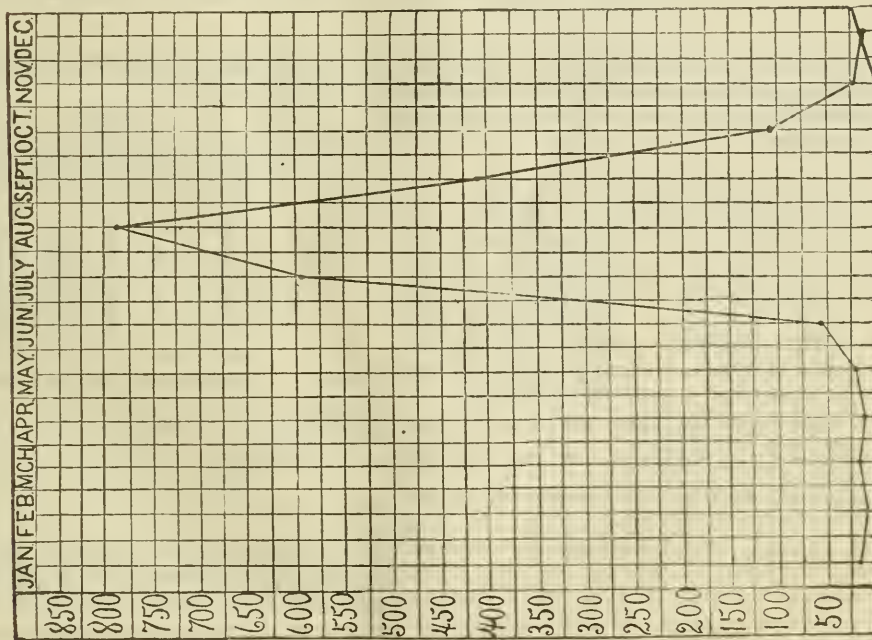


CHART I.

Average Deaths from Cholera Infantum in Massachusetts, for Five Years, 1880-84. From Registration Report.



tion with the relative birth-rates to the population in the two districts.

In the deaths from diarrhoeal diseases to all deaths under one year, it will be seen that the difference in the city and country is comparatively small, being 28.9 in the former, against 24.9 in the latter.

There is only one condition that I can think of that can vitiate the conclusions from these statistics; that is, that first, many infants who have left the city for the summer die in the country from diarrhoeal diseases, and that many more of this class would have died if they had remained in town; second, that many who are attacked in the city die in the country districts to

which they are removed for treatment, and their deaths are registered as occurring in the "country districts."

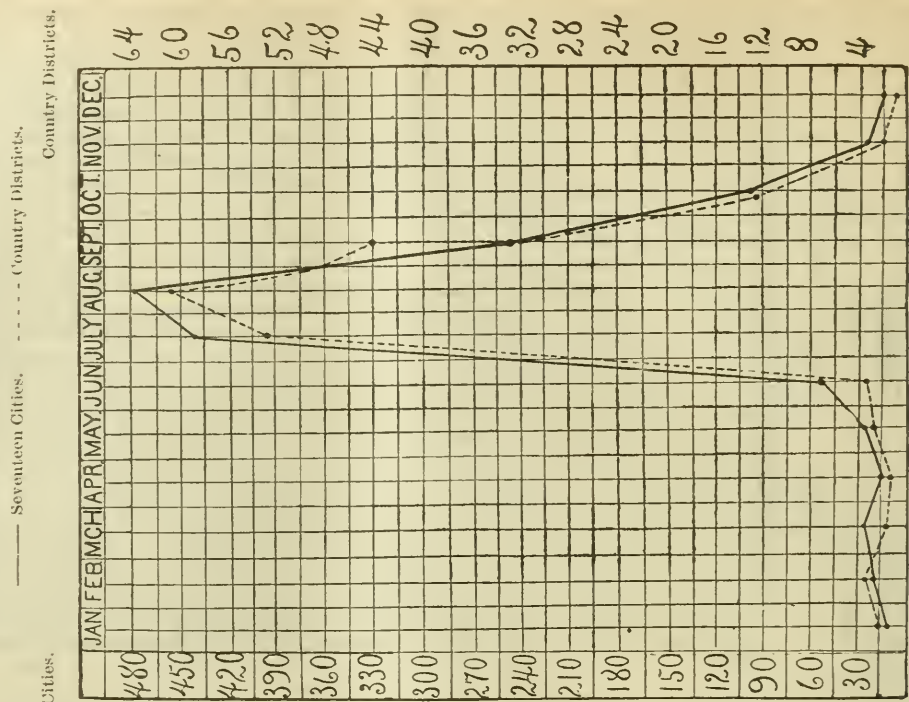
But the total average yearly number of infants dying from diarrhoeal disease in towns in which they were not born is not large, and, as such registers probably cover most of the cases instanced above, it does not seem as if the conclusions from Table B can be thereby vitiated.

The time has been too short to calculate the percentages after the subtraction of these "non-resident deaths," but they will be published later with other tables.

If, then, city residence is *not*, to-day, in Massachu-

CHART III.

Average Deaths in Seventeen Cities of Massachusetts and in "Country Districts," from Diarrhæal Diseases, under One Year of Age, For Five Years, 1880-84.



sets one of the chief etiological factors of infantile diarrhœa, it is not probable that it constitutes such an essential factor in other States and lands as has been generally considered.

TABLE A.
ANNUAL AVERAGE FOR FIVE YEARS, 1880-84.

	Population (census of 1880).	Deaths from cholera infantum.	Deaths under one year.	Births.	% of deaths from chol. infantum to 1000 of population.	% of chol. inf. to deaths under 1 yr.	% of cholera in- fantum to births.	All deaths under one yr. to births.
17 Cities	892,077	1320	4816	26,479	0.14	27.4	5.3	18.1
Rest of State	891,088	712	2639	19,723	0.08	26.9	3.6	13.9
Towns of 15,000 to 5,000	331,644	307	1167	8,757	0.09	26.3	3.5	13.3
Towns under 5,000 (country districts)	559,361	404	1472	10,965	0.07	27.4	3.6	13.4

Etiological knowledge is essential to rational therapeutics. My only object is to present facts bearing on the etiology of a disease which is the *third most fatal cause of death at all ages*, although limited in its time of action to the first year of life — a disease which is acknowledgely preventible, but which, nevertheless, is the only one of the miasmatic diseases (except diphtheria) which has, in Massachusetts, practically increased in the last five, as compared with the last forty-three years.

The summer diarrhœa of infancy is a zymotic disease, and I believe the only factor in its production to be fermentative changes in the food employed, or in the intestinal tract, resulting in a sepsis of the gastro-intestinal canal, and that all other conditions act only

by and through their favoring or causing the presence of these changes.

TABLE B.
COMPARATIVE MEAN AVERAGES FOR FIVE YEARS, 1880-84, OF
THE MORTALITY UNDER ONE YEAR OF AGE FROM DIAR-
RHEAL DISEASES IN MASSACHUSETTS.

	Population, 1880.	Births.	Birth rate per 1,000.	Deaths under one year.	Deaths from diar- rheal diseases under one year.	% of deaths from diar. dis. to deaths under one year.	% of deaths from diar. dis. to births.	Of all deaths un- der 1 yr. to births.
17 Cities	892,077	26,232	29.3	4959	1435	28.9	5.47	18.1
Towns, 15,000 to 3,000	572,185	13,828	23.5	1724	464	26.9	3.35	12.4
Towns under 3,000	318,883	5,142	15.9	771	158	24.9	3.07	14.9

The sooner this is recognized, the sooner will the ravages of this disease cease to be the reproach that they now are to the science of preventive medicine.

— We learn that the use of gaseous enemata has been entirely abandoned in the fourth division, Bellevue Hospital, New York, where they have undergone the first and the longest trial.

— The *Medical and Surgical Reporter* says that three young internes of Newark City Hospital have received a very severe lesson. A patient was brought to the hospital, comatose. He was thought to be suffering from alcoholism, and he was treated accordingly, being given a douche and strong cutaneous irritation. The patient died, and on autopsy there was found a tumor of the brain. A coroner's jury investigated the case, and the internes were thereupon arrested for manslaughter. — A "severe lesson" indeed!

A SERIES OF INTRA-ABDOMINAL OPERATIONS.¹

BY MAURICE H. RICHARDSON, M.D.,
Surgeon of the Massachusetts General, and Carney Hospitals.

THE following cases comprise all that have occurred in my experience since July, 1884. In giving these statistics I do not exclude any operation whatever in which the abdominal cavity has been opened except strangulated hernia and resection of bowel following internal strangulation.

Method of Operation. The incision has been made in the median line whenever practicable. In two of the cases it has been made elsewhere, once in the linea semilunaris and once parallel to the lower margin of the ribs. In all the cases the union was by first intention, and the only trouble was once in the diagonal incision, in which there was suppuration in the stitch holes. The suture of the wound was made in every case with silk and interruptedly, the stitches being about an inch apart. Care was taken in applying these stitches to have the peritoneum well included, and that the fascia transversalis should be also taken up. From these results it seems that it is unnecessary to make separate lines of suture for the peritoneum and other layers of the abdominal wall, which add, in my opinion, unnecessary time to the operation, and do not add to the chances of recovery.

Antiseptics. The carbolic spray was used with the first two operations and then abandoned. The greatest care was used in the disinfection of the hands after they had been most thoroughly cleansed with soap and the nail brush. No hand was allowed in the abdominal cavity except when it was necessary for the purposes of the operation. There was no unnecessary handling of the abdominal contents. No instrument was used that had not been thoroughly cleansed and disinfected previous to the operation and that had not been immersed in an antiseptic solution immediately before using, by the operator himself, who selected his instruments himself.

In some of the cases sponges were used which had been immersed in a five per cent. solution of carbolic acid for several weeks before the operation. In others, balls of worsted enclosed in cheese-cloth, of suitable size, which had been previously boiled, after the method of Dr. J. W. Elliot, were used.

In some of the later operations, in addition to the regular assistants, one was appointed to have general supervision of the antiseptics of the operation, who was well imbued with the principles and experienced in the practice of antiseptics, whose duty was to see that nothing approached the wound that was not perfectly aseptic. This plan worked admirably, and often prevented mistakes which would otherwise have been made in the excitement of the moment.

Another important element in these cases, in my opinion, was the effort on the part of the operator and the assistants to avoid unnecessary delay in the different steps of the operation. I may say that no time was taken at any of the following operations which was not essential for the removal of the tumor, checking hæmorrhage, cleansing the abdomen, and sewing up the wound. The time taken was therefore quite short in all the cases, and did not average more than twenty minutes in all. In one of the longest

operations, the length of exposure of the intestines did not exceed forty-five minutes, and in most of them less than ten. In all of the cases where the peritoneum was opened the body was tightly swathed with dressings which were not disturbed, except for cause, till the end of a week.

INTRA-PERITONEAL OPERATIONS. OVIARTOTOMIES.

CASE I. July 25th, 1884. Carney Hospital. Single, age thirty-three. This woman had noticed a swelling of the abdomen for fifteen months which had gradually increased in size, had been accompanied by more or less discomfort, and was having a marked effect upon her general health. The tumor was found to be a unilocular cyst of the right broad ligament, which was sessile in the pelvis. It was removed with great difficulty, and there was very free hæmorrhage which was very hard to check. The operation lasted about an hour, owing to the fact that the bleeding vessels were so far down in the pelvis that it was extremely difficult to get at them. She never rallied from the shock of the operation, but gradually failed and died three days later.

CASE II. January 18th, 1885. Carney Hospital. This was a feeble woman of sixty-six years. The tumor which was very large had grown to its present size in eight months. Vomiting was very constant and she was much emaciated and very anæmic. There seemed at the outset very little hope of her surviving, but this appeared to us the only chance. The peritoneal cavity was found filled with a gelatinous fluid which was scooped out, and the tumor brought into view. The cyst was filled with the same jelly-like mass, and had to be removed in the same way. About thirty pounds were removed in this way. The peritoneal cavity was cleansed as well as possible and closed in the usual manner after the pedicle had been ligated and burned off with the cautery. She never rallied afterwards, and died January 25th. The tumor was examined by Dr. Whitney and found to be malignant.

CASE III. Carney Hospital. Married woman, age thirty-one. First appearance of symptoms about one year before admission. She had been tapped five times and enormous quantities of fluid withdrawn. May 14th, 1885, a multilocular cyst was removed without difficulty. The fluid weighed fifty-two pounds. In this as in all my ovariectomies the pedicle was ligated and burned, and then dropped back into the abdomen. About six months later the patient died with a return of the disease, without consulting any surgeon.

CASE IV. Carney Hospital. Married woman, age sixty. Had had thirteen children and two miscarriages. August 1st, 1885, a multilocular cyst weighing fifteen pounds was removed. Discharged well, August 26th.

CASE V. Married, age forty. July 13th, 1886, a unilocular cyst weighing thirty pounds. There were very numerous and extensive adhesions to the omentum and transverse colon which were divided with the cautery after tying interruptedly with catgut. Discharged well three weeks later. The convalescence was complicated by a severe phlebitis.

CASE VI. Massachusetts General Hospital. A young unmarried woman had been suffering for several years with acute pain in the region of the right ovary. At the same time she had been gradually increasing in

¹ Read before the Boston Society for Medical Observation, April 10, 1887.

size. The thing, however, which compelled her to seek advice was the ever-present pain. At the operation, October 8th, 1886, the tumor, which was a unilocular cyst of the right ovary, was found to be very extensively adherent by recent peritonitis. It was removed without difficulty, and she made a rapid recovery.

CASE VII. St. Margaret's Home. A young woman, age twenty-one, gave a history of abdominal enlargement of four years standing. The tumor presented one interesting point in diagnosis. Over the pubes there was a small hard mass apparently adherent to the tumor, and which seemed to be a portion of it. It was finally thought to be the uterus riding upon and in front of the tumor. On this account some difficulty was anticipated. In the operation, November 18th, 1886, the abdomen was opened, and a unilocular non-adherent tumor was found and removed with the greatest ease. The hard mass was found to be the uterus, and its presence in that unusual position gave no difficulty whatever. The patient was discharged well in three weeks.

CASE VIII. At St. Margaret's. An anæmic woman of thirty-five had been suffering for two years with abdominal trouble. She had postponed the operation in the hope held out to her, by her "physician," that he could scatter the tumor by his medicine. Meanwhile, she had become much emaciated, and had suffered great and continuous pain and discomfort. February 12, 1887, I removed a multilocular cyst of the left ovary. There were extensive adhesions, which were divided with the cautery, and the pedicle was tied and dropped in the usual manner. She was discharged, well, in four weeks.

CASE IX. St. Margaret's. This was a young married woman, age thirty-three, who had first noticed that there was something wrong in June, 1886. Since then, the abdomen had enlarged steadily and rapidly. It was evident, on examination, that there was a large tumor of the abdomen, which was partly solid, and extended up under the liver. The tumor was removed March 15th, through a long incision, which extended above the umbilicus. She is, to-day, perfectly well, and about to return home.

OPERATIONS UPON THE STOMACH.

CASE X. Massachusetts General Hospital. Gastrotomy. This operation was done August 5, 1886, at the Massachusetts General Hospital, for the removal of a plate of teeth from the cardiac extremity of the œsophagus.² This patient has become as well and strong as ever, and has been able to do hard work. He has to be careful, however, to avoid exposure, because of the injury to the lungs, which have left him more or less susceptible to the effects of wet and cold.

CASE XI. Massachusetts General Hospital. Laparotomy for examination of tumor of the stomach. A woman of forty-four had suffered for eight months with vomiting (bloody at times), epigastric pains, emaciation, etc., with epigastric tumor. The diagnosis was considered quite doubtful, and was between cancer of the stomach and tumor of the spleen, in the opinion of those surgeons of the Massachusetts General Hospital who examined her. December 5, 1886, an incision was made in the median line, from the ensiform cartilage towards the umbilicus. The greater curvature of the stomach was exposed, and examined

with the finger, and by the aid of the electric light. The anterior wall of the stomach was found to be the seat of a very extensive malignant disease, which had already infiltrated the surrounding parts. The wound was closed with silk, interrupted sutures, and she made a rapid recovery from the operation. After leaving the hospital, she regained her strength sufficiently to be up and out-of-doors. She has since died, and an autopsy showed the presence of cancer.

CASE XII. Massachusetts General Hospital. Penetrating wound of the abdominal cavity; enlargement of the cut, and exploration of the abdominal contents. Woman, age twenty-three. Shortly before entrance she had been stabbed with a sharp knife, and had received a deep cut through the abdominal wall, a little above and to the left of the umbilicus, with numerous cuts in other parts of the body, which were of little or no consequence. A small portion of omentum protruded from the wound. Under the most careful antiseptic precautions, the finger was introduced into the wound, which was found to communicate with the peritoneal cavity. The wound was then enlarged sufficiently (five inches) to allow a prolonged and careful examination of the intestines. No wound of the bowel having been found, the cut was sewed up, and patient put to bed. She was discharged, well, September 11, 1886. In this case, the question of interference was discussed, and the unanimous opinion of those present was that an examination should be made of the contents of the abdominal cavity, in order that the patient might avoid the chance of dying by a preventable cause, it being assumed that the proposed operation would not add much to the already existing danger. This view of such cases I believe to be the right one in the present state of our knowledge of abdominal surgery, and the well-known high rate of mortality in penetrating wounds of the abdomen.

CASE XIII. Massachusetts General Hospital. Closure of the abdominal cavity after laceration of its walls and protrusion of the intestines. Girl, age five. This little girl was run over by a herdic shortly before being brought to the hospital. There was a fracture of the pelvis, laceration of the vaginal wall from the cervix of the uterus to the spine of the pubes. The intestines protruded through the vagina and up on to the groin. The symphysis pubis was fractured, and the bones separated. The bowels were replaced, and the vaginal wound closed with catgut. The pubic bones were wired together. The mother refused to leave the child at the hospital, and she was treated as an out-patient. She made a rapid recovery, however; and some weeks later I removed the wire, and found the vaginal wound healed and the child nearly well.

LAPAROTOMY FOR DIAGNOSIS IN SUSPECTED TUMOR.

CASE XIV. A woman of thirty-eight had been much troubled by enlargement of the abdomen for five years. She was admitted to the Carney Hospital in the spring of 1884, and was treated on the medical side for some weeks. Several careful examinations were made, including two under ether, but nothing abnormal could be found. At her urgent request, and with the advice and consent of the attending physicians the abdominal cavity was opened and explored. January 25, 1885, an incision was made in the linea alba large enough to admit the hand. The abdominal organs were examined successively with care, and nothing was found requiring operation. She made a

² See page 367 of No. 24, Vol. CXV of this Journal.

rapid and uninterrupted recovery, and for a time expressed herself as feeling much better than before. She was discharged, however, unimproved.

LAPAROTOMY FOR THE REMOVAL OF UTERINE TUMOR.

CASE XV. Patient age forty. History of an enlargement of the abdomen of a year and a half. The enlargement was at first slow, and later it has been rapid. Catamenia regular. Examination of the patient showed a large symmetrical tumor of the abdomen, not painful or tender. At my first examination there seemed to me to be distinct fluctuation, and I made the diagnosis of a simple cyst of the ovary. The uterus moved with the mass but did not seem to be intimately connected with it. The whole mass could be pushed up with ease from the pelvis with the hand in the vagina. The general health of the patient was not much affected, and the case looked ex-

tremely promising. March 14th, Dr. Fitz examined her with me and threw some doubt on my diagnosis, saying that the tumor did not have the unmistakable fluctuation of a cyst. It suggested a semi-fluid contents, or possibly a soft fibroid.

Operation, March 15th. Carney Hospital. An incision three inches in length was made in the linea alba, and the tumor exposed. It was found to be fluctuating, and was supposed of course to contain fluid. The introduction of the trocar was not followed by escape of fluid, and the tumor was then seen to be solid. The incision was then enlarged to six inches and the tumor delivered. The pedicle was pierced with two knitting-needles at right angles to each other, and ligated below with elastic tubing. In cutting off the tumor the uterine cavity was not opened. The tumor arose from the posterior wall of the uterus, and there was no real pedicle, the whole having the appearance of an enlarged and symmetrical uterus. There was a

OVARIOTOMIES.

No.	Date	Place	Age	Married or Single	Nature of Tumor	Adhesions	Pedicle	Result
1	July 25, 1884	Carney Hospital	33	Single	Broad Ligament	Sessile	Tied & dropped	Death
2	Jan. 18, 1885	Carney Hospital	66	Married	Malignant. 30 lbs. Multilocular	None	Tied & dropped	Death
3	May 14, 1885	Carney Hospital	31	Married	52 lbs. Multilocular	None	Tied & dropped	Recovery
4	July, 1885	Carney Hospital	60	Married	15 lbs. Multilocular	None	Tied & dropped	Recovery
5	July 13, 1886	Carney Hospital	40	Married	30 lbs. Unilocular	Extensive	Tied & dropped	Recovery
6	Oct. 8, 1886	Massachusetts General Hospital	23	Single	15 lbs. Unilocular	Extensive and recent	Tied & dropped	Recovery
7	Nov. 18, 1886	St. Margaret's	21	Single	15 lbs. Unilocular	None	Tied & dropped	Recovery
8	Feb. 12, 1887	St. Margaret's	35	Married	20 lbs. Multilocular. Semi-solid	Extensive	Tied & dropped	Recovery
9	Mch. 8, 1887	St. Margaret's	33	Married	Multilocular. Semi-solid	None	Tied & dropped	Recovery

LAPAROTOMIES.

For Operations on the Stomach.

No.	Date	Place	Age	Sex	Conditions, etc., requiring Operation	Operation	Result	Effect on conditions requiring operation
1	Aug. 5, 1886	Massachusetts General Hospital	37	Male	Impaction of false teeth in cesophagus	Gastrotomy, hand introduced in stomach	Well	Cure
2	Oct. 12, 1886	Massachusetts General Hospital	44	Female	Cancer of stomach wall	Laparotomy, exploration.	Well of operation	None

For Examination of Abdominal Viscera after Punctured Wound.

1	Oct. 12, 1886	Massachusetts General Hospital	23	Female	Stab with sharp knife into abdominal cavity. No symptoms	Laparotomy, examination of intestines	Well
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For Diagnostic Purposes.

1	Jan. 25, 1885	Carney Hospital	38	Female	Enlargement of abdomen. Pain. Suspected tumors	Laparotomy, exploration of viscera	Well	None. No improvement
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For Closure of Abdominal Cavity after Laceration of its Walls and Protrusion of Intestine.

1	1884	Massachusetts General Hospital	5	Female	Fracture of pelvis, rupture of vagina, protrusion of intestines	Closure of peritoneum, wiring pelvis	Well	Well
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For Removal of Uterine Tumor.

1	Mch. 15, 1887	Carney Hospital	40	Female	Abdominal tumor beginning to affect general health	Hysterectomy, uterine canal not opened	Died
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very large bloodvessel in the left broad ligament, which was tied and burned, as it seemed to be the main arterial supply to the tumor. In applying the ligature to the pedicle use was made of a pair of enormous double hooks made for the purpose, by means of which, through a tackle and blocks, the tumor was held suspended from the ceiling sufficiently to allow the manipulations at the base of the tumor without interference from its size and weight. During this part of the operation the intestines escaped from the wound, very unfortunately, and were exposed eight minutes to the air, although covered with a carbolized towel. It was found extremely difficult to replace them on account of the tight contraction of the abdominal muscles. The incision was carefully closed about the pedicle and the wound dressed with iodoform and gauze in the usual manner. The operation lasted forty-five minutes. The tumor was pronounced by Dr. Fitz to be a lymphangiectatic fibromyoma.

During the following days the most troublesome symptom was vomiting and flatulence, much gas escaping from the mouth. Nothing whatever passed rectum. The temperature gradually rose from 101° the first night to 104° the night of her death, which took place March 19th. The abdomen became very much distended, and vomiting was incessant. The question whether there was some obstruction to the intestine was constantly in my mind, but the impossibility of making a diagnosis between that and a general peritonitis, with the experience of others in such cases, led me to delay in the hope that nature would unravel the difficulty, and especially from the fact that reopening the abdomen in such cases has been almost invariably fatal. Moreover, many recoveries have followed where the symptoms were fully as bad as in this case. I therefore did not interfere till the last day, when I explored the wound and the parts immediately subjacent without finding anything to be remedied. At this time the patient was moribund. Death took place the same night.

My assistant made an examination shortly after death (twenty minutes), and gave me the following report, which I was unable to verify, having been called away for two days.

"The abdominal wound was enlarged up to the ensiform cartilage and downwards to the pubes. An examination of the intestines showed a twist in the gut about the middle of the small intestine. Below the twist the intestines were entirely collapsed, and above were distended with gas. At the point of stricture the intestine seemed to be twisted upon itself, and was black and gangrenous, extending above and below about four inches, gradually fading to the normal of the rest of the intestines. There was no pus in the abdominal cavity, and no opening into the intestine could be discovered."

This condition could have been remedied, of course, had it been possible to make a correct diagnosis. The difficulties in the way of such a diagnosis are certainly very great, and the fact that cases recover after these severe symptoms have been present some days make one much more reluctant to interfere than he might otherwise be. I do not see how this could have been avoided, and I am sure if I was to repeat the operation under the same circumstances I should use the same precautions in replacing the bowels that I did in this case with such disastrous consequences. It

is very important that the intestines should be restrained from escaping, and I think that hereafter I shall have an assistant whose sole duty shall be to prevent such an occurrence.

PLEURISY WITH EFFUSION.¹

BY THOMAS F. SHERMAN, M.D.,
Physician Boston Dispensary.

I BRING the following cases of pleurisy with effusion before the Society to-night, not with the expectation of adding anything to the knowledge which the members may already possess, but rather in the hopes of being myself instructed, in the discussion of the paper, as to the efficacy of the usual routine treatment of effusions, and as to the proper time in the course of the disease when operative interference shall be deemed advisable, whether aspiration should be performed, as some authors advise, as soon as physical examination can detect an effusion, or is to be regarded, like tracheotomy, as a *dernier resort* in cases where danger to life is imminent.

CASE I. In January, 1884, I was called to see Mary D., aged five years, and obtained from her mother the following history. She had always been a healthy child up to a year ago, when she had broncho-pneumonia following measles; since then she has been well till during the last four weeks, when her mother noticed that she was losing flesh and was unable to run or talk fast owing to shortness of breath; she has had a dry hacking cough, and has been feverish at night.

Physical examination showed a poorly nourished child with flatness on percussion, below the level of third rib, over the left front and axillary region, and below the spine of scapula behind, with absence of respiratory sounds and vocal fremitus. The apex of heart was displaced one inch to the right of mid-sternum. Pulse 132, respirations 40, and temperature 101°.

She was kept in bed, fly blisters applied to the lower part of left back, and three grains of the iodide of potassium given every four hours.

This treatment was followed for four days without producing any improvement in either the rational or physical signs. Believing that the effusion had already lasted three weeks, or more, and that it would not be prudent to allow it to remain longer, on January 28th, I punctured, first with my exploring needle attached to a hypodermic syringe, and then with the aspirating needle, one inch below the angle of scapula and drew off a pint of clear sero-fibrinous fluid. She was then given half a teaspoonful of the camphorated tincture of opium to relieve coughing. The next day the child was very comfortable, the apex of heart was almost back in normal position, and there was good resonance and respiration in front as low as nipple; behind there was still flatness and absence of respiration below the angle of scapula. She was ordered the tincture of chloride of iron and malt extract, and continued to improve uninterruptedly, although it was two months before there was good resonance and audible breath sounds below the angle of scapula.

I saw her one week ago and she was still in good health, and no abnormal sounds were found in chest by auscultation or percussion.

¹ Read before the Boston Society for Medical Observation, April 1, 1887.

CASE II. Miss R., aged thirty, attributes her present illness, which began two weeks before I saw her, to exposure while taking in clothes during a rain. When I first saw her, February 9, 1884, she had been in bed a week, complaining of pain on inspiration over right side, less severe than at first, shortness of breath, cough, with whitish expectoration, loss of appetite, alternate flashes of heat and cold, no chill.

Physical examination showed the presence of a bronchitis with a moderate effusion on the right side. Pulse 105, temperature 102°, respiration 26. She was given the iodide of potassium, ten grains four times a day, with the extract of elaterium, an eighth of a grain every two hours till free dejections. The next day she was feeling more comfortable, had had numerous watery dejections and was breathing much easier. On February 12th, fair respiration was heard over the whole of right front and over the right back to an inch below the angle of the scapula. She continued to improve till February 15th, when being disturbed by a blind rattling in the night, she imprudently got up, fixed the blind, and then went back to bed again, feeling cold and chilly.

On seeing her the next afternoon I found her much worse, and physical examination on the day following showed flatness over the right front and axillary regions, below second rib, with bronchial respiration and bronchophony under the right clavicle.

Apex of heart was one inch beyond the mammary line, edge of liver felt below the ribs. Pulse 112, respiration 34, temperature 102°.

The extract of elaterium was ordered as before, but this time did not cause any diminution in the effusion.

On February 18th, the physical signs remaining the same, I aspirated below angle of scapula and drew off two quarts of clear fluid, without trouble. That evening I was suddenly called to see her and found her breathing at the rate of fifty per minute, respirations shallow and painful, physical examination showed no return of the effusion, and on injecting an eighth of a grain morphine, subcutaneously, the respirations soon fell to thirty per minute, and she spent the rest of the night very comfortably. She had no further trouble after this, the temperature, pulse, and respiration gradually falling till they became normal in about five days. She has been in good health since then up to the present time.

If we are to consider in this case and in Case I that the pleurisy was not a disease *per se*, but a symptom of tuberculosis, as some German writers maintain, it would seem that in three years other symptoms should arise, or, as Dr. Shattuck has said, that tuberculosis is recovered from more frequently than is commonly supposed.

CASE III. B. M. was a stout, well-built man, aged twenty-eight, of good family history, and a blacksmith by trade. He says he has never known what it was to be sick, and now consults a doctor for the first time, to be relieved, if possible, of a shortness of breath, which has been gradually increasing during the last three weeks, till he is unable to swing his hammer without getting out of breath, and having to rest afterwards. His appetite is poor. He has a slight, dry cough. Has not been confined to his bed, and has worked up to two days before I saw him.

Physical examination showed the presence of a large effusion on the left side, extending anteriorly above level of third rib, and behind to an inch above

spine of scapula. The left intercostal spaces were bulging, with apex of heart almost two inches to the right of sternum. Temperature 99°, pulse 90 and intermittent; respirations 34 to the minute when he was quiet, but becoming rapid on the least exertion.

Feeling that this was a case where the heart was impeded in its work by the amount of the effusion, and that any delay might prove dangerous through sudden paralysis of the heart, I made arrangements to see him later in the day, when I slowly removed, by aspiration, a little over three pints of clear serum before I was compelled to desist by his complaining of a feeling of constriction across the chest. He was given brandy, and the carbonate of ammonia ordered in ten-grain doses, every four hours. The next day the heart was beating regularly, with the apex mid-sternum, and in about a week later, he was able to return to his work.

CASE IV. H. D., aged nineteen, clerk, was seen in January, 1885. He had been complaining for a month of progressive loss of flesh and strength, with shortness of breath on exertion. His family history was good.

On examination, a large effusion was found occupying two-thirds of left chest, with apex-beat to the right of mid-sternum. During the next three days he was given the iodide of potassium, and the back painted with tincture of iodine morning and night.

The effusion showing no signs of being absorbed, I then punctured the chest twice with the aspirating needle, the first time unsuccessfully, owing probably to the puncture being made too low down, the second time withdrawing about a quart of fluid. The rest of the effusion disappeared in the course of a week, and he soon afterwards returned to his work. I saw no more of him for five months, when he again appeared at the office, complaining of the same symptoms as before. Examination this time, however, showed well-marked disease at left apex, which ended fatally in about three months. In this case, the pleurisy was probably only a symptom of tuberculosis, although I believe that it is now admitted that a long-continued effusion may indirectly cause lung disease, as well as be produced by it.

CASE V. On December 17, 1886, I was called to see Mrs. M., aged twenty-eight, who gave the following history: She had always been well up to four days ago, when she got her feet and clothes wet. Since then she has felt cold and chilly, with headache and general malaise. The day before I saw her she had had a chill in the afternoon, followed by a second one at night. Has had a dry cough, with pain under right nipple. Examination showed diminished resonance over the lower right back and axillary region, with feeble respiration; no râles. Temperature 102°, pulse 110, respirations 26.

Dover's powder ordered at night. The next day she reported that she had rested well. Examination showed flatness and absence of respiration below angle of scapula posteriorly, and below fifth rib anteriorly. During the next week the effusion increased gradually, with slightly higher temperature at night, till, on December 27th, ten days after I had first seen her, it had reached the third rib in front, and the spine of scapula behind. The apex of heart was outside of the mammary line. Measurement of the left side, from centre of sternum to the centre of spine, was fifteen inches; of the right side, sixteen inches.

The treatment up to this time had been mainly expectant, liquor ammonii acetatis being given during the day, with Dover's powder, when required, at night. On December 27th, patient had three watery dejections, and, believing that nature was thus indicating an outlet for the effusion, I ordered her to take half an ounce of epsom salts, dissolved in as little water as possible, the first thing the next morning — the treatment laid down by Professor Hay. This produced twelve loose dejections, which left the patient feeling weak, but breathing much easier, the respirations falling from 34 to 24 per minute, and the apex of heart swinging back almost to its normal position.

From this time on there was an improvement in all the signs, till January 8th, a little over three weeks from her first attack, when she was able to go out. At this time, there was still dulness and diminished respiration over the lower half of the right back, due, probably, to the thickened pleura.

From the above cases, and from the numerous authorities whom I have consulted, and to whom I am indebted, I would draw the following conclusions:

That acute pleurisy with effusion runs a certain more or less definite course, and cannot be aborted by any of the remedies now in use; and that the treatment, during the first ten or twelve days of the disease, should be purely symptomatic, including, by that term, the use of the aspirator, if required, as well as the administration of drugs.

At the end of that time, when the effusion seems to have reached its height, and the fever is beginning to abate, the treatment by saline cathartics, first introduced by Professor Hay, and recently recommended by Professor Osler, seems to be the most successful. This treatment consists in giving a concentrated solution of the salt at such a time when the intestinal canal may be supposed to contain little, if any, fluid. The usual plan is to tell the patient to take nothing liquid after supper, and to take, the first thing the next morning, about half an ounce of the sulphate of magnesia, dissolved in an ounce of water, and not to drink anything afterwards till dinner. This usually causes numerous watery dejections, with a subsequent diminution in the amount of the effusion. Should this not be the result, I would order an ounce of the magnesia, to be taken the next morning. Should the effusion still remain the same, I would aspirate without further delay.

In cases of chronic effusion, if no urgent symptoms were present, as marked dyspnoea, cyanosis, irregular or very feeble pulse, I would try the saline cathartics first, and then aspiration.

I believe that every case of pleurisy with effusion should be watched as carefully as we do a pregnant woman with placenta prævia, having the aspirator in working order, and ready for use at an instant's notice, bearing in mind that any effusion, large or small, is bad for the patient, and may suddenly become dangerous with but little warning, while aspiration, thanks to Dr. Bowditch, has been proved to be harmless.

As there are no signs of an effusion which may not be simulated by other morbid conditions of the chest, and this is especially true in children, where physical examination is often misleading, owing to imperfect lung-expansion, every aspiration should be preceded by an exploratory puncture, using the ordinary hypodermic syringe, with a long, stiff needle, to avoid the danger of its breaking within the chest.

In these days of bacilli and micrococci, it would be needless to say that all instruments should be properly disinfected before using, thus avoiding many of the dangers formerly ascribed to the admission of air within the chest.

The aspiration, as Dr. Bowditch has taught, should be slow and gradual, not removing more than two or three pints at a time, and ceasing at once when the patient complains of any distress. It should be performed without ether, the puncture being made below the angle of the scapula, or in the middle axillary region, with the patient in a sitting position, unless there is cardiac weakness, when the recumbent position is to be preferred.

The dangers commonly ascribed to aspiration come, I believe, either from its being improperly performed, or from its being too long deferred. With proper precautions, I know of no contra-indication to its employment. The reflex paroxysmal coughing often following aspiration may be relieved by an injection of morphine subcutaneously.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

APRIL 4, 1887, DR. BOLLES in the chair.

DR. M. H. RICHARDSON presented a paper upon

A SERIES OF ABDOMINAL OPERATIONS.¹

DR. MIXTER thought the entire absence of any septic element in these cases was evident. In the last case, the accident might have been due to tenseness of the recti muscles, due to insufficient etherization. The manner of treating the pedicle by an elastic ligature, although common in Germany, was not used here.

DR. FITZ said it was more probable that the twist occurred during reaction than at time of operation, even if it were the cause of death.

DR. DAVENPORT alluded to the success attending cases recently reported, in which thorough evacuations were secured by Seidlitz powder and enemata — a practice directly the opposite from the universal employment of opium.

DR. RICHARDSON thought the length of the incision was not an important factor in fatality. The rule should be to make an incision large enough for easy delivery of the tumor.

DR. NEWELL said that the true source of trouble in cases where the intestines prolapsed was absence of profound anaesthesia. This is the great advantage we possess in the employment of ether, instead of chloroform.

DR. T. F. SHERMAN presented a paper upon

PLEURISY WITH EFFUSION.²

DR. FOLSOM advocated the aspirator, rather than cathartics, and an early, rather than late aspiration. With reference to the occurrence of tuberculosis secondarily, he cited two autopsies: one of a lady in middle life, who had double pleurisy, when five years old, on the right side. She was tapped, resulting in

¹ See page 225 of this number of the Journal.

² See page 228 of this number of the Journal.

an empyema with permanent opening; on the left, nothing was done. Both *lungs* were sound, but the *pleura* completely adherent. The second case was a lady who, twenty-five years before, had an empyema with permanent opening—a very tedious case, but the lung was perfectly sound.

Dr. BOWDITCH said that he would not usually wait over a fortnight before aspirating, and if the quantity were large, causing dyspnoea, would aspirate at once.

Dr. OTIS said that, as one could not foresee at what moment serious trouble would arise, perhaps fatal, it seemed to him the wiser course to aspirate at once, if the amount were large, without delaying for dangerous symptoms to come on.

Dr. FORSTER said that his experience showed the rapid recurrence of the fluid after it had been diminished by salts.

Dr. BOWDITCH said that in his early experience, before days of antiseptics, permanent openings made tedious cases, and often unfavorable results, but he could not admit that simple pleurisies were tubercular. He thought the prognosis was unfavorable if the lung did not fully expand in a few days.

Dr. F. C. SHATTUCK alluded to the increasing number of German and French authorities who maintain the great rarity, or absolutely deny the existence, of pleurisy as a primary disease, holding that the cases which have hitherto been so generally considered as such are really only symptomatic of tuberculosis. This view we are not as yet, certainly, prepared to accept in America. Whether this view is true or not, it is incumbent on us to follow up our cases of pleurisy with effusion carefully, and not consider them as completely recovered as long as expansion of the lung is imperfect—a condition which seems distinctly to predispose to the development of mischief in the lung itself.

He also spoke of a case reported by R. Douglas Powell in the last edition of his book on "Diseases of the Lung and Pleuræ." A London policeman had been the subject of, to his knowledge, a large, serous effusion for five years, and was quite equal to his duties. Tapping had been practised several times, but the fluid promptly re-accumulated, and it was thought wiser to let him alone. If the lung is completely compressed, and is represented by simply a fibrous cake, as would seem to have been the case in this policeman, there is probably less danger of tuberculosis than in the far more frequent cases of partial re-expansion.

Dr. M. H. RICHARDSON said he was particularly interested in that part of the paper which was devoted to the question of removing the effusion by surgical means. He called attention to the importance of thorough disinfection of the needle before its introduction into the pleural cavity. It should not only be carefully washed and soaked in an antiseptic solution immediately before its use, but it is well to draw into the receiving bottle a quantity of antiseptic fluid, and then, having turned the cock, thrust in the needle, now full of fluid itself. Great importance should be given to this disinfection, because the serous effusion is such a good medium for the growth of germs, and, therefore, so liable to become purulent.

With regard to the question of tuberculosis as a cause of all cases of pleurisy, the experience of the speaker clinically was that a direct family history of tuberculosis in the patient's near relative always rendered the prognosis extremely doubtful as far as the

expansion of the lung was concerned. Without an exception, the lung has failed to expand after the operation of permanent opening has been done, if there was any such family tendency. It was his experience that such cases run more frequently from a pleurisy into an empyema, and never fully recover, than after permanent opening, unless the operation is supplemented by others for the collapse of the chest-wall (either by the operation of Estlander, Schede, or something similar). Dr. Richardson was convinced that, in certain rare cases, it is best to make free drainage, even where the effusion is serous: First, in a very acute case where the fluid is effused with great rapidity, and after aspirations without relief, the patient is in danger from the violence of the constitutional disturbance; and the other class is where a chronic effusion shows no sign of abatement after repeated tapplings. In the latter class, there is the hope that the lung may be made to expand, and thus obliterate the pleural cavity; and, on the other hand, there is the constant danger of secondary changes in the partially-collapsed lung. Yet, in such cases, the prognosis and treatment depend much on the family history.

In the speaker's experience and opinion, the immediate danger of free incision is less than that of aspiration. The reason for this is seen when we consider the difference of pressure in the two operations. In aspiration there is exerted a powerful suction, which affects the thoracic contents without any possibility of a safety-compensation, so to speak. The collapsed lung must expand, or the sound one must become over-distended, and the heart moved correspondingly. In free incision, on the other hand, there is never any pressure brought to bear till the dressings are applied, and then it is very gentle and gradual in its working. The air is all ready to enter and take the place of the escaped fluid the moment the lung has expanded all it will from its own elasticity. Clinically, this is seen in every case of permanent opening, especially when it is done without making the patient unconscious. There has never been any complaint of distress, while it is the rule in aspiration.

AMERICAN DERMATOLOGICAL ASSOCIATION.

ELEVENTH ANNUAL MEETING.

The Eleventh Annual Meeting of the American Dermatological Association was held in the Hall of the State Medical and Chirurgical Society, Baltimore, August 31, September 1 and 2, 1887.

WEDNESDAY.—FIRST DAY.—MORNING SESSION.

The Association was called to order by the President, Dr. H. G. PIFFARD, of New York. The first paper was entitled

TOXIC EFFECTS OF IODOFORM,

by Dr. R. W. TAYLOR, of New York.

The author reported the details of twenty-four cases, nine of which came under his personal observation. Sixteen of these cases were accompanied by constitutional disturbances, while in nine the rash existed alone without any apparent systemic symptom. A large number of cases have been reported in which toxic constitutional effects have followed the use of iodoform. It is evident that the toxic effects of iodoform are more frequently manifested by systemic irri-

tation than in cutaneous manifestations. The drug may set up inflammatory disturbance of the skin without apparent constitutional reaction.

The skin affections may be classed under the general head of dermatitis, but for the sake of accuracy may be further subdivided according to their relative frequency, into erythema, eczema and purpuric spots. The erythema due to iodoform, may present many of the features of similar eruptions. Its mode of invasion is prompt and extension rapid. It may commence at the point where the application has been made, or other patches of erythema may begin in other parts and extend to meet that from the original point. Erythema may follow from simply smelling the iodoform. The eruption completes its evolution in a few days, and under favorable circumstances this eruption rapidly undergoes involution, behaving much as an ordinary exanthematous eruption. Various forms of erythema have been noted. Sometimes it is very superficial. In other cases it is still superficial, but of a deep red hue, and may be termed scarlatiniform. In exceptional cases, usually those presenting grave constitutional symptoms, the erythema presents points of resemblance in hue and brauny feeling, to erysipelas. Other cases may be placed under the head of erythema multiforme.

The eczema resulting from the use of iodoform is usually of severe form and rapid evolution. It may begin at the point of application or in parts at a distance. It may also result from simply smelling the drug. Its character is pronounced from the first. A large surface is involved, and in all respects it is similar to ordinary eczema madidans. The involution is, as a rule, almost as rapid as the evolution, if the drug is removed. In some instances, however, the eruption shows a tendency to become chronic. It is usually amenable to treatment. Eczema occurred in nine of the twenty-five cases reported.

The time of the appearance of the eruption was noted as follows: in twelve cases, it began within a few hours, or within the first day; two, on the second day; three, on the third day; one, on the ninth day; one, on the twelfth day; and two, on the fourteenth day. This is in contrast with the statistics of the onset of the symptoms where systemic poisoning results. In the majority of these cases the morbid symptoms begin in the second week. As a rule, it may be stated that in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. Statistics seem to show that the cutaneous manifestations are most frequent in youth and middle age, while the systemic symptoms occur most frequently in the aged. The erythema appearing upon the hands of dressers in hospitals as a result of the direct contact of the iodoform, was regarded as being related to the ordinary hyperemia induced by mustard and other irritating applications, and not to be considered as belonging to the class of cases described.

DISCUSSION.

DR. J. N. HYDE, of Chicago. I have seen the eczematous form of eruption, and also erythema multiforme, and in one case a bullous type of eruption resulting from the use of iodoform. This occurred in a young man who had an operation performed by an ex- for necrosis of the tibia. Iodoform was used dressing of the wound. The recovery was danger of it, ted with recurrences of erythema upon the

surface of the body. This occurred in the form of large areas of a vivid bright color, afterwards becoming dull. Scattered over these surfaces were large bullae containing a clear transparent fluid, and when ruptured produced superficial excoriated surfaces. The condition was finally traced to the iodoform application, and within ten or twelve days after the discontinuance of the iodoform, the eruption disappeared and did not recur.

I would dismiss from this category all cases in which iodide of potassium is given internally at the time that the iodoform is employed externally. I suspect that in these cases where the eruption occurs, it is due to the iodide of potassium, for we see occasionally cases in which iodide of potassium has been taken for a certain period without unpleasant effects, suddenly present manifestations of iodism as the result of some transitory condition, as change of climate, or of temperature, etc.

DR. J. C. WHITE, of Boston. I have seen a number of cases of eruption due to the free use of iodoform in the treatment of surgical injuries. I have never seen systemic manifestations resulting from its use in cases where there was dermatitis. The form of eruption has varied from simple hyperemia to a vesicular form, in most cases going no further. In occasional instances there appeared a furuncular form of inflammation, due possibly to mechanical obstruction of the cutaneous follicles by particles of the powder. The eruption is almost always found in the immediate vicinity of the point of application. Where the remedy is applied in the form of a powder, it may easily be transferred to other parts of the body and thus cause an extension of the eruption. I have never seen any affection of the mucous membrane resulting from the use of iodoform, nor have I seen any purpuric eruption follow its use.

DR. R. W. TAYLOR, of New York. With reference to Dr. Hyde's remark in regard to the influence of iodide of potassium in those cases where it was administered in connection with the local application of iodoform, I would state that, in one case seen by me, the eruption came on when the patient was not taking iodide of potassium, and was relieved when the iodide was given. In another case, the patient (a physician) thought that the eruption was worse when he was taking iodide of potassium; but the eruption always promptly followed the use of iodoform, even when no iodide was taken.

A CLINICAL STUDY OF ERYSIPELAS IN CHILDREN, by DR. I. E. ATKINSON, of Baltimore.

The author considered erysipelas to be a contagious, infectious disease. It has not yet been determined whether it is due to one special micro-organism, or whether it may be produced by several. The study of the affection, as it occurs in children, offers some opportunities for the solution of this question. During the first month erysipelas is extremely fatal, but the mortality gradually diminishes up to the end of the first year. The fatality at this period of life is probably to be attributed to its dependence upon the poison of puerperal fever. The author reported the detailed histories of three cases of erysipelas in young children. In two of these cases a cellular, board-like induration occurred as the result of intense edema and cellular infiltration. In neither of these cases was there suppuration. The speaker thought

that erysipelas should be considered the expression of the effect of one of a number of specific causes, and, in that sense, should be regarded as a symptomatic inflammation.

DISCUSSION.

DR. J. C. WHITE, of Boston. The author alluded to erysipelas as a contagious disease. Does he personally know of a case in which it was directly transferred from one person to another? He also referred to the use of the tincture of the chloride of iron in the treatment of the disease; does he regard this as producing any specific therapeutic action?

DR. I. E. ATKINSON. Personally, I have not seen an instance of the direct contagiousness of erysipelas, but there are a number of well-authenticated cases on record. I cannot say that the tincture of the chloride of iron is a specific, but, in my experience, it has had a more favorable influence on the course of the disease than any other remedy that I have employed.

DR. J. C. WHITE, of Boston. I have never seen a case of facial erysipelas transferred from one individual to another. If at all contagious, it must be so with extreme rarity. I regard the tincture of the chloride of iron and all other internal remedies as useless in the treatment of this form of erysipelas. For five years, I have given no internal medicine in the treatment of erysipelas, and I have not seen a case in which the erysipelatous eruption did not disappear in from five to ten days. In my experience, infantile erysipelas has been so wholly unlike in its clinical aspects and in its course, with or without treatment, from ordinary traumatic erysipelas, that it seems to be quite a distinct disease.

DR. J. N. HYDE, of Chicago. I have seen one case which seemed to indicate the contagious nature of erysipelas. A young mother, soon after confinement, had her ears pierced for ear-rings. This was shortly followed by typical erysipelas, spreading over the face and scalp. Soon the nursing child was affected with the disease, and presented typical erysipelas, from which it shortly died.

I agree with Dr. White that the tincture of the chloride of iron is useless in the treatment of this affection, although I consider it harmless.

DR. I. E. ATKINSON, of Baltimore. In those cases of erysipelas which may be termed septic, whether the disease depends upon ordinary septic poison or not, I have no doubt that benefit is derived from the administration of the tincture of the chloride of iron in large doses—as much as half-a-drachm, three or four times a day.

LEUCOPATHIA UNGUIUM—A PECULIAR AFFECTION OF THE NAILS,

by DR. R. B. MORISON, of Baltimore.

The ordinary white spots found upon the nails are well known. These are gradually forced to the outer edge of the nail by the growth of new nail behind. The time occupied in this process varies from four to six months. These spots are usually irregular in shape. A young lady, twenty years of age, recently came under the author's observation, in whom these spots presented a uniform appearance. Examination of the nails showed white bands, one-sixteenth of an inch in width, extending across the nail from border to border. The nails were perfectly smooth, and, in other respects, normal. The general health was good, and there had been no acute disease. These white

bands across the nail had been regularly appearing for many months. During the previous summer, the lines had disappeared almost entirely. The toe-nails were not affected, and the hair was not gray. Portions of the nails were secured, and subjected to microscopical examination. Sections were made, cutting the white lines at right angles. By direct light, the lines appeared of a pure-white, while the rest of the section was of a dark color. The application of acetic acid and other agents caused a gradual disappearance of the lines. Canada balsam also caused their rapid disappearance. It, therefore, seemed plain that these white lines were due to air-spaces in the nail, the disappearance being caused, in the one case, by the swelling of the adjacent cells, induced by the acetic acid, and in the other, by the filling of the spaces with the Canada balsam. Examination of several white spots gave similar results.

OBSERVATION OF THREE CASES OF SIMULTANEOUS HAND-AND-FOOT-DISEASE,

by DR. JAMES NEVINS HYDE, of Chicago.

CASE I. C. B., aged nineteen years, came under observation in May, 1887. Family history was good. He denied all specific disease. Three years previously, he had noticed the first signs of the present affection upon the fingers, and later, on the toes. The disease then extended to the palms of the hands and the soles of the feet. The local affection had gradually increased, and he complained of the stiffness thereby induced. The free border of the nails was tilted away from the finger, and the space thus left was filled with hardened matter. The substance of the nail was dry and rugous. He had recently noticed some sweating of the hands. The palms of the hands and the soles of the feet presented a condition of tylosis. The nails of the toes were tilted from the phalanges, and presented a condition similar to that seen in the nails of the finger. There was also bromidrosis.

CASE II. A female, aged twenty-four years. Family history good. The patient presented tylosis of the hands and feet, which continually recurred. Careful examination showed the general condition to be fair. The pulse was unusually slow, being fifty per minute in the sitting posture. The hands were cold, and bathed with profuse perspiration. The finger-nails were somewhat rugous. The nails were tilted from the fingers, and the space filled with grayish masses. The same condition existed in the toe-nails. The palms of the hands and the soles of the feet were simultaneously involved, showing callosities. Every six or eight weeks, there was a reproduction of the masses on the soles of the feet. At no time did the tissues beneath these masses present a sound appearance. Treatment with various measures, continued over a long period, had no apparent effect.

CASE III. A male, aged twenty-eight years, with a good family history, and no history of syphilis. For ten years, had noticed some numbness of the lower extremities, especially marked at night. There was entire absence of hair on certain parts of the lower extremities. He stated that, fifteen years before, he had been struck on the head with a brick, and that a few years before coming under observation, an operation had been performed upon the head, the exact nature of which he could not state. The hands and feet were habitually cold. Broad vertical areas, chiefly on the outer aspects of the limbs, were found,

in which not a single filament of hair could be detected. Two of the finger-nails of the right hand showed marked vacuolations.

The above papers were discussed together.

DISCUSSION.

DR. T. A. DUNNING, of Philadelphia. I do not recall a case of white spots upon the nails in which the distribution was as uniform as in the case described by Dr. Morison. I have, however, met with cases calling for treatment. I have regarded the affection as dependent upon a want of nutrition in the nail-tissues, and, with that view, have employed arsenic, with satisfactory results. This acts upon the nervous system, improving the nutrition of the whole system, and of the finger-nails in particular.

DR. P. G. UNNA, of Hamburg. With reference to Dr. Morison's paper, I would say that we know from the labors of various investigators that the presence of air in the horny tissues is always a secondary phenomenon. The horny masses must be changed before they will allow the entrance of air. These white spots in the nails are analogous to medullary substance.

I have seen cases similar to those described by Dr. Hyde where the affection was not one simply of the nails, but also of the hands and feet, and I have allied them with eczema. My principal reason for so doing has been that in some cases, I have seen combined with the disease of the hands, patches of eczema on various portions of the body.

DR. R. W. TAYLOR, of New York. I should regard the cases described by Dr. Hyde as ordinary cases of tylosis of the hands and feet. This may occur idiopathically, without apparent cause; or as a result of chronic eczema or as a result of chronic syphilitic poriasis.

DR. LE GRAND N. DENSLOW, of St. Paul. I am not in accord with Dr. Hyde in his view of the nature of the cases that he has described. I have regarded such cases as instances of callosities. With reference to treatment, I would say that in my last case in the person of a hotel porter, who was unable to perform his duties on account of the tender condition of the soles of the feet, I first removed the callosities by the application of a saturated solution of salicylic acid in collodion, and then made a false sole for the feet by the application of belladonna plaster spread upon kid. By this means he is able to attend to his work in comfort.

DR. L. D. BUCKLEY, of New York. I have under my care a patient who presents a condition of the nails very similar to that described by Dr. Morison. She is a sufferer from gout, and from her family history I considered that these lines were possibly gouty deposits. I think, however, that Dr. Morison has shown their true nature.

I agree with Dr. Taylor in considering the cases reported by Dr. Hyde, as closely allied in their nature to cases of eczema. In the treatment of these cases I have derived considerable benefit from keeping the part constantly macerated by the use of an oiled-silk lining sewed into an ordinary stocking and worn constantly, night and day.

DR. E. WIGGLESWORTH, of Boston. I have now under treatment, a case similar to those described by Dr. Hyde. I have regarded it as a case of tylosis. In the treatment, I have employed a twenty per cent.

solution of salicylic acid in soap-plaster until the callosities were removed. I have then dressed the parts with equal parts of belladonna and mercurial plaster, spread on kid. Regarding the condition as dependent upon lowered nutrition, I also employed tonics with good effect.

DR. G. H. TILDEN, of Boston. In connection with Dr. Morison's paper, I would mention a case which I recently saw. It was an instance of two nails growing on one finger, one above the other. The patient had one year ago met with an accident which destroyed the nail and evidently split the matrix into two halves, and each half of the matrix had produced a separate nail.

The President, DR. H. G. PIFFARD, of New York. The affection described by Dr. Morison, is one which in its mildest form, we are all more or less familiar. The most aggravated case that I have seen has come under observation within the last two weeks. This case presents fully as extensive leucopathies as the case reported to-day, although not so regularly distributed. This condition is analogous to leucopathia of the hair, in which I have satisfied myself that the condition is due to fatty degeneration of the cells and subsequent absorption of the fat. In the case of the nail after the absorption of the cells which had undergone fatty degeneration, the horny nature of the tissue would prevent closure of the cavity which would remain filled with air.

DR. J. N. HYDE, of Chicago. I would merely state that like Dr. Taylor and Dr. Buckley, I first regarded these cases as instances of tylosis, but a large experience showed that this view was not correct. In one case, I have watched the course of the disease for three years. The parts have been macerated for days and weeks at a time. I know that there is a constant new formation of these masses. I know that the nails are continually undergoing a similar process. These cases are entirely different from the ordinary forms of tylosis and callosities.

(To be continued.)

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

FIRST DAY.—MONDAY, SEPTEMBER 5TH.

THE Ninth International Medical Congress, and the first of the series ever held in this country, began its sessions in Washington, D. C., Monday, September 5th. The first suggestion of these gatherings was made at the annual meeting of the French Medical Congress in 1863, and the first of the series was accordingly held in Paris in 1867 during the French Exposition with an attendance of 1,200. The second was held at Florence in 1869, but there were only 357 present. The third was held at Vienna, during the Exposition of 1873, and attracted 671 members of the profession. The fourth was held at Brussels in 1875, with an attendance of 412. The fifth occurred at Geneva in 1877 with only 365 present. At the sixth, in Amsterdam, in 1879, there were 630. The seventh was a notable assemblage of 3,181 persons, and was held in London in 1881. The last one was held in Copenhagen in 1884, with an attendance of 1,350.

GENERAL SESSIONS.—FIRST DAY.

The proceedings of the present occasion were begun in Albaugh's Opera House, a very comfortable and pleasant hall, at 11 A.M., Monday, September 5th. The house was packed, the floor with members of the Congress, and the galleries with interested spectators, among whom were many ladies. Dr. H. H. Smith, of Philadelphia, Chairman of the Executive Committee, called the meeting to order and introduced the President of the United States, who was greeted with enthusiastic applause. President Cleveland, in the following few words, uttered with much distinctness and dignity, formally declared the Congress open:

"I feel that the country should be congratulated to-day upon the presence at our capital of so many of our own citizens and those representing foreign countries, who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty in this connection is a very pleasant and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

Dr. Smith then read a list of officers of the Congress, who were unanimously elected, the President, Dr. NATHAN S. DAVIS, of Chicago, editor of the *Journal of the American Medical Association*, then taking the chair. The Vice-Presidents numbered eighty. Other officers were as follows: Secretary-general, Dr. John B. Hamilton, of Washington, Supervising Surgeon-General of the United States Marine-Hospital Service; Treasurer, Dr. E. S. F. Arnold, of Newport, R. I.; Chairman of Finance Committee, Dr. Richard J. Dunglison, of Philadelphia; Associate Secretaries, Dr. William B. Atkinson, of Philadelphia, Dr. George B. Harrison, of Washington, Dr. Frank Banga, of Chicago.

The following gentlemen were then elected as Presidents of the eighteen Sections, into which the Congress is divided:

General medicine, Abram B. Arnold, Baltimore; general surgery, Wm. T. Briggs, Nashville, Tenn.; military and naval surgery and medicine, Henry H. Smith, LL.D., Philadelphia; obstetrics, DeLaskie Miller, Ph.D., Chicago, Ill.; gynecology, H. O. Marcy, Boston; therapeutics and materia medica, Traill Green, Easton, Pa.; anatomy, Wm. H. Pancoast, Philadelphia; physiology, Jno. H. Callender, Nashville, Tenn.; pathology, Alonzo B. Palmer, LL.D., Ann Arbor, Mich.; diseases of children, J. Lewis Smith, New York; ophthalmology, J. J. Chisholm, Baltimore; otology, S. J. Jones, LL.D., Chicago; laryngology, W. H. Daly, Pittsburgh; dermatology and syphilography, A. R. Robinson, New York; public and international hygiene, Jos. Jones, New Orleans; medical climatology and demography, Albert L. Gihon, Medical Director United States Navy; psychological medicine and nervous diseases, J. R. Andrews, Buffalo, N. Y.; dental and oral surgery, Jonathan Taft, Cincinnati.

Each Section was also equipped with a formidable list of vice-presidents, secretaries, and councillors, which the Secretary-General begged to be excused from reading, and they were taken on trust.

The Secretary-General was then called on for his report, and in response made the following statement of the circumstances attending the formation of this Congress.

He said that it was now a matter of history that in May, 1884, the American Medical Association met in this capital and passed a resolution inviting the Congress to honor America by holding its next session in the United States. At the meeting in Copenhagen, when the question came up for disposition, Washington was selected. The committee having borne the invitation and secured its acceptance returned home and immediately began the work of organization. Shortly before the meeting of the American Medical Association in New Orleans, in May, 1885, the preliminary organization was completed. But it transpired that this committee was unable to form an organization satisfactory to the majority of the members of the Association and after some discussion a resolution was adopted, which authorized the appointment of additional members of the committee, so as to include, in accordance with our American system of representation, one member from each State and Territory, and to these were added one representative from each of the three public medical services. The enlarged committee met in Chicago and a majority of the first committee was present and acted harmoniously with the new committee. In a short time, however, the members of the original committee withdrew and the management was thus deprived of their valued services.

The committee had, therefore, to contend against more than the ordinary difficulties attending so great an undertaking, and its success was due entirely to the zeal and energy of its Chairman, Prof. H. H. Smith, of Philadelphia, and the unflagging interest and industry of the remaining members. The time was too short to adequately speak of the multifarious labors attached to the office of the Secretary-general, but he had to report that at the present moment there remained no unfinished business on the Secretary's table. The work of organization was now complete, and he submitted the programme and the volume of abstracts.

President Davis then introduced the Hon. Thomas F. Bayard, Secretary of State, who made a very good address of welcome. After the usual introductory formalities Mr. Bayard happily continued as follows:

"If letters be a republic, surely science is a democracy, penetrated by no royal road, but open on all sides, and equally to all people who, with humility and intelligence, shall watch and work for light as it is gradually disclosed by Divine Providence for human amelioration. In this democratic republic the brotherhood of science can best realize its importance, for here you will find institutions for the promotion of science in every department, and in none more conspicuously than in that of medicine and surgery, the most important of which are the voluntary gifts of private citizens, who, in the great majority of cases, were painfully limited in their associations with science and letters, who began life at the lowest round of fortune's ladder. Thanks, however, to their energy, they rose without a bar to the highest level of success and usefulness. To the public spirit and benevolence of such individuals is due the endowment on a scale which princes may envy but have never surpassed, of institutions for the intellectual development of all who desire to share and are competent to receive its benefits. Your Congress, gentlemen, is held in the closing year of the first century of our national existence, and what has been done here in the line of educa-

tional equipment is due very little to government assistance. To no system of prescriptive privilege, but to individual enterprise, energy and generosity do we owe what, under God, we now possess of such thing, and non-interference by the government has proved a promotion and not a hindrance to our advancement. We are, however, by no means indifferent to the claims of humanity, nor wanting in respect to the victories of science. We welcome this Congress as the guardians of the sanitation of the nations. In your profession, we recognize the noblest school of human usefulness, and in the presence of the development of the means of cure, the amelioration of suffering, the prolongation of human existence, the endeavor to discover the true principles by which life can be made worth living, we can learn our duties to those whose reward is the still small voice of an approving conscience and the sense of duty accomplished."

The following were the closing sentences :

"The closer relations of mankind which modern invention has induced has been necessarily accompanied by an increased dissemination of disease, and the need is obvious of frequent international conference, that, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly tested and applied in counteraction. Forgive me if, as one of the great army of patients, I humbly petition the profession that in your deliberations nature may be allowed a hearing when remedies are proposed; that her *vis medicatrix* may not be omitted in computing the forces of cure, and that science may be restricted as often as possible to sounding the alarm for nature to hasten, as she surely will, if permitted, to the defense of the point assailed. My duty is very simple, and I fear I have already overstepped its limit, for there was, indeed, little more for me to say than to repeat the words of an ancient dame, whose cottage was close by the battlefield of Waterloo, and being somewhat deaf, and hearing the sound of the artillery when the famous 'pounding' was hardest, thought she heard some one knocking at her door, and simply said, 'Come in!' This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, 'Come in!'"

Secretary Bayard's address was followed by responses from several representatives of foreign nations.—Dr. William H. Lloyd, of the British Navy; Dr. Leon le Fort, of Paris, read and spoke in French; Prof. Unna, of Germany, in his native tongue; Prof. Semmola, of Italy, who spoke in Italian; and Dr. Charles Rehrer, of St. Petersburg, who confined himself to broken English.

Dr. Davis then delivered a lengthy address, taking for his chief thought the important benefits in advancing medical science and saving human life through the instrumentality of our medical society organizations, and the methods by which they may be accomplished.

"It has been tersely and correctly stated," he said in conclusion, "that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history.

"It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe.

"Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you, that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

"I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men, in rendering available these grand material achievements of the age, for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration."

This concluded the forenoon's exercises, and the Congress adjourned until Tuesday, the sections meeting by themselves Monday afternoon, in various parts of the city.

SECOND DAY.—TUESDAY, SEPTEMBER 6th.

The Congress reassembled on Tuesday in the Opera House, there being a large audience of members present, though spectators were much fewer than on the day before. Dr. Austin Flint, of New York, delivered a paper upon "Fever, its Causes, Mechanism, and Rational Treatment," which occupied over an hour. Dr. Flint began by explaining the mechanism of normal heat-productions in the body and then went on to consider how it was affected by the processes of fever. He formulated his conclusions somewhat as follows:

That fevers, in general, are self-limited processes probably due to micro-organisms; that the operation of the causes cannot be prevented but can be modified; that the ataxic symptoms in fevers are secondary to the fever itself; that the use of antipyretic measures internally and externally, improves the condition of the patient; that the pyrexia is accompanied by increased oxidation of tissue without compensation; that therefore alimentation, to make up for the increased oxidation, is the essential thing in treatment; that alcohol is an admirable means of nutrition to this end; that, briefly, while the self-limited pyrexia continues, the chief aim of the physician should be to modify its height by antipyretics to afford the system all possible nutrition.

Dr. Flint's paper was well written and well delivered, and kept the attention of the audience to the end. It was the only paper of the day before the general session, and at its close the meeting was adjourned until the next day.

THIRD DAY.—WEDNESDAY, SEPTEMBER 7th.

A much smaller audience was called to order by President Davis in the Opera House, Wednesday morning. The only paper of the session was delivered

ered by Dr. Mariano Semmola, of Naples, Italy, on "Bacteriology and its Therapeutical Relations." In compliment to his native country, Dr. Francesco Durante, one of the vice-presidents from Italy, was invited to the chair, the trouble which arose as to the proper representative of Italy on the first day, having been apparently smoothed over. Dr. Semmola's address was quite long, and was delivered in French.

The object of medicine, Prof. Semmola said, is to cure disease. If there were no ills there would be no doctors. To cure diseases we must know the causes that produce them. The external causes are visible and tangible. To discover the internal, invisible causes is the aim of medical science. To solve this problem we must employ the true method of solving all problems—before the experimental method was known doctors lost themselves in fantastic speculations. Upon the discovery of the experimental method serious study began. The marvelous progress of physiology was made in the light of experimental methods. When they had studied the morbid condition, the doctors, instead of going on with the same careful and slow research, wanted to hurry on, because they wanted to cure the sick. But to apply the experimental method and, at the same time, go fast, is in the nature of things impossible. So it happened that while the doctors were making experiments in their laboratory instead of having patience to master these studies, they came at once to a conclusion. They had to make new hypotheses, and without knowing it they began again the same errors that had characterized the medicine of an earlier day. Thus new systems came into the field which were the opposite of the experimental method. If medicine is to progress and be a science it must not leave the experimental method, otherwise there can be nothing but renovations of error and loss of time. Like the labors of Sisyphus, the same errors are repeated without knowing it. The error of the day, Prof. Semmola said, is bacteriology considered as the key to all pathology. Bacteriology should be studied, because it teaches us things in the microscopical world of the existence of which we had never dreamed—a microscopical world in which man lives, and which is filled with enemies of mankind. We drink millions of microbes in water and respire millions in the air. Sometimes these microbes affect us; sometimes killing us in a few hours. When it becomes our duty to cure the sick we must go slowly, because before there has been careful demonstration, if we attempt to deduce a remedy, we are in danger of doing harm to the sick instead of curing them. This is the great harm modern bacteriology does. The doctors at once concluded that the microbes were the cause of the disease, whereas, in many cases, the microbes are but the effects of the disease. We ought to reproduce the disease artificially by this microbe before concluding that it is the cause. The experiments made have not given any satisfactory results, except in anthrax and tuberculosis. Then to conclude hastily that this or that microbe in such and such a disease is the cause, is but to ignore or set aside the experimental method. The demonstration which the experimental method demands in this case would be complicated, because we would not only have to know that the microbe existed, but we would have to know what was the condition of the blood necessary to the culture of that particular microbe, and science tells us that, for the present, this is a problem we cannot solve.

We know very little of the normal condition of the blood, and biological chemistry is still in its infancy. Man cannot separate himself from these millions of parasites among whom he lives. That bacteriology may be a guide in the cure of disease, we must not only learn all we can of the microbe itself, but, more important than all, must ascertain all that is possible of the conditions of the field of culture. But the science of the present knows nothing of the conditions of these fields of culture in living organisms. Thus it is evident that in the present condition of bacteriology, it cannot be taken as a guide for the treatment of internal diseases. The older schools of medicine spoke of organic dispositions, or tendencies to such and such a disease. This expression had no meaning, but it expressed the fact. When bacteriology speaks of a need for a special field of culture it says the same thing, because we do not know of what the field of culture consists. Therefore, this cannot be called a science, because a science is never composed of unknown things: it goes from the known to the unknown. Science must indicate to us perfectly the conditions of the phenomena of disease, and then only can we find a remedy to correspond. Medicine must do the same as physiology, chemistry and physics, and proceed by way of experiments and demonstrated facts. Look at the progress made by physics and chemistry applied to industries. Look at the telegraph, the telephone, the steam-engine, the photograph, etc. The experiments which led to these results were not composed of unknown things and hypotheses, but made up of a chain of which the links were perfectly forged and welded. Thus there is no weak link in the chain, and the phenomena produced by the laws of science are at man's disposal, and can be reproduced at his pleasure.

But he does not command nature; he obeys, learns her laws, and respects them. If he supposes a fact, instead of demonstrating it, the phenomena are not reproduced. When he resorts to hypotheses, the power of man disappears. If nature's laws are not respected, the telephone does not work, the electric light does not flash, the steam-engine stops. The doctor, then, is the only one who pretends to become the master of nature without knowing her laws. Referring, again, to the failure of medicine to follow up a discovery in the scientific way with thorough research and demonstration, and its tendency to accept conclusions quickly, Professor Semmola said that modern bacteriology may lead the way to the most fruitful field of inquiry in the future, but, for the present, it has produced no practical results in the cure of internal diseases. It has not, he claimed, been demonstrated in what measure microbes are the causes of diseases. He, therefore, hoped that the younger generation would continue experimental researches with the thoroughness of method which the great masters have transmitted to us. They must renounce their preconceived ideas in medicine, and interrogate nature, without torturing her. Scientific independence must be preserved. They must not proceed without measuring their steps. He trusted that this desire for scientific independence in such researches would be echoed in this land of independence.

At the conclusion of the address, a vote of thanks was extended to Dr. Semmola, seconded by several delegates on the stage, who made very complimentary references to the value and interest of the address.

This completed the exercises of the general session until Thursday.

MONDAY, SEPTEMBER 5TH.

SECTION OF GENERAL MEDICINE.

This body was called to order Monday afternoon, in the chapel of one of the Congregational churches, by the President, Dr. A. B. ARNOLD, of Baltimore, about sixty physicians being present. Dr. Arnold then delivered an address upon

THE PRACTICE OF MEDICINE AT THE PRESENT DAY.

He began by saying that the advance in pathological study had brought with it the result of turning the later-day students into medical scepticism and Nihilism, since therapeutic measures seemed futile to arrest the degenerations the scalpel exposed; and many practices, formerly common in the treatment of disease, had now fallen into disuse. And yet, the speaker insisted, the medical profession still had the power to avert many dangers, to relieve much suffering, and to assist nature, if not to cure disease. In acute febrile diseases, if anywhere, there should be therapeutic unanimity, and yet there were as many methods of treatment as nations. The speaker then took up the treatment of typhoid fever as a type of acute disease, and advised the abstraction of heat by external measures as probably the best treatment. In many diseases, the expectant plan remains the best, and preventive medicine offers a wide field. In spite of advance in certain lines of medical thought, the physician of to-day must continue, as his predecessors did, to treat symptoms, in default of his ability to remove causes. Medicine is still rich in facts, but poor in wise theory. Etiology remains the most obscure chapter in the history of medicine, and medical science is never likely to formulate a system that, laying down rules for the guidance of all cases, would leave little or nothing to the judgment of the practitioner.

The address was referred to a committee for publication, and, at its close, a paper was presented upon

THE PATHOGENESIS OF YELLOW FEVER,

by Dr. IGNACIO ALVARADO, of Mexico, which was heard with difficulty, on account of the speaker's foreign accent. He accuses a microbe as directly responsible for the disease, and indirectly for its symptoms.

Prof. WALTER B. GEIKE, of Trinity College, Ontario, Canada, then presented a paper upon

THE PREVALENCE AND PECULIARITIES OF PNEUMONIA IN CANADA,

based upon his own experience and that of practitioners with whom he had been in correspondence. In the western part of Canada, pneumonia was more often a secondary than a primary disease, and was especially associated with typhoid fever. Coming eastward, it was not so prevalent, and occurred as an acute primary affection. In the Province of Ontario it occurs frequently, about spring, and is of a more or less asthenic character. In Southern Ontario, malaria has a marked influence upon it, and in the large Ontario cities, it is of a low type. When allowance is made for all other causes, malaria is a more important factor in the production of a low type of pneumonia than any other. In the Province of Quebec, pneumonia is frequent, acute, sthenic, Montreal, for ex-

ample, thus contrasting with Toronto. Malaria in this region is practically unknown, and, therefore, the type is similar to the pneumonia of the Northwest. In Prince Edward's Island, Nova Scotia, Cape Breton, and Newfoundland, pneumonia is frequent, sometimes almost epidemic, acute, rarely low. In conclusion, the speaker dwelt a moment upon treatment, endorsing Erichsen's views of the treatment of inflammations — that there should be no uniform plan of treating as such, but that one must estimate rather the constitutional power of the patient, than the precise extent of lung involved.

The paper was followed by a discussion upon the cause and treatment of pneumonia, some upholding, and some decrying the pneumococcus as its cause, and at its conclusion the Section adjourned.

TUESDAY, SEPTEMBER 6TH.

The second day's session was opened, in the afternoon, with an audience of about forty, the morning meeting being omitted.

The first paper was by Dr. JOSEPH KOROSI, of Buda-Pesth, Hungary, upon

THE PREVENTIVE POWER OF VACCINATION FOR SMALL-POX,

and was based upon some twenty thousand cases of disease seen in Hungarian hospitals. It contained a vast amount of tabulated statistics, incapable of reproduction in an abstract. Among the deductions from these figures was the belief that not only did a larger percentage of the unvaccinated than of the vaccinated die of small-pox, but a larger percentage died from other causes, so that, so far as his observations went, vaccination was unattended with the dangers claimed by its opponents. Vaccination, in his opinion, was preventive of small-pox.

Dr. WILLIAM WHITMARSH, of England, then read a paper upon

VACCINATION,

which, he said, had greatly reduced the prevalence of small-pox. In his opinion, however, it did not prevent it, but modified its virulence.

The same gentleman then presented a paper upon

PASTEUR'S TREATMENT,

in which he described in detail Pasteur's treatment of hydrophobia, and exhibited some of his appliances. He then went on to consider the method from a critical standpoint, taking strong ground against its need or efficiency, and asserting that it was not devoid of danger, the ninety deaths which had occurred among the patients proving the latter statement. The fact was that Pasteur was a first-class scientific chemist, but not a physician. We really know little or nothing of the nature of the virus, or of the antidote. The speaker had suggested to the House of Lords a practical test of the Pasteur method, by giving criminals under sentence of death the option of submitting to experiment in this line. Inoculate a man with the Pasteur virus, and then rub into an open wound on his person the saliva of a rabid dog, and you could form an intelligent opinion as to its protective power. In his opinion, the Government encouraged hydrophobia by compelling dogs to be muzzled in warm weather.

These papers were followed by a discussion upon

the value of vaccination to prevent small-pox, after which the Section adjourned.

(To be continued.)

SECTION ON GENERAL SURGERY.

The meetings of the Section on General Surgery are held in the Congregational Church. The first meeting was held on Monday afternoon, September 5th.

The Section was called to order by the President. Dr. BRIGGS, of Nashville, Tenn., at 3 P. M., who, in a brief address of welcome, opened the Section for work.

The first paper was on

GUN-SHOT WOUNDS OF THE ABDOMEN,

by CHARLES T. PARKES, M.D., of Chicago.

No subject has interested surgeons more than the treatment of penetrating wounds of the abdomen. In 1885, the whole number of recorded cases of operation for gun-shot wounds of the intestine was but six. Since 1885, thirty-eight cases have been recorded, with eleven recoveries, and, in future, all cases operated upon should be reported, whether successful or not. Surgical interference in appropriate cases is now the generally-accepted view.

The condition and appearances of the external wound give some indication as to the presence or absence of penetration. A single wound of the abdomen affords a hope that the penetration has not taken place, but it is only a hope. Even the presence of a wound of entrance and exit does not positively indicate injury of the viscera. If there is a tract of tenderness continuous from the wound of entrance some distance, it is fair to infer that penetration does not exist. A large bullet-hole indicates penetration. When in doubt, the wound of entrance should be enlarged. In this way, the presence or absence of penetration can be determined, and, with the usual precautions, this does not increase the danger.

In diagnosis, much value cannot be attached to the subjective sensations. The unusually rapid appearance of tympanites in a region ordinarily dull would indicate escape of gas into the abdominal cavity. Localized dullness in the region of the wound, or in the dependent portion of the abdomen, would indicate hæmorrhage. The presence of blood in the urine indicates wound of the kidney, bladder, or ureter. Shock cannot be relied upon, but, when present, the probability of perforation is very great. The rare phenomenon of fæces in the wound is a positive sign of perforation. The presence of persistent nausea and vomiting also points to injury of the viscera. The absence of pulsation in one femoral artery indicates injury of the iliac vessel.

The following cases were reported:

CASE I. A man shot himself twice in the abdomen. He was seen four hours after the accident. The wounds were four inches to the left of the median line, the one one-and-one-half inches above the other. One ball had gone entirely through the abdomen, making a posterior opening just under the last rib. From this there was considerable hæmorrhage. There was moderate collapse. Penetration was demonstrated, and then a median incision was made. Five perforations were found, and closed with silk thread. The left kidney was also perforated by the bullet. It was, however, allowed to remain. The patient did well

for twenty-four hours, and then failed rapidly from collapse, due to considerable bleeding from the wounded kidney.

CASE II. P. I., age forty-five, was shot in the abdomen. He was not seen until sixteen hours after the injury. The wound was in the right iliac region. On opening the peritoneum, faecal matter escaped. Only one opening was found, and this was closed with the continuous suture. There were evidences of distinct peritonitis, and the man died sixteen hours after operation. The patient would, in all probability, have recovered if the operation had been done earlier.

In the treatment of gun-shot injuries of the abdomen, incision in the median line is the better in the majority of cases. There are exceptional cases, in which enlargement of the original wound answers the purpose. The continuous suture answers every purpose, and as it can be inserted more rapidly than the Lembert, it is preferable. Silk is preferable to catgut in making the sutures. Where resection is required, two methods of procedure may be adopted: In cases where the mesenteric border cannot be saved, section should be made through the healthy bowel, and a triangular portion of the mesentery also removed. The two portions of the bowel are then brought together and secured with sutures, the first suture being introduced at the junction of the mesentery and intestine. In no case had the author found it necessary to use more than one row of sutures. All raw surfaces should be covered with peritoneum. The second method is applicable in cases where the mesenteric border is not injured. In these cases, the section does not involve the mesenteric border of the intestine. The injured portion is alone removed, and the edges of the healthy bowel brought together with the continuous suture. Where the omentum is injured, the hæmorrhage is often severe, requiring the removal of a large portion of the structure. All slits and lacerations in the omentum should be closed by continued sutures. In perforation of the stomach, there is no difficulty in closing the wound after it is found. Where there is no complication, wounds of the stomach usually heal satisfactorily. In gun-shot wounds of the liver, the surface should be brought together by deep sutures. The same procedure may be employed in the case of the spleen, but where this organ is badly lacerated, extirpation is indicated. Perforating wounds of the kidney call for extirpation. Perforation of the liver, spleen, or kidneys, with a similar injury of the small intestines, greatly increases the gravity of the case, and such cases will usually end fatally. Wounds of the bladder call for suture.

Special stress was laid on the necessity of seeking out all wounded bloodvessels, thus preventing the danger of primary or secondary hæmorrhage. There should be a careful search made for all wounds of the intestine, the bowel being examined in a systematic manner. Tight sutures should be avoided, for these will lead to sloughing and extravasation. If the peritoneal surfaces are laid in contact and kept there for a few hours, adhesions will take place.

AN EXPERIMENTAL CONTRIBUTION TO INTESTINAL SURGERY, WITH ESPECIAL REFERENCE TO THE TREATMENT OF INTESTINAL OBSTRUCTION,

by N. SENN, M.D., of Milwaukee, Wis.

The indications in the treatment of intestinal obstruction are to remove or render harmless the cause

of the obstruction, and the immediate restoration of the continuity of the intestinal canal. Where the cause cannot be removed, it is to be rendered harmless by forming an anastomosis between the portion of bowel below and that above. One hundred and fifty operations were performed on animals. The principal forms of intestinal obstruction were produced artificially, and the attempt was made to devise some new operation, whereby the obstruction may be relieved where the removal of the cause is not possible. The length of time required in the performance of most of the present operations is their great contraindication. By simplifying the method of operation, the author had been able to lessen the time required. To prevent extravasation during the progress of the operation, the author had employed a narrow rubber band, tied round the intestine with sufficient force to occlude it. He had never observed any injurious effects following the use of elastic compression.

The study was first directed to simple stenosis, which was produced by cutting out a semilunar portion of the bowel. Traumatic stenosis from this cause becomes a source of danger from obstruction or from perforation, when the lumen of the bowel is reduced more than one-half. Where excision of the bowel is required for injury, not more than one-half should be taken away. If more is required, circular excision should be resorted to. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practised, for this is invariably followed by gangrene and perforation, through interference with the blood supply of the portion of bowel corresponding to the vascular defect. In circular constriction of the bowel, the immediate cause of gangrene is obstruction to the venous supply of the bowel and takes place first at the point most remote from the cause of obstruction.

Flexion was then produced by removing a portion of the bowel transversely, and suturing of the wound. It was found that on the convex side, a defect one inch in width could be closed by transverse suturing without causing obstruction by flexion. In such cases the flexion is subsequently corrected by a compensating bulging of the mesenteric side of bowel. Closing of such a wound by transverse suture on the mesenteric side of the bowels, may give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the blood supply of the portion of bowel involved. Flexion caused by inflammatory and other extrinsic causes, gives rise to intestinal obstruction only when the functional capacity of the flexed portion of the bowel has been diminished or suspended by the causes which have produced the flexion, or by subsequent causes independent of the flexion.

Volvolus is simply another form of flexion. Volvolus gives rise to symptoms of obstruction, when the causes which have caused the rotation of the bowel, have at the same time produced impairment or suspension of the peristalsis in the portion of bowel which constitutes the volvolus, or when a diminution or suspension of peristalsis follows in consequence of the rotation.

In invagination, one of the most important factors in preventing disinvagination and in inducing gangrene of the intussusciens is the accumulation of intestinal contents above the seat of invagination. Spontaneous reduction is not more frequent in ascending than in descending invagination. The immediate cause of

gangrene is obstruction to the return of venous blood by constriction at the neck of the intussusciens. Ileo-caecal invagination, when recent, can frequently be reduced by distentions of the colon and rectum with water, but this method of reduction must be practised with great care and gentleness as over-distention of the colon and rectum is productive of multiple longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences. The competency of ileo-caecal valve can only be overcome by over-distention of the caecum, and is effected by a mechanical separation of the margins of the valve, consequently it is imprudent to attempt treatment of intestinal obstruction beyond the ileo-caecal valve by injections per rectum.

In a study of the effects of enterectomy, it was found that in dogs, resection of more than six feet of the small intestines was uniformly fatal, the cause usually being the immediate effects of the trauma. Resection of more than four feet is incompatible with normal digestion, absorption, and nutrition, and often results in death from marasmus. In case of extensive intestinal resection, the remaining portion of the intestinal tract undergoes compensatory hypertrophy.

It was also found that physiological exclusion of an extensive portion of the intestinal tract, does not impair digestion, absorption, and nutrition as seriously as the removal of a similar portion by resection. Faecal accumulation does not take place in the excluded portion of the intestinal canal.

Objections was made to the various forms of suture used in circular enterorrhaphy for three reasons: first, the time required for their insertion; second, the danger of puncturing the bowel; and third, the interference with nutrition which they cause. The author recommends the use of catgut in preference to silk. It was recommended that a rubber tube be introduced into the bowels and the wound closed over it by two sutures. Ectropia is prevented during operation by compression.

The line of suturing or neck of the intussusciens would be covered by a flap or graft of the omentum, in all cases of circular resection, as this procedure furnishes an additional safeguard against perforation. In circular enterorrhaphy continuity of the peritoneal surface should be secured where the mesentery is detached by uniting the peritoneum with fine catgut before the bowel is united. This furnishes better security against perforation on the mesenteric side. A strip of the omentum two inches wide is placed around the line of junction and secured with the sutures.

The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it is impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which have given rise to the obstruction do not constitute an intrinsic source of danger. In performing this operation the speaker, after experimenting with plates of various materials adopted decalcified, or partially decalcified bone. This procedure is indicated as a substitute for gastro-enterostomy. The stomach is exposed and a longitudinal incision is made in its anterior aspect, so that a decalcified bone plate, having a sufficiently large opening, may be introduced. This is secured in proper position by sutures introduced in the margin of the fistulous wound. The upper portion of the small intestine is treated in the same way, and the two parts are thus

brought in apposition and secured with silk sutures. In almost every instance where this had been done the result had been favorable. While the ordinary operation requires at least an hour for its performance, this operation can be performed in the space of ten minutes. The same method of treatment is applicable throughout the intestinal canal, where it is desired to form a fistulous communication between the bowel above and that below. If there are indications of sloughing of the bowel, or threatened gangrene, no such procedure should be adopted. An ileo-colostomy, or an ileo-rectostomy can also be done by lateral implantation, the small intestine being introduced into an opening made in the large intestine and secured with a few stitches. In this case, a piece of rubber tubing is inserted into the bowel to keep it patent. The restoration of the continuity of the intestinal canal by perforated approximation plates or lateral implantation should be done in all cases where circular enterorrhaphy is impossible on account of the difference in size of the lumina of the two ends of the bowel. In cases of multiple gun-shot wounds of the intestine involving the lateral or convex side of the bowel the formation of intestinal anastomosis by uniting two of the openings with decalcified bone plates, should be preferred to the use of sutures as this procedure is equally, if not more safe, and requires less time.

The author had also made certain experiments with reference to the time required for the formation of adhesions. Definitive healing of an intestinal wound is only completed after the formation of a net-work of new vessels in the product of tissue proliferation from the approximated serous surfaces. Under favorable circumstances quite firm adhesions are formed between the peritoneal surface within six to twelve hours, which effectually resist the pressure from within outwards. Scarification of the peritoneum at the seat of approximation hastens the formation of adhesions and the definitive healing of intestinal wounds.

Omental grafts from one to two inches in width and sufficiently long to encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with bloodvessels in from twenty-four to forty-eight hours. Omental transplantation or omental grafting should be done in every circular resection or suturing of a large intestinal wound, as this procedure favors the healing of the visceral wound and furnishes an additional protection against perforation.

The Section then adjourned.

(To be continued.)

— "Take my advice, and when you get a prescription put up at a drug store never ask how much it is," said one gentleman to another the other day. "Why not?" he was asked. "Because the clerk will 'size you up,' as the boys say, guess how much money you have got, and charge you your pile." — "What do you advise?" — "Just this. When the urbane compounder of medicines hands forth your prescription, just look wise and lay down a quarter. Now the chances are that the drugs in the preparation don't cost over a dime. He will look at the quarter, study a minute, and then make up his mind that he has been foolish enough to sell you the same dose for twenty-five cents at some past time, and he'll take it and not say a word. Lay down a dollar, however, and it will be just the same — no change. Try it and see."

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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

OUR readers will find in the present enlarged issue of the JOURNAL, specially prepared reports of the proceedings in the General Sessions of the Ninth International Medical Congress, now in progress at Washington for the first three days, Monday, Tuesday and Wednesday; of the Section of General Medicine for the first two days, Monday and Tuesday; and of the Section of General Surgery for the first day, Monday.

A special correspondent also offers a bird's-eye view of the social and other less strictly professional features of the Congress. These reports and the correspondence will be continued in the next issue; by which time, when the smoke and dust of the conflict have somewhat cleared away, and those of the contestants who survive have departed to listen to the roar of Niagara, a better view can be obtained of the situation and a fairer estimate formed of the net results.

From the latest reports received up to the moment of writing it would seem as if, in point of numbers registered, the Congress had been a success. The number of foreigners present was comparatively small and was said on Thursday to be about 150. The entertainments were carefully provided for and amply appreciated.

The work of the Congress has varied in interest and vigor in the different Sections and in most of them increased in activity somewhat in successive days. The Sections on General Surgery and Obstetrics have presented ample material and excited lively and fructifying discussions.

The medical work of the General Sessions and that of the Section of General Medicine, had up to the date of writing, disappointed expectations, and been scarcely up to what should be demanded of the occasion.

The heart-burnings seem to have exhausted themselves in anticipation, and, with trifling exceptions, an edifying harmony has prevailed.

MEDICAL NOTES.

NEW YORK.

—The Governors of the New York Hospital Society have, it is said, decided upon the removal of the insane department of the institution, the well-known Bloomingdale Asylum, to a more remote position, and it is probable that the vicinity of White Plains, West Chester County, where the Society already owns a farm of some three hundred acres, will be selected. The land and buildings of the Bloomingdale Asylum are valued at from four to five millions, and the entire property of the hospital society is rated as fifteen millions.

—There is now in course of erection at Elmira, an admirably constructed and fully equipped hospital, which is to be known as the Arnot-Ogden Memorial Hospital, and is the free gift of Mrs. William B. Ogden, of New York, to the city of Elmira.

Correspondence.

[From our Special Correspondent.]

LETTER FROM WASHINGTON.

NOTES AND GOSSIP ABOUT THE INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, Wednesday Evening, Sept. 7, 1887.

MR. EDITOR,—Washington, at this season usually quiet and deserted, this year fairly swarms with doctors, wearing upon their coats the big medal and blue ribbon, the badges of their membership of the International Congress. Walkmen, bellboys, and hotel clerks have grasped the situation, and you hear nothing but “Doctor,” “doctor,” reminding you of a lot of first-year medical students. The weather is simply charming, albeit a trifle warm, but there is a gentle breeze and the nights are reasonably cool. The local arrangements for the Congress seem to have been well made, the general meetings being held in a handsome and commodious Opera House, conveniently near the hotels. The Sections meet in halls, churches, etc., as near the Opera House as could be expected, usually quite large enough for the numbers the Sections collect, and equipped with the necessary appurtenances. The social interests of the Congress suffer from the fact that Washington in September, is, as Dr. Garnett, of the Committee of Arrangements, put it, practically deserted by a large part of its citizens, but a certain amount of entertainment in this line is provided. The foreign guests are looked after by an excursion to Mount Vernon on Saturday, and on their return they are to be taken to Niagara Falls. These trips can also be taken by American members, if they pay for them, at reduced rates. Besides a reception at the White House and a lunch at the Pension Building, the members of the Congress are invited by Secretary Whitney, of the Navy Department, to a reception at his country residence; there will be several private receptions; the Treasury Building is open for the occasion daily, and various public institutions, like the Government Asylum for the Insane have sent invitations to the Congress.

The first of the social exercises of the occasion was held Monday evening in the shape of a *conversazione* at the United States Pension Hall, which was elaborately decorated for the occasion. There was a very large attendance, but no special ceremonies—a sort of huge promenade concert, of whose opportunities the Washington people very largely availed themselves.

The total registration of members of the Congress up to Wednesday was a little rising 2,500, including about 110 foreigners. As the registration is carried on by letter as

well as personally, this is not an exact representation of the actual attendance. Making due allowance for this fact, it is probable that the real attendance is something over 2,000. There are some noteworthy facts in this regard. There are very few New England physicians, a very small representation from New York, and only a part of the Philadelphia men. Some of the Canadian representatives, naturally more familiar with Eastern men, lament the absence of many whom they expected, and were especially desirous to see.

The foreign delegation includes not many men of note. Among the best known are: Dr. Leon Le Fort, of Paris, Surgeon at the Hôpital Necker; Prof. Unna, of Hamburg, Germany, Editor of the *Journal of Dermatology*; Dr. Joseph Korosi, of Buda-Pesth, Hungary, Director of the Hungarian Bureau of Medical Statistics; Dr. T. Graily Hewitt, of London, the well-known gynecologist; Dr. Mariano Semmola, of Naples, Italy, a Senator in the Italian Parliament; Dr. Apostoli, of Paris; Grant Bey, of Cairo, Egypt; Dr. A. Martin, of Berlin.

Among the few Eastern men of note are Dr. John Homan, of Boston, who came on Monday to read his paper on his results in laparotomy before the Surgical Section, and went back the next day; Dr. Gordon, of the Maine General Hospital of Portland, who was an interested participant in the proceedings of the same Section; and Dr. M. H. Richardson, of Boston, who came Tuesday to read his case of successful gastrotomy.

It will be remarked that among the exercises of the first day was the election of an enormous list of vice-presidents, prepared for the occasion, most of whom were probably at home. A delegate made a courageous attempt to interrupt the cut-and-dried programme and to confine the officers to those in actual attendance, but he was promptly and effectually sat upon by the President.

The exhibition of drugs and medical appliances which has become a part of every medical gathering, is in full blast at the Opera House, and the “sample fiend” is omnipresent. Some of the members will need a trunk to carry off their plunder and will be “stocked up” for a year. It is due to the exhibitors, however, which include about all the large drug houses and instrument makers of the country, to say that their wares made a very large and a very handsome exhibit, at least before the Philistines despoiled them.

Probably not the least enjoyable event to a large majority of the members of the Congress was the reception at the White House on Tuesday evening, by the President and Mrs. Cleveland. The guests were received in the Blue Room, and were announced by Surgeon-General Hamilton to Col. Wilson, who made the introductions. At eight o'clock, when the reception began, there was a line reaching from the door and through the grounds on to the Avenue, and the hour of closing, which had been fixed at nine, was nearer eleven. There were a lot of people who had no connection with the Congress, but who availed themselves of the chance to shake hands with the President and his wife. The Marine Band played, the East Room was very handsomely decorated with flowers and potted plants, and the whole lower part of the house was thrown open. It partook, of course, of the character of large receptions in general, but was on the whole, a very pleasant occasion, marred only by the intrusion of outsiders in overwhelming numbers. After the reception, many of the members went over to the Corcoran Art Gallery, which had been opened for them.

Among the humors of the occasion is a story to the effect that a prominent medical chemist across the sea wrote to the committee of arrangements some time ago that he supposed America would want to come up to England in style, and that as music formed so marked a feature of the London entertainment, it had occurred to him to come over and bring his musical daughter for the moderate sum of a hundred guineas. It is needless to say that the fair *cantatrice* is not here, nor the eminent chemist.

The disadvantages attending the assemblage of a large body of men in a Democratic city, without proper arrange-

ments, have been markedly illustrated. In the first place, it is stated in the Washington papers that there were between four and five thousand people at the gathering at the Pension Hall on Monday evening. As the total registration at that time did not exceed two thousand, it may easily be computed how large was the proportion of outsiders. The next night, at the President's reception, the same spectacle was seen of non-members of the Congress thrusting themselves into a place not designed for them. This was carried to such an extent that many of the foreign guests came and went without seeing the President, unable to obtain entrance without long waiting. The upshot has been, that it was announced at the session of Wednesday that it was feared that tickets to the banquet of Thursday had been improperly obtained; and it was therefore decided to cancel them and issue new ones.

There was an unfortunate incident which marred a little the exercises of Monday. It seems that Dr. Francesco Durante, of Italy, the Governmental representative to the Congress, had been asked to reply to the speech of welcome by Secretary Bayard. When, later, he made some inquiries about the length of his speech, he discovered that he had been set aside to make room for Dr. Semmola. Dr. Hamilton, the general secretary of the Congress, is represented in the papers as saying that Dr. Semmola claimed, that, as an Italian senator, he was the proper person to speak for Italy, and, that, if his claim was not conceded, he would withdraw. As the Committee were already short of papers, they yielded to Semmola, and Dr. Durante therefore wrote a sharp letter, withdrawing from the Congress. The affair was smoothed over, however, as Durante presided over the Congress on Wednesday, while his confrère, Semmola, read his paper.

Another tempest in a tea-pot arose from the fact that Dr. Murphy, of Dublin, fancied he was slighted by not being invited to a banquet to the foreign medical editors, Monday evening. He also wrote a letter of withdrawal, but the committee explained to him that the banquet was a private affair, not officially connected with the Congress.

There is a wide difference in the programmes and interest of the various Sections, and the attendance upon them. For instance, the Section devoted to military surgery runs over with papers and has a definite programme, which is carried out so far as time will allow. The Sections on general surgery, gynecology, diseases of children, and others, perhaps, are well attended, and evoke spirited discussions. The section on general medicine is pretty much a failure. There is no regular programme, the promised papers are few, and those that materialize are fewer yet. The morning sessions of this Section have been given up, for lack of papers and attendance. This may partly be attributed, perhaps, to an essential lack of interest in the subject itself. As a Canadian physician put it, "We are all now surgeons or specialists, we stick to the rectum or what not,—we are no longer doctors."

The programme of the general sessions has been much changed, also, on account of the lack of material for their continuance. Dr. Luteaud, of Paris, and Dr. Neudörfer, of Vienna, who were booked for addresses, on "The Influence of American surgeons on Gynecology in Europe," and on "Military Surgery," respectively, failed to come to time. So that instead of two addresses daily before the general session, there was but one.

Berlin will probably be chosen for the place of meeting of the next Congress.

(To be continued.)

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 27, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	698	308	30.80	18.48	22.12	1.54	4.20
Philadelphia	993,801	418	197	21.60	3.32	12.24	4.80	7.20
Brooklyn	745,103	335	181	31.90	10.73	20.88	1.16	5.51
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	189	88	34.45	9.01	24.38	3.18	1.59
Boston	400,000	207	86	33.13	13.44	22.56	2.40	3.84
New Orleans	242,750	97	31	14.42	16.48	5.15	2.06	2.06
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	94	34	22.26	18.02	11.66	6.36	2.12
Pittsburgh	210,000	81	33	31.94	7.38	9.84	9.84	6.15
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	93	60	28.08	11.88	23.76	—	2.16
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	20	10	35.00	15.00	20.00	5.00	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	11	7	36.36	—	27.27	—	9.09
Worcester	68,383	26	11	30.80	7.70	7.70	7.70	3.85
Lowell	64,051	32	13	31.25	12.52	15.65	9.39	3.13
Cambridge	59,630	24	12	29.12	—	20.80	4.16	4.16
Fall River	56,863	26	9	34.65	3.85	11.55	11.55	—
Lynn	45,861	10	3	20.00	30.00	20.00	—	—
Lawrence	38,825	15	8	26.64	6.66	13.33	13.33	—
Springfield	37,577	8	3	50.00	12.50	25.00	25.00	—
New Bedford	33,393	13	5	30.76	7.69	7.69	—	23.09
Somerville	29,092	14	6	42.84	7.14	35.70	—	—
Salem	28,084	11	2	36.36	9.09	—	27.27	9.09
Holyoke	27,894	7	7	100.00	—	100.00	—	—
Chelsea	25,709	4	1	25.00	25.00	25.00	—	—
Taunton	23,674	4	—	50.00	—	—	25.00	25.00
Haverhill	21,795	8	3	12.50	37.50	12.00	—	—
Gloucester	21,713	4	2	—	25.00	—	—	—
Brookton	20,783	5	3	20.00	—	20.00	—	—
Newton	19,759	5	2	—	—	—	—	—
Malden	16,497	—	—	—	—	—	—	—
Fitchburg	15,375	13	3	38.45	—	38.45	—	—
Waltham	14,609	5	2	20.90	20.00	—	—	—
Newburyport	13,716	4	2	50.00	25.00	50.00	—	—
Northampton	12,896	10	4	40.00	20.00	40.00	—	—

Deaths reported 2,281: under five years of age 1,035; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 731, consumption 257, lung diseases 112, diphtheria and croup 89, typhoid fever 79, malarial fever 32, whooping-cough 27, scarlet fever 11, cerebro-spinal meningitis nine, puerperal fever seven, measles three, erysipelas two. From malarial fever, New York 10, Brooklyn seven, Philadelphia and Baltimore five each, New Orleans four, Nashville one. From whooping-cough, Philadelphia six, Boston and Baltimore five each, New Orleans, District of Columbia, Milwaukee, Nashville and Fall River one each. From scarlet fever, New York four, Brooklyn three, Boston two, Pittsburgh and Fall River one each. From cerebro-spinal meningitis, Worcester three, New York, Pittsburgh, Milwaukee, Lowell, Somerville and Taunton one each. From puerperal fever, Pittsburgh three, Brooklyn two, New York, District of Columbia and Fall River one each. From measles,

Boston two, Philadelphia one. From erysipelas, New York and Brooklyn one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 13th, the death-rate was 23.7. Deaths reported 4,191: infants under one year of age 1,764; acute diseases of the respiratory organs (London) 175; diarrhoea 943, whooping-cough 104, measles 78, scarlet fever 57, fever 39, diphtheria 29.

The death-rates ranged from 13.2 in Halifax to 31.4 in Manchester; Birmingham 24.8; Hull 26.2; Leeds 21.0; Leicester 25.1; Liverpool 24.9; Manchester 31.4; London 23.3; Newcastle-on-Tyne 30.2; Nottingham 21.9; Sheffield 24.6.

In Edinburgh 19.6; Glasgow 18.5; Dublin 31.5.

The meteorological record for the week ending August 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Aug. 27, 1887.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 21	29.96	69.0	78.0	59.0	66.6	46.0	65.0	59.0	N.W.	S.W.	S.W.	8	13	13	C.	C.	C.		
Monday, ... 22	29.82	69.0	76.0	65.0	67.0	66.0	67.0	93.0	S.W.	S.W.	N.W.	3	12	8	R.	O.	R.		
Tuesday, ... 23	29.82	60.0	68.0	58.0	97.0	97.0	100.0	98.0	N.E.	N.E.	N.E.	5	12	11	R.	O.	R.		
Wednes., ... 24	29.81	61.0	64.0	58.0	100.0	100.0	97.0	99.0	N.	N.W.	N.	10	5	1	G.	R.	O.		
Thursday, ... 25	29.81	64.0	71.0	59.0	61.0	51.0	49.0	71.0	N.W.	N.	N.	6	12	12	O.	C.	C.		
Friday, ... 26	29.86	63.0	72.0	52.0	71.0	45.0	68.0	61.0	N.W.	N.W.	W.	13	21	8	C.	C.	C.		
Saturday, ... 27	29.86	65.0	73.0	54.0	69.0	49.0	67.0	62.0	N.W.	N.W.	W.	12	12	2	O.	C.	O.		
Mean, the Week.	29.84	64.4						77.6										30	1.66

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 27, 1887, TO SEPTEMBER 2, 1887

SMITH, JOSEPH R., lieutenant colonel and surgeon. Ordered to report in person to the surgeon general of the army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 3, 1887.

DEAN, RICHARD B., medical director. Detached from duty as member of Examining and Retiring Boards and to Hospital, Chelsea, Mass.

PECK, GEORGE, medical director. Ordered as delegate to International Medical Congress revoked.

SIMONS, M. H., surgeon. Detached from "Constellation" and to the Naval Academy.

ROGERS, B. F., surgeon. Detached from Marine Rendezvous, New York, and to the "Alliance."

FIELD, JAMES G., assistant surgeon. Detached from the "Vermont" and to Marine Rendezvous, New York.

HENRY, C. P., assistant surgeon. Ordered to the "Osipee."

LUMSDEN, G. P., passed assistant surgeon. To the "Boston."

ATLEE, LOUIS W., assistant surgeon. Restored to duty.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING AUGUST 27, 1887.

BAILHACHE, P. H., surgeon. Granted leave of absence for thirty days. August 26, 1887.

CARTER, H. R., passed assistant surgeon. Granted leave of absence for twenty-seven days, August 25, 1887.

YEMANS, H. W., passed assistant surgeon. Resignation accepted to take effect September 30, 1887, and leave of absence extended to that date, August 24, 1887.

NORMAN, SEATON. Granted leave of absence for six days, on account of sickness, August 27, 1887.

SOCIETY NOTICE.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next meeting of the Society will be held at No. 19 Boylston Place, on Thurs-

day, September 15th, at 4 o'clock, P.M. Paper: "Uterine Fibroma with Pelvic Cellulitis," by Dr. Mary E. Bates, of Newton Centre.

H. J. HARRIMAN, M.D., Secretary.

DEATH.

Died in Winchendon, Mass., September 3, 1887, Charles Eliot Ware, M.D., M.M.S.S., of Boston, aged seventy-three years.

BOOKS AND PAMPHLETS RECEIVED.

Regulations and Recommendations of the Board of Health of Quincy, Mass. Quincy, Mass., 1887.

Transactions of the Medical Association of the State of Missouri, at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Transactions of the Thirty-Fourth Annual Session of the Medical Society of the State of North Carolina, held at Charlotte, April, 1887.

A Study of the Phenyl-Hydrazin Test for Sugar in Urine, as applied by Ultzmann. By A. K. Bond, M.D., of Baltimore, M.D. 1887. (Reprint.)

Rational Medicine *versus* Empiricism. By B. A. Watson, A.M., M.D., Surgeon to Charity, St. Francis and Christ Hospitals, etc. 1887. (Reprint.)

Surgery, its Theory and Practice. By William Johnson Walsham, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital, etc. With 236 illustrations. Philadelphia: P. Blakiston Son & Co. 1887.

Plant Analysis as an applied Science. By Helen C. de S. Abbott, Fellow of the American Association for the Advancement of Science; Member of the Academy of Natural Sciences, etc. Philadelphia, 1887. (Reprint.)

The Treatment of Hemorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M.D., Physician of St. Elizabeth's Hospital, Member American Medical Association, etc. LaFayette, Indiana, 1887.

Cuneiform Osteotomy for Anterior Curvature of both Tibiæ and both Fibulæ: Illustrating the great Practical Value of the Electro-Osteotome as a Bone-cutting Instrument, and the Sphenometer as an Instrument of Precision in Bone Surgery—Suturing of the Bones with Kangaroo Tendons—Hydronephtholized Surgical Dressings—Bruce's Bow-Leg Brace. By Milton Josiah Roberts, M.D., Professor of Orthopaedic Surgery and Mechanical Therapeutics, Visiting Orthopaedic Surgeon to the City Hospital on Randall's Island, etc. Detroit, Mich.: George S. Davis 1887. (Reprint.)

Original Articles.

OBSERVATIONS ON THE PUERPERAL PELVIC LIGAMENTS.¹

BY STEPHEN W. DRIVER, M.D., OF CAMBRIDGE.

Is there a constant and normal relaxation of these during pregnancy and at term?

Does it occur in the non-puerperal woman?

Does it continue after recovery from confinement?

More or less during the early and middle life of a woman?

What are the factors that *prevent, determine or vary* this relaxation? Does this relaxation facilitate delivery?

In the following observations the beginning of an answer to these and other questions will be attempted.

PREFATORY REMARKS.

Dr. Thomas Denman, who saw his first case of relaxation of the symphysis pubis in 1774, remarks, "It was for many centuries a received opinion that these cones, though joined together in such a manner as scarcely to afford any suspicion of a separation, were always separated at the time of parturition, or that there was a disposition to separate. But this opinion has been controverted by many writers. But notwithstanding all that has been said, I know *not* that we are authorized to say that a separation or a disposition to separate prevails universally at the latter part of pregnancy or during parturition. Yet that these effects are often, if not generally produced, may be inferred from the pain and weakness so often mentioned and complained of at the parts where the bones of the pelvis are joined together. We leave the question to be settled by future observations."

Dr. Denman seems to have seen very interesting cases, to have taken a very correct view of the subject, and yet with all his shrewdness he did not hit upon a method of actually testing the separation or mobility of the pelvic bones, but only inferred it from symptoms. On page 76 he says, "The opinion of the separation was chiefly founded on the particular attitudes and positions in which the patient sought relief."

Bandelocque says, page 23, "Such has been in all ages the variety of opinions on this point. It is very certain that the bones of the pelvis *may* separate in labor, but that it does not happen so often as has been thought; and experience demonstrates that far from being common it is very rarely met with."

Finally, "According to these observations, the separation of the bones of the pelvis will appear to be an unnecessary accident."

Dewees says, page 22, "We may adduce the following reasons as conclusive against this relaxation being a natural provision:

"1. It is certain that in cases of autopsy the symphyses were very rarely found to have yielded in the *slightest* degree.

"2. That it is not more frequent in the distorted than in the normal pelves.

"3. Were it an arrangement of nature, the means do not seem adequate to the end; that is, relaxation does not enlarge the diameters.

"4. That where it has been found to have taken place even in a slight degree, it has never failed to create either temporary or permanent inconvenience."

Churchill says, page 40, "From a fair observation of the cases on record, we may conclude that it never takes place as a natural process, but that we occasionally meet with it as an accident."

Playfair, "The ligaments and cartilage become swollen and softened, and the synovial membranes are augmented and distended with fluid."

McClintock, in a note to his edition of Smellie, says, "The slightest physiological degree of separation could not be detected in the living subject by any ordinary modes of examination; and where the separation has been considerable and consequently easy of recognition, very unpleasant consequences with marked symptoms have been present."

Both statements are untrue, for I shall show that a very ordinary "mode of examination" will detect the slightest degree of motion, and in a great many cases a considerable separation, easily recognized, may have no "unpleasant consequences."

MY PREFATORY CONCLUSIONS.

It never seems to have occurred to any of the old or new observers (save one New York man, I believe) to make a test of the actual condition of the pelvic symphyses in child-bed through a long series, say of 1,000 cases; to test these same cases six months after delivery, and also to test all cases of virgins and women before any childbirth.

In the following pages I shall try to give the results of actual tests through a series of nearly three hundred cases occurring in my own practice. It would have been a great aid to deciding this long doubtful question, if, in addition to their admirable series of minute observations, the physicians of the Boston Lying-in Hospital had made this test through their first 1,000 cases.

The ligaments concerned in the following observations are,

1st. The pubic (a); the superior pubic (b); the sub-pubic (c); the anterior pubic and the posterior pubic.

2d. The sacro-iliac (s); the anterior sacro-iliac ligament, a continuous band (b); the posterior sacro-iliac ligaments, a group of four bands.

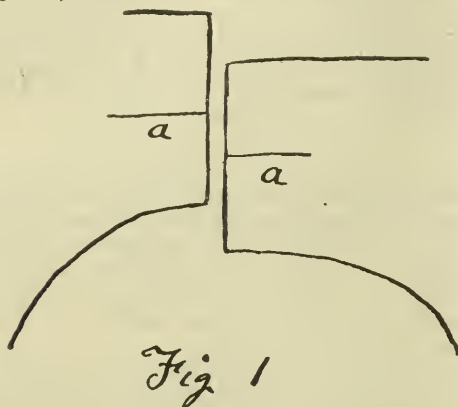
There also comes into consideration the junction cartilage or inter-packing of the sacro-iliac and pubic joining. "Occupying two-thirds of the length and the posterior third of the centre of the junction of pubes we find a true arthrodial articulation, six lines in length, two in breadth, shaped like an almond, lined by a synovial membrane containing a small quantity of synovial fluid."—Churchill.

In testing almost three hundred cases at the puerperal period, I think I have determined the fact that the ligaments of the pubic junction vary very much in their development; in many cases the sub-pubic and anterior especially seem to be a strong, firm and well-developed band making a smooth arch; in others a careful examination would almost lead one to believe that there was no true sub-pubic or anterior ligament, but that the joint depended upon the cartilage or membrane to hold it together. This is often the case in delicate women; you can feel the bony structure almost as plainly as in the pelvis I hold here. That a similar proportional development prevails or exists in the sacro-iliac ligaments may be inferred from a study of the skeletons and from certain facts that I have observed. They cannot be tested because they

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

(the sacro-iliac) are so deeply covered in the overlying tissues. If at the time of confinement these ligaments are relaxed, and if also the interstitial cartilage is deficient or in a soft and undeveloped stage, or infiltrated, then the pubic bones, instead of forming a firm arch, move the one on the other, as the patient turns on the bed, draws up her limbs, or later attempts to stand or walk. This motion is, at the pubes, up and down, and in extreme cases of relaxation, backward and forward. At the sacro-iliac it is pivotal, the sacrum being the fixed point on which the iliac turns.

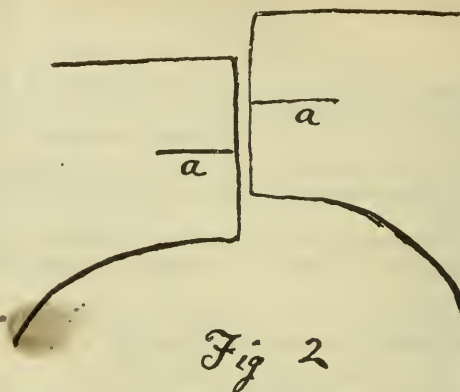
(Here the reader demonstrated how sometimes the sacrum is the pivot, and sometimes the iliac is the fixed point.)



Both sacro-iliac junctions may be relaxed, or only one. In testing the cases following, I have been accustomed to use this method, either immediately after confinement, or within the first three days. While the patient is lying flat on her back, with both legs extended, I pass my forefinger within the vulva, under the arch, pressing back with the end of the finger the meatus urinarius, and thus having the pubic junction resting on the first joint or phalanx, I ask the patient to draw up her leg, first one, and then the other. I can perceive the slightest motion, for there is nothing between the ligaments and my finger but the mucous membrane. The weight of the leg is a strong leverage, acting through the iliacus and psoas muscles as they pass over the horizontal ramus of the pubes. The internal muscles of the thigh that are attached to the pubes also aid. For instance, as the patient draws up the left leg, the left pubic ramus will be pressed downward, and its motion will be felt, and can be measured by the finger. If the right leg be lifted from the bed, the right pubic ramus will be depressed. When the test is made with the patient standing on her feet, the reverse will be the case; if she stands on her left foot, the weight of the *right* leg and side of the body will carry that side down, and the left pubic ramus will go up; if she stands on her right foot, the right ramus will ascend. This is the most radical test of pubic motion. If the tissues of the mons veneris are thin, the motion can well be perceived with the fingers pressed on the front of the junction, or even grasping it above and below.

The amount of motion that you can determine at the arch is not the measure of the whole motion at the joint; that is, if the pubic bone of the left side, for instance, projects by the other one-fourth of an inch, one-fourth of an inch does not express the whole motion. See the position of this in Figure 1, where *a*

indicates the vertical centre of the pubic junction, with the patient standing on her right leg, and the left bone projecting one-quarter of an inch.



Now let the patient stand on her left leg, and the parts will assume the position of Figure 2, where the right bone projects one-quarter of an inch.

But, however, the vertical centre has not moved back merely to its normal, a distance of one-fourth of an inch, but by that normal, one-fourth of an inch upward, making the whole motion one-half of an inch, or double the measure of projection under the arch.

OBSERVATIONS, FIRST SERIES, 200.

Since January 1, 1878, I have made it a rule to test every case of confinement, if possible, and have recorded the results under the following heads. The series includes 224 cases:

Series (Not tested, 24; Tested, 200)	224
No motion	52 or 26 per cent.
Slight "	62 or 31 "
Marked "	34 or 17 "
1-16 of an inch motion	8 or 4 "
1-8 "	16 or 8 "
1-4 "	22 or 11 "
1-2 "	6 or 3 "
	200

Requiring treatment, 4, or 2 per cent. Of these, 2 Americans, delicate; 2 Irish-Americans, 1 hardy, 1 delicate; ages from 24 to 32; motion in 3 cases, one-half of an inch, in 1, only one-eighth of an inch.

THIRD HUNDRED CASES.

SECOND SERIES, 300; 25 NOT TESTED.

Firm	16 plus 52 equals 68,	24 2-3 per cent.
Slight motion	25 " 62 " 87,	32 "
Marked "	6 " 34 " 40,	15 "
1-16 of an inch motion	4 " 8 " 12,	4 1-3 "
1-8 "	15 " 16 " 31,	11 "
1-4 "	8 " 22 " 30,	11 "
1-2 "	1 " 6 " 7,	2 1-2 "

Requiring treatment, 4, or 1½ per cent. No motion in 25 per cent. Bones movable in 75 out of 100. Decided mobility, 120 out of 275, or 44 per cent.

Dewees and Baudelocque say that it is rare to find a slight degree of separation.

FIRST SERIES OF 175 DIFFERENT INDIVIDUALS.

American	56	English	14
Irish American	47	Scotch	4
Nova Scotian	6	French	3
Colored	1	Swedish	1
Irish	42	Italian	1
One-half inch motion,	6,	3 3-7 per cent.	
One-fourth inch motion,	16,	9 1-7 "	
One-eighth inch motion,	27,	14 2-7 "	
One-sixteenth inch motion,	7,	4 "	
Marked motion,	26,	14 6-7 "	
Slight motion,	42,	24 "	
No motion,	51,	29 1-7 "	

Pelvis was found firm in 51 out of 175, or 29 per cent.; 70 per cent. movable.

PHYSIQUE OF FIRM CASES.			
Strong, Robust,	.	.	40 per cent.
Medium,	.	.	34 "
Delicate,	.	.	26 "

100 Series 50

PHYSIQUE OF MOVABLE CASES, 100 IN NUMBER.			
Delicate Physique,	.	.	30
Medium,	.	.	35 (65)
Strong,	.	.	35

Series of 100 100

Mrs. G., aged twenty-six, American, of abundant means; third confinement. Seen by me but once before confinement. During the last month was unable to walk well; shuffled in her gait; was unusually large. Taken in labor, November 11, 1873. Found her with os dilated and bed flooded with liquor amnii; yet I ruptured a second membrane and there was a further gush of water. Labor short and easy. On the fifteenth day patient said to me, "What makes my bones crack and snap every time I turn in bed?" "Bones crack! what do you mean? what bones?" I looked incredulous, as doctors do look when they think their patients are talking bosh. "Why, these bones right here," said she, putting her hand on her symphysis pubis. I, of course, put my hand on the junction and made her turn over, first one side and then the other, asked her to draw up first the right leg and then the left. The displacement was excessive, one ramus slipping by the other with an audible snap like the muffled slipping of a dislocated joint into its socket. I was very much astonished, as I had read of such a case but considered its occurrence a most rare and remote possibility. I made the test, as I have before indicated, with my finger under the arch, and it was apparent that the motion was a full half inch. There was great tenderness over the symphysis. I proceeded to treat this case with a strong band of twilled cotton, five inches wide, fastened as firmly about the hips as the patient could bear; this was kept from slipping upwards by two perineal straps one inch wide, stuffed with hair to prevent chafing. This case was so extreme that my patient did not attempt to walk till the fiftieth day. Even then she was inclined to slide her feet along the floor. Inasmuch as she had been unable to go up and down stairs before her confinement, I had an elevator constructed, and she never walked over the stairs for a year. In May, 1874, she became pregnant again, and there was still a considerable mobility, I had a band constructed to support the abdominal tumor, which was applied after the uterus arose from the pelvis. She was confined in March, 1875, with no untoward symptoms, and there was but little more separation than during the pregnancy. I used the band as a precaution, and she got up with no impairment of her walking powers. In June, 1879, the motion of the bones at the pubes was very marked, and yet no complaint was made by the patient. Also I tested the case at the beginning of 1880, and found no perceptible change, in six years and six months.

I think that the large uterine tumor before the confinement in 1873 acted on the pelvic bones like a great elastic dilating cone, and so tended to spread the bones. In this case there were tenderness and lameness in the left sacroiliac synchondrosis, before her confinement. I think this indicated motion only in L. S. I. junction.

Mrs. M., twenty-four years old, very delicate and anæmic before marriage; American; confined February 22, 1875, at seven months; has had several miscarriages; had concealed uterine hæmorrhage in the first stage of labor; large flat clots were expelled with the child. Did well. On the twenty-first day after confinement tried to walk. I asked her to try in my presence; she crept or rather shambled across the floor, complaining bitterly of pain at the symphysis pubis. I tested her by putting my forefinger under the arch and making her stand first on one leg and then on the other, and also making her walk. A limited amount of mobility was found, less than one-eighth of an inch, but very marked, and also great tenderness of the junction.

I put on a firm five-inch twilled cotton band with perineal straps, and she was immediately able to walk with comfort; all complaint ceased after one month. I examined the patient on December 31, 1878, three years after, and found the symphysis still movable. I made the test as I have indicated, making the patient walk while I held the forefinger under the arch. Although the motion was evident, she felt not the slightest inconvenience. I have seen cases where after confinement the amount of motion was much greater, say one-half an inch, and yet there was no pain or impairment of walking power. This case seems to show that the pathological condition is of more importance than the amount of mobility.

December 11, 1878. Mrs. B., confined, fourth child, short labor, second stage one hour. Seen on the fourth day; said she felt well; said it hurt her to move her left leg; left leg was helpless; said "I was the very same way after first child; could not get around for four or five months; seemed as though it twisted that bone down in front when I tried to walk." I examined the S. P. and found marked relaxation, one-half inch motion, strong. Seen by Dr. Nichols and myself December 16th. He found the same relaxation marked; it was a curiosity to him, as it was the first case he had ever examined. Patient gave the following history of her first confinement, which happened two days before the Boston fire. Within a month found her bones hurt her when she moved in bed. Tried to get up at usual time, could not walk, seemed as if that bone right down in front was being twisted like a soft veal bone; she illustrated with her hands. Was obliged to stoop when she walked, with her hands on her knees; used a chair in getting about the room, and had to lie down a good part of the day. Went out of doors for the first time in March. Dr. Q., of Taunton, attended her; did not examine her, did not put on band, did not treat her in any way after confinement. Patient got well without special treatment, and did hard work. I attended her in second and third confinement; she did well in both. A short time after second, complained of pain in left hip, which disappeared quickly under simple treatment. No trouble whatever after the third. She has always worked very hard since I have known her.

I applied a five-inch bandage about the hips, with directions to keep it as tight as she could bear, and to remain in bed. Seen again December 26th; she was up and about; excused herself on the ground that her child was taken sick; limped a little when she walked; said that the bandage helped her very much, but that the stays going between the thighs hurt her. I examined and found the bandage high up off the hips

B. Second experiment. Having fixed the pelvis firmly in its normal condition, I measured the distance between two fine points, the one on the anterior margin of the coccyx, and the other on the inner margin of the pubic arch, at $\frac{7}{10}$ of an inch; then *flexing* the iliac (that is, motion upward) on a pivot through the *centre* of its junction with the sacrum, so that there was a motion forward at the sub-sacro-iliac junction of $\frac{2}{10}$ of an inch, and again measuring between coccyx and pubes, the distance was $\frac{7}{10}$ of an inch; or, in other words, an extreme *pivotal* motion of $\frac{2}{10}$ of an inch at the lower *margin* of the sacro-iliac junction meant an increase or decrease of the antero-posterior diameter of the outlet of $\frac{1}{3}$ of an inch minus, as the iliacs are carried upward or downward (flexed or extended) on the spinal column as a fixed point. In a word, by these experiments it is shown that, with a very slight relaxation of the pelvic ligaments and separation of the pelvic junctions, two new factors enter into the problem of the passage of the head through the outlet: *First*, a slight separation ($\frac{1}{10}$ of an inch) at the sub-pubic junction *may* increase the lateral diameter between ischia $\frac{1}{3}$ of an inch. *Second*, a slight pivotal motion of iliacs on the sacrum, measured as $\frac{2}{10}$ of an inch at the sub-sacro-iliac junction, *may* increase the antero-posterior diameter of outlet $\frac{1}{3}$ of an inch.

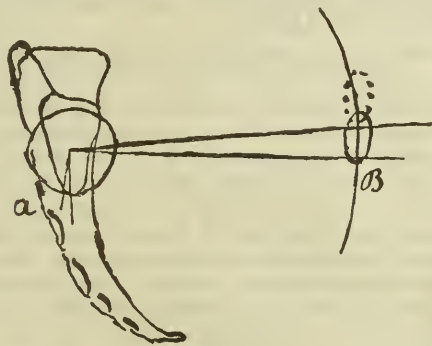


FIG. 4.

Practically, when the woman "braces her feet," she *opens* the antero-posterior diameter, and the child's head, under the force of uterine pains, *spreads* the ischia with all the advantage of leverage. No authors but Playfair and Duncan have recognized this fact in the slightest degree, and they only half; namely, the flexion and extension of the iliacs on the spinal column. No one that I ever heard or read of has tested the possible effect of a separation of the symphysis pubis on the distance between the ischiatic tuberosities.

C. Experiment third. With all the pelvic junctions fixed in their normal position, I measured the distance between two fine points, one on the anterior margin of the promontory, and one on posterior margin of symphysis, as $\frac{3}{10}$ of an inch; then *extending* the iliacs (that is, moving them downward), with a pivotal motion on the sacrum, through the *lower third* of the sacro-iliac junction, the amount of motion, as measured at the lower margin of this junction, being $\frac{2}{10}$ of an inch, I measured the distance between the promontory and pubes as $\frac{3}{10}$ of an inch, an *increase* of the antero-posterior diameter of $\frac{2}{10}$, or $\frac{1}{4}$ of an inch. When the pivot of motion was at the *centre* of the sacro-iliac junction, and not at the *lower third*, this increase of diameter was $\frac{3}{10}$ of an inch, so that a new

factor enters into the problem of the passage of the head through the brim; and all those writers are wrong who say that a *great degree* of separation and relaxation is needed to enlarge the diameter of brim even a *line*. (Dewees says over $\frac{1}{2}$ an inch is required "to increase the diameter a line.")

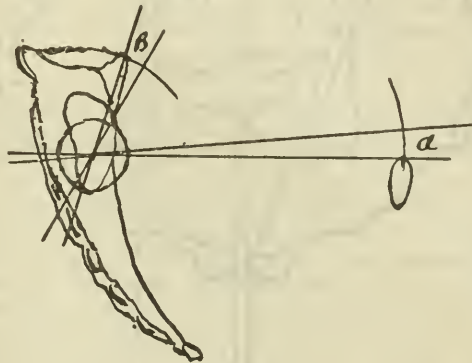


FIG. 5.

The new factor is this: that practically the *straightening* of the body and dropping of the pelvis on the spine tends to increase the antero-posterior diameter of the brim, and a very *small* pivotal motion of iliacs on the sacrum (which a small degree of relaxation will allow), *may* increase this diameter very essentially. A moment's consideration will show that the pressure of the head at the brim tends to carry the iliacs downward and the promontory away from the pubes. Again, according to the authors, it will need a separation of $3\frac{1}{4}$ of a line at the pubes to increase either diameter one line; being misled by the ratio of a circumference to a diameter.

D. But in experiment *fourth* I separated the pubic and two sacro-iliac junctions $\frac{2}{10}$ of an inch (it is reasonable to infer that this is possible in the lesser degrees of relaxation); the lateral diameter was increased $\frac{2}{10}$ of an inch plus, nearly $\frac{3}{10}$ of an inch. This can be shown to be correct geometrically, for this experiment was not the adding to a circle three segments, each $\frac{1}{10}$ of an inch, but, for instance, in the case of the sacro-iliac junction and the symphysis pubis, it was the separation of *two parallel lines* $\frac{1}{10}$ of an inch (see Fig. 6); and in the case of the *right* sacro-iliac junction it was the motion of a *radius* $\frac{1}{10}$ of an inch at its circumference; that is, at the sacro-iliac, and zero at its centre, that is, at the symphysis pubis; half way between centre and circumference, on the line of the *lateral diameter* of the pelvis, this motion is obviously $\frac{1}{10}$ of an inch minus. (See Fig. 6). So that in relaxation of the pelvic ligaments these four (4) factors come in, to facilitate the passage of the head through the brim:—*First*, the extension of the iliacs on the spine, which in effect carries the promontory away from the pubes, increasing the antero-posterior diameter; *second*, separation of the pubes; *third*, separation of the right sacro-iliac junction; *fourth*, separation of the left sacro-iliac junction. It is possible that the first may be within certain limits, $\frac{1}{4}$ inch for every $\frac{1}{10}$ inch pivotal motion at the sub-sacro-iliac junction; and that the sum of the last three *may* be $\frac{2}{10}$ of an inch *minus* for every $\frac{1}{10}$ inch of separation.

My observations through a series of 275 cases show a varying degree of mobility and separation in 75 cases out of every 100, and 70 individuals out of

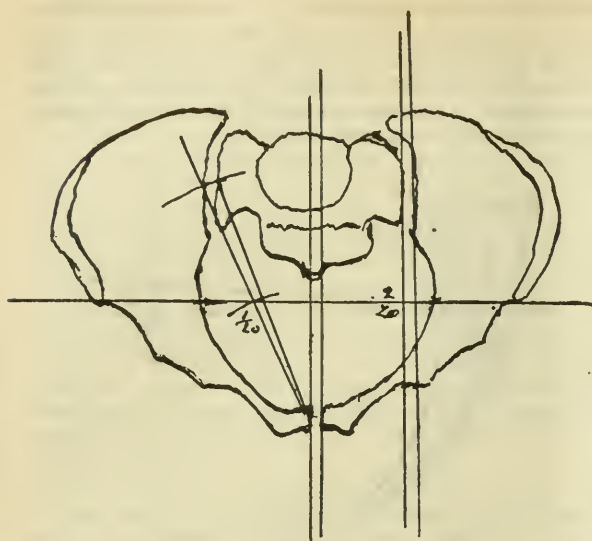


FIG. 6.

every 100. This new (to me) study demonstrates that a small degree of relaxation may increase very essentially both the lateral and antero-posterior diameters of the brim, and is a still more potent factor in increasing the antero-posterior diameter of the outlet and its lateral diameter between the tuberosities of the ischia. To the question, "Does the relaxation of the pelvic ligaments facilitate delivery?" the answer is — Yes!

FINAL CONCLUSIONS.

My observations continued through a series of 300 cases in child-bed, as well as tests in quite a number of cases of virgins and sterile women, lead me to the following conclusions:

(1) That the presence of relaxation depends very much upon the strength of the bony and ligamentous structure of the skeleton; that is, it is more apt to occur in the woman of poor physique, the delicate, the soft, the "chicken-jointed." Some women can turn their fingers backwards and their ankles over sideways.

(2) That age does not determine its presence, at least the degree of it, as the following cases show.

44 years,	1 case, 1-4 inch motion.
42 "	2 cases, firm; 1, marked motion.
40 "	2, firm; 1, 1-2 inch; 1, marked motion; 1, 1-16.
39 "	1, slight m.; 1, 1-8 motion.
22 "	5, firm; 2, slight; 2, marked; 1, 1-4 inch motion; 1, 1-16.
21 "	2, slight motion; 1, 1-8 motion.
20 "	1, marked motion.
19 "	1, slight; 1, 1-8 motion.
18 "	1, firm.
15 "	1, 1-4 inch motion.

The age of observed cases ranges from fifteen to forty-four.

(3) It is not constant, but a degree of it is natural at time of labor, and may exist during pregnancy and even in the early months.

(4) There may be great motion and no lameness or impairment of walking power. Various authors testify to the contrary.

(5) There may be a small degree of motion and great lameness. Baudelocque, page 31, says, "We should be in the wrong if we supposed that such a state of weakness and pain always denotes great disorders in the junction. I am convinced that this may be a consequence of a very small separation or of the slightest movements between the ossa innominata."

(6) Lameness depends upon pathological condition of the junctions, pubic and sacro-iliac.

(7) Pain at the sacro-iliac junction of one side proves that on that side is the pivotal motion of the iliac on the sacrum. It may occur in non-puerperal females, in sterile and virgins.

(8) Patients may recover from a most serious condition of lameness without treatment, as in my third case.

(9) The most careful treatment, with all the aids that wealth can bring, may not restore firmness to the pelvis, as in my first case.

(10) Many a case of lingering disability after confinement, with what the doctor considers vague complaints, may have been due to this cause, and it is well, when you cannot find out "what is the matter," to test the condition of the pelvic ligaments.

(11) A small degree of relaxation or separation may facilitate delivery, and may be the factor that saves the use of forceps.

(12) As I am not bigoted, a further examination of the next series of 300 cases may change many of the above conclusions.

ABSTRACT OF A PRELIMINARY REPORT OF EXPERIMENTAL RESEARCHES CONCERNING THE INFECTIOUS NATURE OF TRAUMATIC TETANUS.¹

BY EDWARD O. SHAKESPEARE, A.M., M.D., OF PHILADELPHIA,
Pathologist to the Philadelphia Hospital, etc.

THE author reported in detail a long series of experiments, which are still in progress, and announced the results already obtained. Upwards of fifty inoculations have already been made. Two methods of inoculation have been employed: intra-cranial inoculations, after the method of Pasteur in the case of rabies, and subcutaneous or inter-muscular injections by means of hypodermic syringes. The inoculations were always made with thorough antiseptic precautions, and with sterilized instruments. In none of the experiments was there any sign of accidental infection, such as suppuration, etc. The material used for inoculation was, in general, obtained from the medulla or the spinal cord, and cultures in neutral or slightly alkaline flesh-glycerine-agar, as recommended by Roux for the culture of tubercle bacilli. The tetanus material was taken, under aseptic precautions, from a horse and a mule dead of traumatic tetanus in the veterinary department of the University of Pennsylvania, the brain, medulla, and cord being removed one and three hours, respectively, *post-mortem*, and immediately kept on ice until used. The inoculation material was, in general, prepared in the following manner: A small piece of the medulla or cord was thoroughly rubbed up in sterilized, distilled water; after the solid particles were allowed, for a few minutes, to subside to the bottom of the vessel, the opalescent emulsion thus obtained was drawn off by means of sterilized pipettes, and placed in small, sterilized vials until used, never having been thus kept longer than three hours before inoculation. Eight control experiments were made.

The author concludes his paper as follows:

RÉSUMÉ OF RESULTS.

First Series. Eight rabbits were inoculated, sub-dura

¹ Read in the Section on Pathology of the Ninth International Congress, September 6, 1887.

cerebri, of a horse dead of tetanus, between August 1st and 18th, inclusive. The rabbit inoculated directly from this horse showed the first symptoms of tetanus within fifteen hours, and died of well-marked tetanus within forty-eight hours after inoculation. Both the period of incubation and that of death became markedly shortened in continuing the inoculations from rabbit to rabbit.

Second Series. Four rabbits were inoculated, sub-dura cerebri, from the same medulla of horse. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty hours, and died within forty-eight hours after inoculation. Continuing the inoculation from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Third Series. Four rabbits were inoculated, sub-dura cerebri, from the same medulla of horse, after it had been kept on ice a day longer. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty-four hours, and died within forty-eight hours after the inoculation. Continuing the inoculations from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Fourth Series. Three rabbits were inoculated, sub-dura cerebri, from the medulla of a mule dead of tetanus, with the same results as in the previous series.

Fifth Series. Seven rabbits were inoculated under the skin and into the muscular tissue of the back, from the medulla of the horse above mentioned. One died within eighteen hours, and another died within ten days, but neither of them showed any sign of tetanus. A rabbit inoculated sub-dura cerebri from the medulla of the latter, on August 15th, is still living and well on September 4th.

Sixth Series. A rabbit, which had been inoculated under the skin directly from the horse on August 1st, was, eight days afterward, inoculated sub-dura cerebri from the medulla of the last rabbit of the third series. It became sick and died promptly of tetanus, within the shortened period. A rabbit inoculated sub-dura cerebri from its medulla showed signs of tetanus within twenty hours, but did not die until five days after inoculation.

Seventh Series. Six rabbits were inoculated, sub-dura cerebri, from emulsions of spinal cords of rabbits which had died of tetanus within the short period above mentioned. These cords had been treated in a manner similar to that employed by Pasteur for the attenuation of the virus of hydrophobia, during periods varying from three to fifteen days. Five of them died of marked tetanus, the symptoms appearing, and death occurring, within periods longer than those of the corresponding rabbits from which the medulla had been taken, and usually proportional to the length of time the cord had been drying. One of the six showed doubtful symptoms, but, nevertheless, very promptly died.

Eighth Series. A rabbit was inoculated, sub-dura cerebri, from the medulla of a rabbit which had died after inoculation from the cord which had been fifteen days drying. It showed the first signs of tetanus in forty hours, and died of tetanus seven days after inoculation.

A rabbit was inoculated sub-dura cerebri from the cord which had been drying fourteen days, and it died of tetanus in twenty hours. A rabbit and a cow were

inoculated sub-dura cerebri from its medulla. The former quickly died of marked tetanus. The latter died without marked symptoms within two days, and from the autopsy it seemed probable that injury to the brain had been the cause of death (there had been great difficulty in performing the operation of inoculation). A young rabbit, inoculated sub-dura cerebri from this cow's medulla, died within sixteen hours, but showed no signs of tetanus, and another rabbit inoculated sub-dura cerebri from the medulla of this rabbit August 27th, is still living and quite well September 4th, never having shown any signs of illness.

Ninth Series. Three rabbits were inoculated sub-dura cerebri September 1st, from spinal cords of tetanus which had been drying respectively twenty-three, twenty-seven and twenty-eight days (these cords were the same as those which had been drying longest, mentioned in the preceding seventh series). The rabbits inoculated from the twenty-third and twenty-eight-day cords showed no signs of illness up to the time of the last observation, September 4th. The one inoculated with the twenty-seven-day cord for the first time showed stiff jaws and difficulty in eating on the afternoon of September 4th.

Tenth Series. Three rabbits which had been inoculated under the skin on the 19th of August, and had remained perfectly well, were inoculated sub-dura cerebri, September 1st, from the same cords mentioned in the ninth series. The rabbit inoculated with the twenty-third-day cord was found dead the next day, but it showed no signs of tetanus either externally or at the autopsy. That of the twenty-eight-day cord showed stiff jaws and would not eat for the first time on the afternoon of September 4th. That of the twenty-seventh-day cord showed no signs of illness up to the last observation, September 4th.

Eleventh Series. Three rabbits were inoculated sub-dura cerebri, August 31st, from cultures started from the horse's brain August 1st and renewed once, namely, on August 20th. One of them has remained quite well up to the last observation, September 4th. One remained quite well until September 2d, afternoon, when it showed intermittent trismus and indisposition to eat. This condition continued up to date of last observation, September 4th. One showed for the first time slight signs of tetanus September 3d, and had them also up to date of last observation, September 4th.

Twelfth Series. A trial attempt was kindly made for me by Dr. L. Wolff, Demonstrator of Medical Chemistry in the Jefferson Medical College to isolate a ptomaine from the brain medulla and cord of the mule and cow above mentioned. The Stass-Otto method was more or less closely followed.

The product obtained from the mule was injected under the skin of the back of two rabbits. They became very ill within twenty minutes, being slightly paralyzed and exceedingly restless, frequently getting down flat on the belly and up again and jerking the hind legs up, but they showed no marked convulsive movement or trismus. They entirely recovered within six hours.

The product obtained from the cow produced but little and only very transient and indefinite effects.²

² Several autopsies of the tetanus animals were made, and they invariably showed intense congestion of the lungs, trachea and kidneys. Sometimes there was congestion, oftentimes none at all, of the central cerebro-spinal nervous system. The mucous membrane of the stomach was apparently normal.

Conclusions drawn from the author's personal researches.

(1) Traumatic tetanus of the horse and mule is, at least sometimes, if not always, an infectious disease, transmissible to other animals, and therefore possibly also to man; and during the progress of this disease a virus is elaborated and multiplied which is capable of producing the same infectious disease in some other animals when placed beneath the dura mater of the cerebrum.

(2) This virus is contained in the medulla and spinal marrow of the animal suffering the disease. It is, like the virus of hydrophobia, capable of being strengthened in virulency by inoculation sub-dura cerebri from rabbit to rabbit, and, like the virus of hydrophobia is capable of attenuation by exposure for a sufficient time to the action of dry air at a temperature of summer heat, and still again like the rabic virus, its effects are far more intense when the virus is inserted beneath the dura-mater cerebri than when injected beneath the skin or between the muscles of the back.

The author reserves his conclusions concerning a prophylactic effect of inoculations of the attenuated virus, until the completion of experiments which are at present in progress.

Conclusions drawn from the author's experiments when correlated with those of Nicolayer, Carle and Ratone, Rosenbach, Ferrari, Flügge, *et al.*

Traumatic tetanus of the lower animals and of man, at least sometimes, possibly always, is a specific infectious disease due to the action of a specific infectious virus which exists in the tissues at the seat of infection, in the blood and in the central cerebro-spinal nervous system.

In view of the experimental evidence which we possess at present and of many unassailable observations of many surgeons and veterinarians, there seems to be ample warrant for the admission that not infrequently tetanus in man is acquired directly and indirectly from some of the domestic animals, notably the horse, which surround him.

THREE CASES OF DYSPEPSIA.¹

BY ELBRIDGE G. CUTLER, M.D.

Of the cases I am about to report, two illustrate the favorable result sometimes obtained by attending carefully to the diet. The other shows the advantage which may be gained at times by simply washing out the stomach.

CASE I. Miss P., aged twenty-two, had suffered from dyspepsia somewhat for five years, or ever since she had been a school-girl, and of late it had gradually become much worse. Her menstruation had been regular up to the previous spring, (she was first seen Dec. 23, 1882). It then became irregular, and since August of that year she had not menstruated at all. For several years her bowels had been constipated. All kinds of food after a time hurt her. She had got to taking less and less and changing from one thing to another, till she hardly knew what she could do in the way of digestion. She had been under treatment most of this time. She suffered from curious sensa-

tions in the head, due, I thought, to anæmia, and complained of having a veil over her eyes. She was pale, anæmic, emaciated, her sleep was disturbed by restlessness and dreams, the bowels were constipated. She had to keep her bed most of the time. The pulse was 80, small, soft, and regular. The cardiac area of flatness was normal, physical signs in the chest negative, except there was a venous hum in the neck. The epigastrium was not sensitive to the touch. The stomach as determined by percussion was rather small. The weight was about ninety pounds. The amount of urine in twenty-four hours was about one and a half pints. It contained much mucous and flat epithelium and a trace of albumen.

I began the treatment with raw oysters, milk, and milk and raw eggs, and a little Carlsbad salts in hot water in the morning; gradually increasing the quantities of food for four days, when she began to sleep better and I added dialysed iron. Two days later, I gave in addition malt and buttermilk. Two days later, half a pint of water was added. A few days later I gave the *syrupus hypophosphitum compositus*. On January 4th, the bowels had been doing very nicely and I added rock-salt to her morning bath. She was then passing one quart of urine in twenty-four hours. On the 17th the pulse was stronger, there was more color in the face, she was getting fatter. She was taking food and drink in sufficient quantity at regular intervals which was fairly well digested. The bowels were attended to daily. I then added passive movements to the treatment. The 25th she was sleeping well all night, and had had no trouble with food for several days. The dialysed iron was changed to ferrum reductum, and emulsified cod liver oil was added to the treatment once a day. February 17th, had done splendidly in every way. Menstruation had come on since the last visit, and food had disagreed a little during that time. On March 28th, I made out a regular diet list and left her in the hands of her nurse, a most faithful, conscientious person. On July 26th, I saw her and found that she weighed one hundred and forty pounds, (she was five feet seven inches tall), she was looking remarkably well, and said she never felt better in her life. Since then, with the exception of occasional slight temporary fits of dyspepsia, she has remained perfectly well.

CASE II. Miss H., aged eighteen, as a child was always well and strong. Menstruation began regularly at the age, I think, of fourteen, and continued till eighteen months or two years ago, when, having had dyspepsia for two years and being run down, the menses ceased. Her food had hurt her constantly all this time and one article after another was omitted from her dietary till at last it became very meagre. She was sent to the mountains and the seashore without avail. The drug treatment consisted of pepsin, soda mint, hydrochloric acid, and some other things, and finally peptonized milk was added. In spite of what was being done she steadily became worse during the twelve months before I saw her, which was in November, 1885, so that at that time though five feet and eight or ten inches tall, she was very much emaciated, and weighed but 86½ pounds, when in ordinary street costume. The extremities were cold the whole time, the face was pinched, the hands suggestive of bird's claws. She was very restless, wanting to be constantly on the move, she slept poorly, had bad dreams, suffered from

¹ Read at the annual meeting of the Suffolk District Medical Society, April 30, 1887.

headache, and on starting to do anything she would stand about in a hesitating, helpless way which was at times almost painful to witness. She was rather listless, and although answering questions about her health readily, she evidently regarded the inquiries as a bore. Little positive could be made out in reference to the digestion of different articles of food by questioning, except that it was generally bad. Physical examination of the chest revealed nothing abnormal.

Forty-four ounces of urine were passed in twenty-four hours, and except an increase in the amount of indican and mucus, and a diminution of about one-quarter from the average amount of urea passed in health, it was not remarkable. The abdomen on physical examination was not abnormal. The stomach was diminished in size. There was slight epigastric discomfort on pressure. The skin was rough and scaly, especially on the face and limbs.

I began by prescribing a fixed diet for the next three days and before each meal a dose of gentian, and every morning a dose of Carlsbad salts in hot water to push on the contents of the stomach and prepare the way for the food of the day. I gave the Rabuteau's dragees and a preparation of maltine as a drink with breakfast. I gradually added to the dietary, seeing her every three days for a time, and by degrees lengthened the interval of my visits. On January 4, 1886, the weight was 88 pounds. On January 7th, I changed to Sedleitz Chanteaud,² and soon after began Koumiss. On February 20th, she was taking Sedleitz Chanteaud in the early morning, quassia before meals, Koumiss with dinner and supper, emulsionized cod-liver oil after meals, one Rabuteau dragee in the morning, peptonized milk between breakfast and dinner and between dinner and supper, and malt with breakfast. She weighed that day 97 pounds. By March 20th, she had reached 100 pounds. By April 17th, 107 pounds.

May 1st, she weighed 106 pounds; May 15th, she weighed 108 pounds; June 12th, she weighed 112½ pounds.

July 26th, she took ordinary meals with Koumiss and peptonized milk added, other things being omitted. September 10th, she weighed 126½ pounds. The menstruation had returned. October 23d, she weighed 136 pounds, and as that was the limit I had set, I omitted all treatment except that I insisted on her maintaining a certain proportion of the different kinds of food. April 17, 1887, I saw her, and found that she had been well all winter, had gone out to balls, parties, theatres, etc., and then weighed, in her spring costume, 130 pounds, which was ten pounds more than she desired.

These two cases are good examples of a type we frequently see, occurring chiefly in young women of the better classes who have recently passed from the school-girl romping period of good health, to the young lady period of private lessons, insufficient exercise, improper diet, constipated bowels, painting and general culture, the pernicious club (sewing or social), and afternoon teas. They first get deranged by insufficient outdoor exercise, and by an improper proportion of albuminates, fats and sugar or starchy foods in their diet, and by their general unhygienic life. The next step, which is a short one, is to indiscriminate or illogical dosing, and from that time the mis-

chief is accomplished. The cases also show the absolute necessity of accurately knowing from personal observation the exact condition of the patient's digestion. By this means only, by patient and persistent observation, can one know whether the proper proportions of the different articles are consumed and be ready to supplement any deficiency. A drug treatment without such knowledge I should strongly oppose. A second very important point, it seems to me, is the giving of a certain amount of food, beginning with a little less than is the proper average, and gradually increasing the amount, and at the same time insisting on the patient's taking it in spite of pain or other discomfort at first. I attach considerable importance also to the daily giving of a proper dose of Carlsbad salts or Sedleitz in the early morning.

CASE III. Dan. McNeil, aged thirty-five, married, a machinist by trade, born and living in Boston, came to the Massachusetts General Hospital, November 10, complaining of gastric trouble. There was constant pain in the epigastrium a short time after eating, eructations of gas, and often, at some time in the day, an attack of vomiting, most frequently occurring in the morning. These symptoms had existed for five months, but had gradually become worse, and were associated with constipation. He was frequently detained from work. A careful physical examination of the chest showed no abnormality. The vomitus was very frothy. The abdomen was fairly prominent; the stomach, on percussion, certainly was not enlarged. There was a little tenderness in the epigastrium, at the lower end of the xyphoid cartilage. As it was believed that fermentation was occurring in the stomach, he was advised to allow the organ to be washed out. On full explanation, he readily assented, and, accordingly, a tube, such as is shown, was passed in, and one quart of warm water was carefully poured in, to which a teaspoonful of boracic acid had been added: part of this fluid was withdrawn by syphonage once or twice, and then nearly one pint was left in the stomach, to act as an anti-ferment. One week later, the patient reported again as having been very much improved. The gas was no longer passed, pain was much less; there had been no vomiting. He had gone back to his work from the hospital that day, and had pursued it steadily since. So much pleased was he with the effects of the treatment, that he had brought back with him a friend similarly affected for like relief. The procedure was repeated, and the patient went to work. On the 24th, he reported as being practically well. The washing out was performed again, and he was discharged well.

The mechanical treatment of gastric disorders was made use of by the ancient Greeks. In the time of the Roman emperors, a number of instruments were in use to facilitate vomiting, used chiefly in cases of poisoning. They consisted essentially of a leather cap to go on the finger, or a feather with which to irritate the pharynx.³ At the end of the seventeenth century, the direct treatment of the gastric mucous membrane was in vogue in the use of the stomach-brush. The handle of the instrument, twenty-six inches long, consisted of a twisted brass wire, wound with silk thread. On the lower end of it was a small brush, three inches long, two inches broad, made of goat's beard or horse-hair.⁴ In the eighteenth century, the elastic catheter

³ Leube. Magensonde, Erlanger, 1879.

⁴ Leube. Loc. cit.

² A quite pure French preparation in form conveniently handled.

was recommended for the purpose of exhibiting food and drugs. Hunter used hollow bougies or flexible catheters for this purpose. Soon followed the first attempts at emptying the stomach of its contents by means of a pump. The English surgeon, Bush, was probably the first who pumped out a stomach. In cases of opium-poisoning, he fastened an elastic, hollow tube to an ordinary syringe, injected water, and then pumped out the diluted contents of the stomach.

In the second decade of the present century, different sorts of stomach-pumps were devised by several different persons, and, as sounds, either gum-tubes ending in a perforated ivory knob, or flexible elastic tubes with rounded ends and two openings at the sides, were used. These instruments and methods were never in general use, and soon were forgotten. Our own countryman, Dr. Sommerville, of Virginia, proposed, in 1823, to syphon out the stomach, and took a flexible tube, four feet long, to wash it out, one end being arranged to pass into the stomach, and the other end being armed with a funnel.⁵

To Kussmaul, the German, however, belongs the honor of first having called general attention to the benefits to be derived from the systematic use of the stomach-pump, in his work on the treatment of dilatation of the stomach, in 1867; and through him the mechanical method was introduced into general practice, and has become, since then, a more or less general procedure. Since Kussmaul's work, the progress has been made of using the syphon, instead of the pump, which must be regarded as a great advance, and due largely to Oser,⁶ of Vienna.

The mechanical treatment of the stomach may be divided into three procedures: the catheterization of the œsophagus, the emptying of the contents of the stomach, and the local treatment of the gastric mucous membrane.

I. Before proceeding to *catheterize* the œsophagus, a careful examination of the cavities of the mouth and throat are to be made, to see, first, if the instrument can be passed at all. An abnormally narrow throat, very prominent tonsils, cicatrices, tumors, adhesions, may present an absolute bar to the passage of any instrument.

Quite as important is an accurate examination of the circulatory and respiratory organs, because severe, non-compensated, cardiac lesions, aneurisms of the aorta, advanced phthisis, present contraindications to catheterization, or, at least, demand extreme care, on account of the liability to spasm. Acute and chronic laryngeal catarrhs also interfere, for, as soon as one gets near the larynx with the catheter, an attack of laryngeal spasm may occur, which makes the patient, as well as the physician, think he is going to suffocate. The instrument is either the one of soft rubber, which I pass round, or a stiffer one, with a bell-mouth. The length of the tube is about thirty inches.

In passing it in, the patient sits with the head thrown slightly back and the mouth wide open, the index finger of the left hand is placed on the tongue, and the right hand passes the tube, wet with water, or better, milk,⁷ to the back of the throat, and, the patient being told to swallow, the point of the catheter is passed down, so that the constrictors of the pharynx grasp the end, and the instrument is then rapidly pushed down dur-

ing repeated acts of swallowing. Long breaths minimize the sense of choking often experienced. The tube must be passed, at least, twenty-eight inches, as eighteen inches represents the distance from the teeth to the cardiac end of the stomach (sixty or seventy centimeters is the rule). According to Penzold's investigations, a sound three-eighths of the length of the body suffices to reach the deepest part of the stomach.

The advantages of the soft tube are the almost impossibilities of causing injury to the œsophagus, as it bends and turns round or returns and does not perforate the tissues in case of meeting with an obstruction. It cannot injure the gastric mucous membrane when with ordinary care. It may be used to rouse the gastric muscular contractions without injury, which are of great assistance in syphonage.

The disadvantages are that it is sometimes grasped and compressed by the muscular tissue so that it cannot be passed, or its lumen becomes closed when it has reached the stomach, so that it is rendered useless for the purposes of syphonage. In this case the stiffer tube is to be used.

II. The emptying of the gastric contents.

(a) Solids and fluids. For this purpose the pump and the syphon are used. The pump is the ordinary one used for aspiration, and may be attached to the end of the flexible catheter. The chief disadvantage of its use is the danger of aspirating some of the gastric mucous membrane and tearing it off. It is, however, to be used when all the contents are to be removed unchanged for a chemical or microscopic examination, and in most cases of poisoning.

The simpler and easier method is the syphon, which must be at least two meters (six feet) long. The catheter is to be filled with water and passed in and then a tube of the same length and diameter may be attached to the outer end by means of a glass tube, and the lower end sunk below the epigastrium or to the ground, when the contents, such as will, may run out. Sometimes it will be necessary to let a little fluid run in, half a pint or less, in order to start the flow, or if a solid particle gets lodged, it must be dislodged by more fluid or the patient be made to cough, or the tube be removed, washed out and reinserted. A pint or a pint and a half may be needed, if much solid matter is present.

(b) If gas is present the tube must be passed in but 40 to 50 centimeters instead of 60 or 70, and the abdominal muscles brought into play either voluntarily or by kneading.

III. Irrigation of the stomach.

In most cases a simple washing out with fresh, cool water will suffice; in anæmic persons the water must be lukewarm.

The quantity is one pint to a quart, and it is to be allowed to run in and out until it returns clear. Or a solution of bicarbonate of soda, one drachm to the quart may be used if there be much mucus, or in cases of constipation sulphate of soda a drachm and a half to the quart of water. In some cases of chronic catarrh, alkaline waters, Carlsbad, Vichy, and so forth may be used with advantage, or the above mentioned solution of bicarbonate of soda, one to two per cent. or the same of sprudel salts. If the contents are very acid or fœtid, salicylate of soda, thirty to forty grains to the quart may be used to be followed by pure water. Resorcin one-half to three per cent. is rec-

⁵ Leube, Loc. cit.

⁶ Wiener Klinik., 1875.

⁷ When vaseline or oil is used, an unpleasant taste is left in the mouth.

ommended (the latter per cent. seems to me to be too strong). Carbolic acid is dangerous. Permanganate of potash in weak, violet-colored solution and boracic acid one to two per cent. are also good in cases of fermentation. In cases of severe pain, suspensions of bismuth subnitrate, an ounce to the pint, and allowed to remain for a time in the stomach so as to deposit a layer of bismuth or chloroform water (aquæ chloroformi of the "United States Pharmacopœa") diluted one-half may be used.⁸

The best time to wash out is before the chief meal in the day, or three or four hours after breakfast. Some persons whose sleep is apt to be disturbed by pain caused by food are better treated at night. The kind of disease and the result obtained determine the number of washings to be made. Sometimes severe inflammatory symptoms have appeared afterward, or great tenderness of the stomach or vomiting. These complications I have never seen. The treatment should end when the digestion is essentially benefited and the digestive power greater, and when no mucus or undigested food is brought out (naturally the washing must be four or five hours after taking food). Some cases require but a few washings, while others demand it daily the rest of their lives.

Unpleasant symptoms seldom occur. At first the procedure may be difficult, later it is not so. Spasm of the larynx has not been very rare, or slight faintness perhaps in a few cases. The gastric mucous membrane has been torn off sometimes, usually not accompanied by much pain or hæmorrhage. Considerable hæmorrhage may occur in gastric ulcer or phthisis, or heart disease, and prove a bar to the use of the sound.

Indications. (a) For diagnostic purposes. To determine the size of the stomach, differentiate the transverse colon, to get the contents for chemical or microscopic examination. (b) For therapeutic purposes. To remove injurious substances, either those taken in, or those which have undergone changes, and to treat the diseased mucous membrane, and lastly to increase the diminished contractility of the stomach. It is, therefore, used in poisoning, especially by alkalis, in acute and chronic catarrh, dilatation, ulcer, cardialgia, cancer with consecutive dilatation, and catarrh.

Contraindications. The existence of those diseases in which vomiting, if it be caused by the procedure, may prove harmful, proves a bar; as in hæmoptysis, in persons with atheromatous arteries, in those having a tendency to apoplexy, in aneurisms of the aorta and large vessels, in non compensatory heart lesions, in cases of weak or fatty heart, in advancing gastric ulcer or recent hæmatemesis.

By means of this method of treatment we may do a vast amount of good at times. Fortunately, it is the very persons who need most to be well in the quickest possible time, namely hospital and dispensary cases, who make the least objections to its use. In my experience, at least, the better class of patients, to whom the element of time in recovery is no object, view the procedure with distrust, apprehension and disgust. They prefer the longer and ordinary methods of treatment, and are constantly making future appointments for the operation and not fulfilling their part of the agreement when the appointed time arrives.

⁸ Dujardin-Beaumetz.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

HERBERT L. BURRELL, M.D., SECRETARY.

APRIL 30, 1887, the President, Dr. G. B. SHATTUCK, in the chair.

Dr. E. G. CUTLER read a paper on

THREE CASES OF DYSPESIA.¹

Dr. F. MINOT thought that dyspepsia was a less common disease now than formerly, owing to the improved hygienic condition of life, the better food and better cooking of the present time. The cases reported by Dr. Cutler might be divided into two kinds. The first two were examples of failure of nutrition consequent upon a chlorotic condition, as shown by the improvement following the administration of iron, and the careful regulation of the diet. The last case seemed to him to be one of chronic gastric catarrh, with abundant secretion of mucus, which by its alkaline reaction neutralizes the acidity of the gastric juice, besides enveloping the food and protecting it from the latter. It is this condition especially which leads to dilatation of the stomach, and fermentation of its contents. Dr. Minot had had no personal experience in irrigation of the stomach in these cases, but he believed it was by far the most effectual mode of treatment; the stomach is speedily relieved of the mass of fermenting material, together with the mucus, and the lining membrane can be subjected to appropriate local treatment.

Dr. F. C. SHATTUCK expressed his interest in the two first cases of the reader, cases which show well what can be done by intelligent and painstaking treatment. Both patients had been long sufferers, had been under the care of physicians, but had not been placed upon, or else had not been willing to undergo, treatment suitable to them until they came under Dr. Cutler's care.

But the third case is one for the report of which the Society should feel especially grateful to Dr. Cutler. The simple operation of washing out the stomach is one which has not received the favor and attention here in Boston which is its due. As was remarked by the reader, the procedure is repugnant to many people, especially those in comfortable circumstances, and members of this class generally prefer some more tedious method of treatment which has less disagreeable associations. Those who consent to try the tube find it less unpleasant than they expect, especially after they have used it several times. Some patients of the speaker have very soon learnt how to swallow the tube themselves.

Some years ago, when making a visit to St. Luke's Hospital in New York, with Dr. Kinnicutt, the speaker saw there several patients whose stomachs were being washed out. One was asked whether the process gave her any relief, and replied: "Oh, doctor, my stomach wants it every morning just as a baby does his bath."

The reader seemed to imply that the use of the tube is contraindicated in cases of tuberculosis in the stage of cavity formation, a view from which the speaker dissented. We are all familiar with Debove's treatment of phthisis by hyperalimentation, large

¹ See page 252.

quantities of nourishment being poured into the stomach through the œsophageal tube. In some cases of nervous dyspepsia and vomiting the speaker had obtained brilliant results by introducing the tube into the stomach and pouring down a quart of peptonized milk with raw eggs, once or twice a day. The stomach can often digest more food than it is possible to swallow in the ordinary way. A patient recently under treatment, a neurasthenic with pronounced gastric symptoms, could not be brought beyond a certain point under the ordinary methods; but gained greatly in all respects from the time that the use of the tube was begun, increasing seven pounds in weight in two weeks. Insane patients are not the only ones to whom the procedure is applicable.

DR. E. S. BOLAND said that in washing out the stomach, in four cases I have passed the flexible tube through the *nose*. Passed in this way the patient can speak, is less liable to gag or vomit, and there is no more, if as much, danger of entering the larynx as when the tube is passed by the mouth. The finger need not be used to guard the larynx; so, if the patient is unconscious (as in case of poisoning) obstinately suicidal or insane, its advantage is manifest, as resistance is impossible.

We are liable to forget the capacity of the nostril. In children under eight, a three-eighth, and in adults a five-eighth inch soft rubber tube is admitted in almost every nose. Occasionally one nostril, from deformity of the septum, will be too narrow, in which case the other will be found ample. In one insane patient I have passed the tube through the nostrils more than three hundred times in the course of three or four months, feeding without injury or special suffering. Entering by the nostril the distance to the stomach may be a trifle greater, but practically the exact estimate of the distance is seldom needed, as almost always a variable collection of gas or air is present in the summit of the gastric cavity. As soon as the eye of the tube reaches this, it escapes *audibly*, and we know the stomach has been entered. This may alarm a novice who fears he has got into the air passages, especially if, as sometimes occurs, air is alternately drawn in and expelled, owing, may be, to the patient's struggles or restraint of him by the nurse. In this connection might be mentioned the curious fact often seen in feeding insane patients whose digestive function is vigorous—namely, a vigorous suction action on the part of the stomach out of all ratio to the hydrostatic pressure.

DR. STUART stated that he had lately seen a German who had previously had his stomach washed out in Vienna, and learned to perform the operation upon himself. In Boston, in lieu of an Oser stomach-tube, he had taken a piece of ordinary rubber hose (such as is used on gas lamps) about five feet long, and had used it as a siphon for washing out his stomach. He not only inserted the tube unaided, but he would fill his stomach through the tube and siphon off the fluid with great dexterity. Dr. Stuart mentioned the case, thinking it suggested an expedient that might prove of value in an emergency.

DR. C. M. GREEN called attention to the value of the soft rubber catheter as a means of introducing nourishment directly into the stomach of premature infants too feeble to suck or perhaps to swallow sufficient nourishment when fed with a spoon. The method was devised by Tarnier and called by him

"gavage."² A No. 18 catheter (French scale) is passed about six inches down the œsophagus; the nutrient fluid, preferably breast milk, is introduced by means of a small glass funnel, and flows into the stomach by its own weight. Of course, suitable measures must also be adopted to maintain the bodily heat. By the combined use of gavage and the couveuse, or hot air cradle, Tarnier has saved infants born soon after the sixth lunar month.

DR. BLODGETT stated that an accident of peculiar character had been brought to his notice by a practitioner well known to the members of this Society, in which one of the dangers attending the passage of anything in the shape of a stomach-tube were illustrated. The patient was a woman, who was in a state of great prostration from an exhausting disease. In view of possible collapse, the physician had directed the administration of an enema of broth.

The nurse misunderstood both the direction of the physician, and that in which the broth was intended to go, and in her desire to relieve the patient, she introduced the point of the syringe into the mouth of the patient, passed it into the throat, and presumably into the glottis, and succeeded in drowning the patient with the broth which was intended for an injection.

DR. CUTLER said, in answer to Dr. F. C. Shattuck, that he should have specified more exactly the contraindications in phthisis which was where there was advanced disease with laryngeal complications. In the earlier stages or where there was no throat symptoms he sometimes used the tube to convey food as suggested.

In answer to another gentleman who referred to the use of gas tubing, he would state that this very kind of tubing was the sort originally suggested as best fitted to use in catheterizing the stomach.

DR. JOHN HOMANS, 2d, showed a fibroid tumor of the uterus, weighing twelve pounds, which was removed the day before by Dr. John Homans. The patient was between thirty-five and forty years of age, and had suffered intensely with pain and the discomfort of the weight of the tumor. There had been frequent and considerable hæmorrhages; a year ago the uterine cavity had been scraped out by some practitioners; this had been followed by severe hæmorrhage and collapse which nearly proved fatal. The abdominal incision extended from two inches above the umbilicus to the pubes, and the stump was eured extraperitoneally, and touched with the per-chloride of iron. The condition of the patient on the day following the operation was, temperature 100° and pulse 90 to 100.

DR. B. F. DAVENPORT said, probably most of us have noticed in many of to-day's journals published in this city, the striking profile trade-mark of "Kaskine," the new quinine, as its manufacturers, the Kaskine Company of New York City style it. The pamphlet which accompanies the preparation says that it is a non-toxic phenol, prepared from pure bitumen, and that it is a non-secret medicine, entirely free from poison, which "entirely does away with the use of that terrible destructive drug, quinine." It further says that "though not vermin-covered, humanity is often, alas, vermin-lined," and that "until the recent great scientific discovery there was no known medi-

² For a full description of this method see the Amer. Jour. of Med. Sciences, January, 1886, or Vol. exiv., No. 8, page 174 of this Journal.

cine that could reach and destroy these germs; but the power which the hound has in scenting footsteps which no human skill, can detect is the power possessed by Kaskine," and that "under its influence there can be no diseased conditions."

Such are its modest claims, yet a short time ago I had occasion to examine the preparation chemically with the following results: The sugar pellets averaged a little less than one grain in weight, and one hundred of them contained together about one-twelfth grain of quinine, about one sixtieth of arsenic, and a trace of carbohc acid. And I was told that by taking a whole bottle full of them at a time for the single test one could also find in them a trace of corrosive sublimate. Thus all four of the active antiseptics claimed for the preparation by its manufacturers are accounted for, and each can draw his own conclusions as to whether their claims for its great medicinal virtue are likely to be true.

The PRESIDENT said that Kaskine had been put on the market some two years ago, and that it had been endorsed on the tradesman's circular by the names of a number of prominent New York practitioners. Certain charts were appended as showing the antipyretic action of the drug, and these charts purported to come from Bellevue Hospital. Sometime ago there was a communication published in the *Boston Medical and Surgical Journal*, to which he would refer those who cared to look up the subject.

AMERICAN DERMATOLOGICAL ASSOCIATION.¹

ELEVENTH ANNUAL MEETING.

AFTERNOON SESSION.

CLINICAL NOTES ON PRURITUS,

by DR. L. D. BULKLEY, of New York.

Pruritus or itching, is an extremely common symptom resulting from various causes, many of which are recognizable. There are a certain number of cases in which the pruritus appears without apparent cause. It was only this last group of cases that were considered. In the present state of knowledge, it is not possible to determine the exact lesion in these cases. Pruritus may be defined as a functional disturbance of the nerve elements of the skin, resulting in itching not dependent upon local irritation or local lesion. Out of a total of 5,000 cases of general skin diseases, the author had records of eighty cases of pruritus, a proportion of about 1.75 per cent. Thirty of the patients were females and fifty males. In the majority of cases there was some chronic disease, such as gout, albuminuria and chronic bronchitis, or marked evidences of lowered general vitality. The cases were classed under the following heads, according to frequency, pruritus hiemalis, pruritus genitalis, pruritus ani, pruritus vulvæ, pruritus scroti and pruritus senilis. In quite a number of instances the pruritus proved rebellious to treatment.

Temporary benefit was obtained in some cases, while in others no relief resulted from treatment. The author was of the opinion that in many cases the condition resulted from reflex irritation.

In connection with this subject the author referred to 115 personal observations which he had made.

These consisted in the production, either accidentally or intentionally, of a point of irritation in some part of the body and in noting the point at which itching was experienced. The observations were made with the object of determining whether or not there were crossed reflexes. The reflex sensations cannot be induced at will, but seem to be more readily brought about when the body is fatigued; eighty-four of the observations related to the right side of the body, while thirty-one related to the left. In all but three instances, the reflex occurred on the same side as the point of irritation. These three exceptions were as follows: irritation on inside of right knee followed by reflex itching felt over the left scapula; irritation of the right thigh, four inches above the knee, produced reflex sensation of itching at the insertion of the left deltoid; irritation of the left heel followed by reflex itching over the right side of the pubes. Irritation in the same locality will frequently on different occasions produce reflexes in entirely different localities. The results have been so varied that it is impossible to classify them in definite groups. The author offered these notes as a slight contribution which might stimulate to renewed energy in the study of pruritus, with the view of determining the causes of its occurrence and of its obstinacy.

CLINICAL NOTES ON PEDICULOSIS.

by DR. F. B. GREENOUGH, of Boston.

The speaker had been induced to examine this subject on account of the fact that the statistics of the Association had shown that there was a greater proportion of cases of pediculosis reported from Boston than from any other city. He had found, taking the statistics for nine years, that the proportion of cases of pediculosis to the total number of cases of disease of the skin was, in Boston 5.5 per cent.; in New York 3 per cent.; in Philadelphia 3.33 per cent.; in Baltimore, 2.12 per cent.; St. Louis, 1.5 per cent.; in Chicago 3 per cent.; and in Canada 0.3 per cent. In 1884, New York reported, out of a total of 2,737 cases of skin disease, no cases of pediculosis of the head. During the same year the number of cases of pediculosis pubis reported from Chicago equal that reported from all of the other cities. The only explanation of this fact that can be offered is that the difference is more in observers, than in the number of cases of the affection. An observer in one city may put under the head of eczema capitis, a case which would be considered in Boston as one of pediculosis capitis. There are three different forms of pediculi, the pediculus capitis, the pediculus corporis, and the pediculus pubis. Thus pediculi are rarely seen except in their own locality. The presence of pediculi capitis in large numbers causes cutaneous trouble. So far as the efflorescence goes, the eczema thus induced is identical with that due to other causes, but the distribution and other conditions make the diagnosis easy. The speaker had only in one instance noted the pediculus corporis on the skin, and he thought it possible that they may feed without leaving the clothing.

DISCUSSION.

DR. L. H. DUHRING, of Philadelphia. My experience with a certain number of cases of pediculi vestimentorum is that they do leave the clothing, and I have seen them feeding upon the skin.

DR. J. C. WHITE, of Boston. In regard to diag-

¹ Continued from page 234.

nosis, I have seen cases in which I have been able to make the diagnosis without looking at the head. In children where there is an eczematous eruption in certain respect resembling impetigo contagiosum, located around the orifice of the mouth, the nostrils and the lobes of the ear, I make the diagnosis of pediculosis of the scalp.

Another practical point is that pubic lice do not always confine themselves to one locality, but may be found in different parts of the body. Careful examination will show them that not only in the axilla but also on the lower extremity. In one case, that of a child, I found the pubic lice in the hair of the head. If the treatment is limited to the pubic region the result may be unsatisfactory.

In the treatment of pediculosis of the pubic region and of the head I always use crude petroleum. This does not produce the slightest irritation upon the most inflamed surface. It should be allowed to remain in contact with the hair for two or three hours.

DR. P. G. UNNA, of Hamburg. In Vienna it is the custom to consider every case of pustular eczema of the head and scalp as due to pediculi, without making any further examination. This is, I think, a mistake. Although pediculi may be present in these cases they may only be secondary manifestations, resulting from the good feeding-ground furnished by the diseased skin.

DR. J. N. HYDE, of Chicago. The great predominance of cases of pediculosis pubis, in Chicago, which has been referred to by Dr. Greenough, may perhaps be explained by the fact that during the winter season when navigation is closed, many seamen congregate there. During the summer these men have been engaged along the coast and have indulged in all kinds of debauchery. They come under observation often in a very filthy condition, suffering with syphilis, pediculi and blenorrrhagia.

DR. L. D. BULKLEY, of New York. I have heard no reference to a little lesion made by the pediculus corporis, to which attention has been directed by Dr. Tilbury Fox, and one which he considers of diagnostic value. This is a little hæmorrhagic spot resulting from the insertion of the proboscis of the pediculus into a follicle of the skin during the process of feeding. I should like to know if any of the members have put any trust in this as a diagnostic sign?

The President, DR. H. G. PIFFARD, of New York. A number of years ago I collected several pediculi vestimentorum and watched the process of feeding. I was able to verify the statement of Dr. Tilbury Fox. The proboscis of the pediculus corporis is not a cutting instrument, but is apparently inserted into a cutaneous follicle. After its removal, a minute droplet of blood will appear, which after a few hours becomes black. This sign is often of considerable value in diagnosis. In the treatment of this affection crude petroleum seems preferable to kerosene, which is sometimes used. I know of two cases in which the use of kerosene produced a violent dermatitis. Crude petroleum is less irritating to the skin, and is to be preferred in the treatment of pediculosis.

DR. J. C. WHITE, of Boston, read a paper entitled

AN INTRODUCTION TO THE STUDY OF THE INFLUENCE OF DIET IN THE CAUSATION AND TREATMENT OF SKIN DISEASES,

in which he spoke of the unfounded prejudices which

exist in the public mind against certain harmless articles of food, and of the unproven opinions held by the profession upon the same subject. He pointed out the fallacious character of the evidence upon which many of these views were based, and described what seemed to him to be the proper methods of studying the subject. In conclusion, he enumerated the few substances which in his experience could be held as causative of disturbances of the skin when eaten.

DISCUSSION.

DR. J. N. HYDE, of Chicago. I can agree with the reader in regard to most of the articles of food mentioned. I should, however, put oatmeal in the list of foods which occasionally produce cutaneous trouble. I have seen one case in which an eruption on the face was always produced by the ingestion of this article even when used without the addition of anything else. I have in several cases thought that urticaria had been induced by the use of the Natal or seedless orange. Where urticaria follows the use of the grape, I think that it is principally due to the fact that the seeds and skin of the grape are also swallowed.

DR. E. B. BRONSON, of New York. While these articles of diet may have no specific effect on the production and course of skin affections, they may act in a reflex manner by causing disorders of the digestion. Many of them probably owe their effect to the fact that they are unaccustomed articles. Newly arrived emigrants frequently suffer from erythema and urticaria; this is especially true for emigrants from Ireland. This I have attributed to the radical change made in the diet, and have had good results by ordering the patient to return to his former diet, consisting largely of potatoes.

DR. E. WIGGLESWORTH, of Boston. I think that with oatmeal the effect depends largely on the size of the grain and the method of cooking. If not thoroughly softened, it may cause irritation of the mucous lining of the stomach and bowels, and induce urticaria, which as a result of scratching may pass into secondary eczema. It seems to me that salt air has some injurious effect in cases of eczema. My patients with eczema do better in the mountains than at the sea-shore. In the case of acne it is the reverse. Such patients are usually benefited by the sea-air.

DR. G. H. ROHÉ, of Baltimore. There seems to be no doubt that certain articles of diet, such as crabs and oysters, affect the skin more frequently than others, and yet I know of so articles so readily digested as oysters. The fact that they are unaccustomed articles of food may explain their effects to a certain extent; I have seen pruritus induced, as I supposed, by the use of buckwheat.

DR. P. G. UNNA, of Hamburg. In my private hospital I allow a liberal diet, and I rarely find it necessary to impose any restriction. I make it a point, by close questioning, to find out what articles seem to exert an unfavorable influence upon the condition of the patient, and then direct that they be avoided. I have seen urticaria produced by strawberries in cases where the berry has not been swallowed, but simply placed in the mouth.

DR. L. D. BULKLEY, of New York. I have more than one patient who cannot take raspberries without having urticaria. In some cases pineapples have a similar effect. Personally, I pay a good deal of at-

tention to the diet. Milk has not been referred to. I see many patients in whom injurious effects have followed the use of milk with the meals. If taken between meals it produces no injury. I have found that almost every case of acne is aggravated by soup taken with the food.

DR. LE GRAND N. DENSLOW, of St. Paul. I think that in this connection the quantity of food taken is of importance. Many people who do not lead active lives eat too much, and I have found it of advantage in certain cases to restrict the patient to one meal a day, allowing him, however, to eat all that he wants at this time. I would add to the injurious articles already mentioned, pork, veal, and anything fried.

(To be continued.)

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

GENERAL SESSIONS.¹

FOURTH DAY. — THURSDAY, SEPTEMBER 8TH.

On the day of the meeting, the General Session was called to order by the President, who announced the Committee of seventeen to determine the place and time of the next session, the Committee organizing with Dr. Semmola, of Naples, as Chairman, and Dr. Assiky, of Bucharest, Secretary.

The Congress then adopted a resolution recommending the coöperative investigation of the results of yellow-fever inoculations as a preventive of that disease, in pursuance of the experiments of Dr. Domingo Freire, of Brazil.

The Congress then adopted a resolution commendatory of the proposed celebration, in 1892, of the discovery of America by Columbus.

DR. MARTIN, of Berlin, was then called to the chair, and DR. P. G. UNNA, of Hamburg, then delivered, in German, an address upon

THE RELATIONS OF DERMATOLOGY TO GENERAL MEDICINE.

Dr. Unna's audience was not large, being confined mostly to Germans and those who could understand German. This paper embodied a plea for the more thorough study of skin diseases, and set forth with great force the importance of a wider spread of knowledge of the subject. He described with elaboration the difficulties which beset the path to a complete understanding of this subject, and the measures of success which had resulted from recent experimentation. He ended with a recommendation for the establishment of a central institute, where noted scientists may work together, and where all means and methods of study may be considered. This would, he believed, raise dermatology to the rank of one of our most important specialties in medicine, and would contribute largely to the progress of knowledge in all branches of medicine. He expressed the hope that the United States, always so liberal for the promotion of science, would be the first to develop this idea.

FIFTH DAY. — FRIDAY, SEPTEMBER 9TH.

A fair-sized audience gathered in the Opera House on Friday, the last working day of the Congress.

In accordance with the report of the Committee

appointed the day before, Berlin and 1890 were selected as the place and time of the meeting of the next Congress. This was supposed to have been settled in Copenhagen three years ago, and by the same token, it may be assumed that St. Petersburg will claim the prize in six years from now.

DR. DAVIS then yielded the chair to DR. J. D. PHILLIPS, of London, and DR. G. FIELDING BLANDFORD, of London, proceeded to deliver a paper upon

THE TREATMENT OF RECENT CASES OF INSANITY IN ASYLUMS AND PRIVATE HOUSES,

which had been originally prepared for one of the Sections. It was descriptive of various typical cases of mania or dementia met with in the practice of physicians, and suggested modes of treatment. He described many cases of mania that could be treated successfully at home, if the family was willing to defray the cost. But nine cases out of ten, he said, should be removed to a more suitable place. Dr. Blandford remarked that to harness a patient to a bedstead by his wrists and ankles was not treatment, though, unfortunately, even in this day, such practices were occasionally met with. He spoke of the reluctance that was felt by relatives of persons needing treatment to sending such to an asylum.

The non-asylum treatment of persons suffering from depression and melancholia, he said, has generally been tried before the services of the specialist are called in. Asylum treatment was necessary in most cases of suicidal patients, though, as shown by the report of the English commissioners of lunacy, confinement in an asylum did not always prevent suicide. Melancholia was the most tedious of all curable forms of insanity, because weeks and months were often required. So the question of expense came in in the cases of poor patients. To properly care for them at home would involve great expense. Then, to keep them in their old surroundings, was likely to aggravate the malady. The exaggerated egoism was a noticeable feature of such cases. At home, where they were the centre of attention, this was encouraged. In an asylum, where the patient became one of many, where he sat at the table with twenty or more others, and no one seemed to care whether he refused his food or not, it was different. The best treatment in many such cases, Dr. Blandford said, was what he called judicious neglect.

CLOSING SESSION. — SEPTEMBER 10TH.

A moderate audience assembled Saturday morning. The proceedings consisted of speeches by foreign delegates, who lauded the various committees of arrangement for the success of the Congress, and expressed their gratification at the hospitality received from the citizens of Washington, the President of the United States, and the Government officials. Surgeon-General Hamilton responded. He said the success of the Congress was due to the presence of the foreign doctors.

President Davis then made a few remarks, declaring this the greatest medical congress ever held, thanking the officers and delegates for their courtesy to the chair, and expressing his hope to meet many of the present delegates at the Berlin Congress.

Shortly after ten o'clock, President Davis declared the Congress adjourned *sine die*.

Most of the delegates then took the steamboat for Mount Vernon.

¹ Continued from page 235.

On the return from Mount Vernon, the foreign delegates were taken by special train to Niagara Falls, whence they were brought back Tuesday.

Wednesday evening there was no especial form of entertainment for the members of the Congress, outside of several private receptions. On Thursday evening occurred the great social event of the week, the "Reception by the Citizens of Washington," at the United States Pension Hall. Tickets to this were issued to the members of the Congress when they registered, but, on account of the goings-on at the gathering on Monday night, emphasized by the somewhat parallel scenes at the White House the next evening, all these tickets were cancelled, and new ones had to be obtained upon exhibition of each delegate's badge and certificate. The *Washington Post* thus speaks of Monday night's affair: "A humiliating experience was the presence of people whose appearance was not such as to give a flattering opinion to foreigners of American society customs. By some failure to comprehend the instructions given to those in immediate charge, gamins from the sidewalks, and laborers in their working-clothes, made their way in with those invited to greet and honor the visitors. A few creatures stalked about the great hall, wearing straw or slouch hats, and smoking cheap cigars, as at a country fair. The unwashed were few in number, in comparison with the better bred, but were all the more conspicuous."

The arrangements for this second gathering were far more successful, though it was a great bother to get the requisite new ticket. The foreigners were taken in by a side door, and, although there was a great crowd, there was plenty of room, no objectionable persons, and a few pretty dresses. The hall, itself a grand room, was handsomely decorated with bunting, and lit with both gas and electricity. More or less of those present were introduced to the officers of the Congress and some of the foreign guests, and the Marine Band played for the rest to promenade. A space at the lower end of the hall was screened off, and tables set around the three sides, behind which stood a corps of waiters. When the screens were removed, there was a mad rush for the tables, and, for the first hour, there was an animated struggle for provisions, men standing up to the tables six deep, the rear ranks vying with the front in the endeavor to get or deposit dishes. American champagne flowed freely, and there was enough to feed all. The menu was very handsome, and made a beautiful souvenir.

SECTION OF GENERAL MEDICINE.¹

WEDNESDAY, SEPTEMBER 7TH.

Wednesday afternoon's session attracted from fifty to sixty attendants.

The first paper was by Dr. JOHN A. OUCHTERLONY, of Louisville, Ky., upon,

THE NATURAL HISTORY OF DISEASE.

Diseases, he said, are natural, though not normal, conditions. Nature is more powerful to cure than we admit in theory even, and much less in practice. Our knowledge of the natural history of disease is yet limited and we are prone to regard our treatment as potent. Our knowledge of familiar diseases has been completely altered in recent years, as, for example,

the microbigenesis of phthisis and pneumonia. And yet, too, even in this Congress, the proved theories in regard to the pathogenesis of these diseases have been denied and derided. The cause of such wide diversity of opinion is to be found in our ignorance of the natural history of disease. Knowledge can be gained only by the concurrence of a large number of observers. Could we leave to themselves a large number of patients, we could judge of the natural history of their maladies. The plan is difficult of application, but the immense benefit should outweigh all objections. We treat hospital patients with drugs little, if at all, known. The nature that inflicts disease is likely to cure it. There are authentic instances of the spontaneous cure of even tuberculosis and cancer. The tendency to a spontaneous cure in acute cases is well known. The *vis medicatrix naturæ* is a living reality since under inert drugs recoveries so often occur. And recoveries take place from the same disease under exactly opposite treatment. Even in the hands of the ignorant and quacks patients often get well. In view of these facts, it would be perfectly justifiable to leave certain patients to themselves to observe the course of their maladies. Not all could be thus left; but even in private practice opportunities will occur, and it could well be done at hospitals. Especially should the teaching of the day be directed to encourage students to observe the natural history of disease.

The paper provoked a little discussion, and a remark by Dr. SCOTT, that the man who keeps up to the times in therapeutics is a good physician, and that he himself had faith in medicine, evoked applause.

Dr. T. D. CROTHERS, Secretary of the American Association for the Cure of Inebriety, then read a paper upon,

THE DISEASE OF INEBRIETY AND ITS TREATMENT.

Inebriety, he said, had been lately recognized as a disease, controlled by certain laws. Heredity, shocks, structural changes in nerve centers, unstable cerebral organization, certain diseases are all related causally. The craving for spirits is not the disease, but a symptom of it. The diseased nerve centres crave something in the shape of a narcotic, which craving, alcohol best supplies. The nervous degenerations may be central or not. The intervals between the paroxysms may be definite or variable. The phenomena of the paroxysms suggest the nerve storms of epileptics. The mental state is variable. Inebriety in America is becoming more marked in mental phenomena, more often concealed by the patient, more often ends in organic disease. It is on the increase in this country, while the moderate drinkers are decreasing. There is an ebb-and-flow movement in the amount of inebriety. Temperance agitators have a similar wave-like movement. The agitation for the cure of inebriety is increasing. Moral means, prohibition, educational methods have been tried and found ineffectual. Every inebriate sent to jail is more unfitted for temperate living. He suffers from cerebral anemia, and needs better food and other influence than that of the jail. All the efforts of church, State and society are merely increasing the number of inebriates. And yet inebriety is a curable and preventable disease. Inebriates should be quarantined and treated like the insane, since they are insane. This could best be done in workhouse hospitals of different sorts for different classes of cases, whence those who had apparently re-

¹ Continued from page 239.

covered should be released on parole. Their practical success is demonstrated by the results of even such inebriate hospitals as there are, of whose cases twenty per cent. are cured.

A discussion followed, in which the relative merits of close confinement and religious influences as methods of treatment occupied a prominent place.

DR. W. R. CISNA, of Pennsylvania, produced a paper upon

TYPHOID FEVER.

After discussing the differential diagnosis, he considered the course of the disease, advised the expectant treatment, and laid stress upon the careful management of convalescents.

THURSDAY, SEPTEMBER 8TH.

An audience of forty or fifty people met Thursday morning and listened to a paper by DR. EPHRAIM CUTTER, of New York, upon

THE MORPHOLOGY OF RHEUMATIC BLOOD.

Dr. Cutter claimed to have found in the blood of rheumatic patients certain crystalline and other formations, illustrations of which, enlarged from microscopic views, were exhibited by a lantern.

DR. MARIANO SEMMOLA, of Naples, then read, in French, a paper upon the

PATHOLOGY OF ALBUMINURIA.

He further evolved his well-known views, as stated in previous publications, and further illustrated them by the results of recent laboratory and clinical observations made at Naples.

DR. R. SINGLETON SMITH, of Bristol, England, then presented a paper upon

INTER-PULMONARY INJECTIONS IN THE TREATMENT OF PHTHISIS,

taking the ground that they were of some value and should be tried when other means had failed. He also alluded to the Bergeon method of gaseous enemata, denying its usefulness.

Each of these papers were succeeded by a brief discussion of the point involved.

THURSDAY AFTERNOON.

The feature of Thursday afternoon, and, in fact, of the whole session of the Medical Section, was a paper upon

DIABETES,

by DR. F. W. PAVY, of London, Eng., the well-known authority upon dietetics, which attracted an audience of a hundred and fifty, and was greeted by warm applause at its close. After an apology for the necessary incompleteness of his extempore address, Dr. Pavy went on to say that diabetes has always been considered an inscrutable disease, but that its nature may be expressed in precise terms, without entering upon theoretical questions, as a faulty disposal or assimilation of certain elements of food. Food may be divided into three classes: nitrogenous, fatty, and the carbohydrates; and it is the latter group, without distinction between its members, that is the subject of faulty disposal in diabetes. In health an ingested carbohydrate is lost sight of, and we may assume it is transformed for utilization by the economy. In diabetes it is eliminated as sugar and in proportion to the carbohydrate ingested. The sugar reaches the

general circulation in a way it ought not to. In health there is but a faint trace in the general circulation, so that the ingested carbohydrate is stopped on its way, while in diabetes it exists in large quantities in the general circulation, whence it is removed by the kidneys. And the proportion in the urine is the proportion in the blood. Why it gets into the blood is the essential question. The liver is the assimilative organ and stays the carbohydrate in its progress. People who eat much of the carbohydrates grow fat, as do the lower animals when fed on them. So that the liver seems to be really rather a steatogenetic than a glycogenetic organ. The carbohydrate, changed first into glycogen and then into fat, passes away from oxidation rather than towards it. In diabetes there goes on a faulty chemical process in the liver and a wrong condition of the blood of the portal vein. The liver has a comparatively small supply of arterial blood, but a large supply of venous blood. When it does not have good venous blood, there is sugar in the urine, as shown by injecting arterial blood into the portal vein, or when the blood of the system is over-oxidized as shown by the respiration of oxygen or carrying on respiration to excess. To produce a similar condition, we need only a vaso-motor paralysis of the vessels of the chylipoietic viscera. If the arteries of the abdominal viscera are dilated and allow the passage of more blood than can be de-arterialized, then the portal vein gets imperfect venous blood, and this permits the carbohydrates, charged with glycogen, to pass through the liver into the general circulation. The vaso-motor paralysis may extend beyond the chylipoietic viscera. For example, the worst forms of diabetes in the speaker's practice were those accompanied by an intense redness of the mouth, tongue, etc. It is well known that puncture of the floor of the fourth ventricle causes glycosuria in the same way, as does also vision of the sympathetic. In the speaker's opinion, diabetes was a disease of a neurotic nature, as he had found that nerve conditions, as well as food, influenced the patient, and nerve conditions might affect the chylipoietic viscera.

Difference of opinion as to diagnosis, depends sometimes on the relation of glycosuria to diet, and sometimes upon error in the test. The best test is with copper, but Fehling's solution is liable to get bad from keeping, and the potash fixes the stopper in the bottle. Its ingredients (copper, Rochelle salt, and potash), can be made, however, in an anhydrous form in a pellet and used just like the solution. In a well-stoppered bottle they keep forever, and if moisture does affect them, they get so bad and black as to be evidently useless. But we are still in the dark unless we know the amount of sugar. One needs two specimens, one of the urine passed on retiring at night, and one on rising in the morning. These will enable us to detect errors of diet, even the meal at which carbohydrates were taken, and sometimes even call attention to unconscious mistakes in diet. For example, blanc mange, properly made with gelatine and cream, has caused glycosuria by being made of corn starch. The quantitative estimation needs to be easily and accurately done, and the ordinary means, by Fehling's solution, can be greatly improved upon by making an ammoniated solution, which permits the reduction but not the precipitation of the copper. Therefore, the exact moment when the blue cupric solution is decolorized can be plainly seen, not being obscured, as in

the ordinary method, by the precipitated suboxide. Sometimes albuminuria is present. At first it may be considerable, but under the dietetic treatment, usually disappears. This suggests a test for albumen. The most convenient one consists of two pellets, one of citric acid and the other of ferrocyanide of sodium. Dissolve the citric acid in the suspected liquid and there may be a precipitate (usually uric acid), which disappears on dilution. Then dissolve the ferrocyanide pellet, and there is a precipitate if albumen is present. Nothing else is needed; the test is very delicate, and the precipitate is caused by nothing else but albumen.

There are many grades of the disease, varying in intensity. A healthy person, fasting, may consume an excess of carbohydrates and then have glycosuria. The first step in the diabetic process occurs when the assimilative powers are a little below par; it may reach a state where sugar is excreted without the ingestion of any food, sugar being formed from the body itself. The severest cases are in the young. The older the patient, the better the prognosis. No disease of the young is graver. The speaker never knew a young diabetic recover. The ordinary duration in a young person is two years. In the middle-aged or the old, it is their own fault if they go wrong. It is common from forty to sixty, which was the age in fifty-five per cent. of the speaker's 1360 cases. It may go on for some time unrecognized, which is shown by the presence on cast-off clothing of the white spots diabetic urine leaves. It runs in families in a marked manner. The speaker instanced a case where four out of five children had it, the mother and grandmother having died with it. In elderly diabetic patients there are often pains in the legs, more or less ataxia, hyperæsthesia, and paræsthesia of the skin, tender flesh, aching bones,—apparently a peripheral neuritis.

In the young, the progress of the disease can merely be stayed. There is no cure. There may be under treatment great temporary improvement, but the disease is progressive nevertheless. The sugar, if for awhile absent, reappears and goes on increasing. The thirst and polyuria may even yet be checked, but the disease goes on, something throws the patient off his balance, and he dies with diabetic coma. It is quite different, however, after the middle period of life. Here there are two points to be looked to—not to feed the disease, and to convert the wrong assimilative action into the right one. The regulation of the diet is an absolute necessity. This is easy enough in some ways, but hard in others. Any animal food will do, meat, fish, game, eggs, butter, cheese, milk sparingly. As to bread,—brown bread, usually has plenty of starch; gluten bread may be palatable, but is apt to be largely starch. Probably bread made from almonds which contain only seven to eight per cent. of carbohydrates and fifty per cent. of fat, is the best. To alter the assimilative functions, nothing seems so good as some form of opium, morphia or codeia. The speaker used them and believed them to have a restraining influence upon the disease. After a few months of freedom from glycosuria, the speaker allowed patients two ounces of bread per diem. If this were well borne, after a while he increased it to three ounces, then to four and one-half, then to six, and then, after a longer interval, they often returned to ordinary diet, and had no glycosuria. Sometimes, however, with the restoration of bread, the glycosuria re-

turned. It is to be remembered that the diabetic patient has an aptitude for any disease. If his condition is neglected, life is gradually sapped.

In reply to questions, Dr. Pavy said that Jews had a peculiar predisposition to diabetes. It was more common among them, and more amenable to treatment. He was not a believer in acetonaemia. Bromide of arsenic had no value except while it was being given. Ten or twelve months was the age of the youngest diabetic he had ever seen.

The next paper upon

THE ETIOLOGY OF PHTHISIS

by DR. C. D. F. PHILLIPS, of Edinburgh, was read by DR. STOCKMANN, of Edinburgh.

From the writer's experiments with a substance extracted from the sputa of phthisical patients, he had been led to believe that the disease was due primarily to the bacillus tuberculosis, which produced a ptomaine, and that this caused the sweating, fever, and other symptoms of phthisis. In his experiments this appeared to be antagonized by atropine, which explained the therapeutic value of the latter in phthisis.

This was followed by a paper entitled

SOME CONSIDERATIONS UPON THE PATHOGENESIS OF DISEASES OF WOMEN,

by DR. W. B. NEFTTEL, of New York.

Experiments by the author upon animals, suggested that compression of the chest might induce death by arterial anemia and venous stasis, but not by tuberculosis.

FRIDAY, SEPTEMBER 9TH.

Friday morning a moderate sized audience was present.

DR. GEORGE E. STUBBS, of Philadelphia, presented a paper upon

THE RATIONAL TREATMENT OF DISEASES OF THE RESPIRATORY APPARATUS,

in which, after a consideration of the anatomical structure of the lungs, he went on to consider phthisis more in detail, advising the treatment by counter-irritation, tonics, expectorants, cod-liver oil, or cream, and atomized inhalations.

DR. EGE, of Reading, Penn., in the discussion detailed his method of treating pulmonary tuberculosis, which consists in the deep inhalation of an atomized solution consisting of the white of egg and water, allowed to stand for some days. The microbes developed in the egg solution were supposed in some way to influence the bacillus tuberculosis. Under its use the cough grows looser, and the symptoms of phthisis decline. The bacilli of tubercle at first increase and then decrease to *nil*, when a cure is effected. The solution may be called an impure cultivation of the bacterium termo.

The next paper was by SIR JAMES GRANT, of Ottawa, Canada, upon

DIPHTHERIA.

He had seen, in Canada, two classes of this disease, one simple, and the other so malignant that the internal carotid artery even sloughed, and the patient died of hæmorrhage. He considered it a blood-disease, and that the essential thing in treatment was to determine the poison from the throat. To do this, he gave

daily mustard-baths, and, under this method, had had sixty-three recover out of sixty-five, one dying from tracheal diphtheria, and one from cardiac paralysis. He drew especial attention to the danger from a weak heart in the later stages.

FRIDAY AFTERNOON.

The closing session of the Medical Section was held Friday afternoon, with a good attendance. The Section adopted the report of a Committee appointed to examine into Keller's statistics on vaccination in Hungary, denying their claim to repute, and endorsing Korosi's position in regard to them.

In default of expected material, DR. ABRAM ARNOLD, President of the Section, came to the rescue with a paper upon

FATTY AND DILATED HEART.

After a consideration of the pathology and symptoms of weak heart, he passed on to its treatment. Digitalis answered well for a while, and, when that failed, strychnine, in his hands, had proved of great value in large doses, even up to one-tenth of a grain, given three times daily. He believed the new treatment of exercise was founded on rational principles.

DR. G. E. FELL, of Buffalo, N. Y., then read the final paper, upon

FORCED ARTIFICIAL RESPIRATION IN OPIUM-POISONING,

founded upon a recent case in his practice, where, by tracheotomy and forced respiration by means of the machines used in physiological laboratories for artificial respiration in narcotized animals, he had resuscitated a man apparently in *articulo mortis*, after all other means had been tried. The patient had taken from fifteen to twenty grains of morphine, the respirations had come down to one per minute, the pulse could just be detected, cyanosis had appeared, and the pupils were widely dilated.

This was succeeded by discussion and final adjournment.

SECTION ON GENERAL SURGERY.¹

TUESDAY, SECOND DAY—MORNING SESSION.

The first paper read was entitled

A NEW FORM OF ABDOMINAL SUPPORTER,

by DR. FELIX DEBAKER, of Roubaux, France.

This supporter differs from most others in being thickly padded. It receives its support from behind and encircles the abdomen, grasping it as a hand. It sustains the intestines which tend to bear down upon the uterus. It gives relief to the lateral ligaments which have been stretched during pregnancy. It supports the muscle and skin over-distended during pregnancy.

THREE HUNDRED AND EIGHTY-FOUR LAPAROTOMIES FOR VARIOUS DISEASES,

by DR. JOHN HOMANS, of Boston.

The author confined himself wholly to his own experience. Of the 384 laparotomies, 282 were ovari-otomies; 27 removal of uterine tumors; 19 simple exploratory laparotomies; 15 laparotomy and stitching the ovarian cyst to the skin; 5 removal of uterine appendages, for fibro-myoma; 5 removal of uterine appendages, for nervous diseases; 1 pyosalpinx; 1 tubo-

ovarian; 1 abdominal abscess; 2 removal of immense lipoma; 4 intestinal obstruction; 3 renal tumor; 1 perityphilitic abscess.

The general method of operating is as follows. The sponges are prepared by soaking in 1-1000 corrosive-sublimate solution. They are then wrung out dry by an ordinary wringing machine. They are then kept in a 1-20 carbolic solution. The carbolic spray is always used, although it was considered unnecessary. An electric light is always kept in readiness.

Of the first five unantiseptic operations all the patients died. Of the antiseptic operations 248 recovered, and 34 have died. The vitality or viability of the patient has much to do with the result of the operation. The usual causes of death have been peritonitis or septicæmia. He was sceptical about the occurrence of mechanical intestinal obstruction, except as the intestines are paralyzed by peritonitis. Two cases in which the bladder was wounded during ovariectomy, recovered and are living, two and six years respectively after the operation. In both cases the opening in the bladder was closed with silk sutures. Of the recoveries, nine patients died of abdominal cancer a few months or years after recovery, and thirty have ventral hernia. Fifteen children have been born to eleven women out of about two hundred heard from. The sexes do not correspond to the ovary remaining.

The usual length of the incision is about two inches. The stump is always tied, burned, and dropped back. Silk sutures are used, and care is taken to include all the abdominal parietes, particularly the transversalis fascia. Drainage was used in fifteen cases. The greatest number of consecutive recoveries after ovariectomy has been thirty-eight. The author had never seen a suppurating ovarian cyst but once, and in that case the cyst had been tapped. There are cysts which contain fat and sebaceous matter, and to the naked eye their contents look exactly like laudable pus, and can only be distinguished from it by microscopical examination. There were two cases of swelling of the parotid gland after ovariectomy. Both recovered quickly, and the speaker did not regard enlargement of the parotid during convalescence as of especial importance.

The cases of removal of uterine fibroid tumors number twenty-seven, with seventeen recoveries. The later cases have nearly all recovered. The operation is never done unless the patient is in danger of her life from hæmorrhage, mechanical pressure, or exhaustion, or she suffers severe pain.

In the cases of ovarian cysts, uncomplicated except by adhesion, where the tumor could not be removed, and in which the cyst was stitched to the abdominal wall, numbering nine, recovery has followed. The author had but one case of collection of pus in the abdominal cavity, which was treated successfully by laparotomy and drainage.

Of salpingitis and abscess of the ovary due to gonorrhœa, there had been one case. This was treated by removal of both tubes and one ovary, the other ovary being so adherent that it could not be removed.

The patient recovered. Of removal of large intra-abdominal fatty tumors, there were two cases, both ending fatally. The speaker had one case of operation for closure of Meckel's diverticulum in an infant of five months of age, resulting in complete cure. In one case of intestinal obstruction caused by Meckel's diverticulum occurring in a young man twenty-one years

¹ Continued from page 241.

of age, the case resulted fatally. One case of cure of tubercular peritonitis and dropsy, by laparotomy was reported. The patient is now fat and healthy, three years after operation.

Three cases of removal of the kidney for sarcoma, caries and abscess were operated on with fatal result. There were five cases of lumbar colotomy, or pubic colotomy, three of which were successful. The author had removed a fibroid tumor in the abdominal fascia and peritoneum of the right lumbar region by laparotomy. The patient is now in good health, four years after operation.

A number of cases of special interest were briefly reported and an exhaustive table of all the cases operated on was given.

The following résumé was given.

282 Ovariectomies,	248 recoveries,	34 deaths.
27 Hysterectomies,	17 " "	10 " "
32 Partial removals of uterine and } ovarian tumors,	10 " "	22 " "
19 Exploratory operations,	16 " "	3 " "
10 Removals of uterine appendages,	9 " "	1 " "
14 Miscellaneous laparotomies,	5 " "	9 " "
318 Laparotomies.	305 "	79 "

AN IMPORTANT POINT CONNECTED WITH ABDOMINAL SURGERY,

by DR. ADDINELL HEWSON, of Philadelphia.

The point referred to was in connection with the coaptation of the wound after laparotomy. The diminution of the number of ligatures and the lessening of their irritating properties is of great importance. The abandonment of sutures was recommended, the wound being kept in apposition by means of gauze secured on each side by book-binders glue. The glue is not applied nearer than one-half inch from the wound. This dries as quickly as collodion, dries on a moist surface, and holds securely. Gauze so secured, will support twenty pounds to the square inch. It is not disturbed by motion or distension.

WHEN IS COLOTOMY JUSTIFIABLE?

by DR. J. M. MATHEWS, of Louisville, Ky.

The following conclusions were presented:

- (1) Colotomy is not justifiable in cases of cancer of the rectum.
- (2) In stricture or obstruction of the rectum from whatever cause, within three and one-half inches of the sphincter, colotomy should not be done.
- (3) The operation is not warranted in cases of ulceration of the rectum unless of specific origin and accompanied with stricture beyond the reach of the finger.
- (4) Colotomy should not be performed for the presence of a tumor or aneurism, causing pressure on the bowel.
- (5) In cases of congenital occlusion of the rectum, the operation is not to be recommended.
- (6) In cases where the operation is looked upon as a *dernier ressort*, colotomy should not be done save for total obstruction, of benign or specific origin, located farther than three and one-half inches above the sphincter.

Where the rectum or sigmoid flexure is closed by a stricture of benign or specific origin, colotomy is indicated.

The reasons for advising against colotomy in the cases given above were first, that the operation does not prolong life; second, admitting that life could be

prolonged, the operation is not advisable; third, instead of prolonging life surgical interference shortens life, and fourth, the pain is not materially lessened by the operation. Where the disease is located within three and one-half inches of the sphincter, it may be treated by division. In other cases rectotomy was recommended.

The discussion on the papers on laparotomy was postponed until the afternoon session, and it was decided to at once proceed with the discussion of Dr. Mathews' paper.

DISCUSSION.

DR. DAWSON, of Cincinnati. I agree that colotomy is a fearful resort. I have never performed it with any satisfaction to myself and but little to my patients. There are, however, cases in which it seems to be indicated. I have now a patient, a young man of seventeen years, with an immense cancerous mass in the rectum almost beyond the reach of the finger and narrowing the calibre of the bowel to one-half inch. There is, however, not the slightest sign of cachexia. The growth is accompanied by extreme pain. I have almost decided to open the abdomen, and if possible remove the mass with a portion of the gut. This operation has been done in Europe, but it is not old enough to enable us to judge of the results to be obtained. In syphilitic cases, where there is stricture, the stricture disappears under anti-syphilitic treatment.

DR. J. M. QUIMBY, of Jersey City. I agree with Dr. Mathews in the views that he has expressed. I have performed operations similar to that suggested by Dr. Dawson, but the result was not satisfactory. Unless there is total stricture, the operation is hardly justifiable.

DR. SAMUEL BENTON, of London. I understood the author to say that colotomy is not to be recommended for total obstruction due to cancer of the rectum. My practice is, if I can get beyond the cancer, to do extirpation. If the growth is so high that I cannot remove the whole of it, I perform colotomy. I would recommend colotomy in these cases of cancer of the rectum. In the cases that I have done, life has been prolonged about fifteen months after colotomy. The last case lived about eighteen months. There was complete obstruction, and, if operation had not been performed, the patient would have died in two weeks. It is my experience that the straining and bearing down at stool is relieved by colotomy. The growth, to a certain extent, remains at a standstill, and a considerable amount of the pain is relieved. After rectotomy, the stricture quickly returns. I treat benign tumors by electrolysis. This quickly relieves the stricture. The treatment is safe, and can be continued while the patient remains at his ordinary work. I do not say that the stricture does not return, but it can be kept down by a repetition of the electrolysis, or by dilatation practised by the patient.

DR. J. W. C. O'NEIL, of Gettysburg. The proper course to be pursued in the case referred to by Dr. Dawson would be to put the patient under chloroform, inject the mass with carbolic acid, and scrape it out. This will afford relief.

DR. J. W. HAMILTON, of Columbus. I would utter a word of warning against the use of carbolic acid in the treatment of diseases of the rectum. The use of this agent is fraught with danger. Where there is

obstruction, due to cancer of the rectum, colotomy should be performed.

DR. E. M. MOORE, of Rochester. With reference to the case of Dr. Dawson, I would say that it is extremely rare to have cancer in a person only seventeen years of age. At that age, sarcoma is very common. This is not accompanied by the cancerous cachexia, and every surgical operation for sarcoma is a failure. I would strongly object to the operation proposed, and would recommend colotomy.

DR. W. N. HINGSTON, of Montreal. The operation of colotomy should be performed where there is obstruction. It also relieves pain. When the whole of the mass can be gotten away, rectotomy should be performed.

DR. J. W. C. O'NEIL, of Gettysburg. I have used carbolic acid for ten or fifteen years, and, as a general rule, have found it of value.

DR. MATHEWS. I would merely say that carbolic acid is a hazardous remedy, and has caused much damage, and has led to hundreds of deaths.

Adjourned.

AFTERNOON SESSION.

DISCUSSION OF PAPERS ON ABDOMINAL SURGERY.

DR. W. N. HINGSTON, of Montreal. It has been said that hæmorrhage and shock are misleading, and I agree with this. Fæcal discharge clearly indicates operation. The rule to operate when in doubt is a good one, for the exploratory incision cannot add to the risk.

With reference to the length of time required for operation, while it is desirable to operate with all possible speed, all hurry should be avoided. Time is not of such moment as is generally supposed. It has been asserted that gangrene was not the result of interference with the arterial supply. This is contrary to all of my previous ideas, but I am not in a position to deny it. Dr. Senn's paper is, without exception, one of the ablest papers I have ever listened to.

DR. HOMANS speaks of having had ventral hernia in ten per cent. of his cases. This strikes me as large, and I would ask how he closes the abdominal wall, whether he takes only the skin and peritoneum, or includes everything.

I would direct particularly attention to the Doctor's statement that he has performed five operations of removal of the ovaries for nervous disease, with only one success. This is quite different from the reports usually made. The removal of normal ovaries seems to be epidemic in certain places. I have never removed an ovary weighing less than fifteen pounds. The immunity that attends abdominal section has made these operations very, very frequent.

DR. J. B. MURPHY, of Chicago. In the three cases which I have had there has been no shock, and no appearance of fæcal matter in the wound, although, in one case, there were eleven wounds. While, in the majority of cases, the median incision is the best, there are cases in which enlargement of the wound is to be preferred. The operation should be done early, for, after severe peritonitis has set in, the operation will be of little service. If there is penetration, an exploratory operation will not add to the danger; and, if the intestine is wounded, death is certain.

DR. W. F. BECK, of Davenport. I would report a case in which I opened the abdomen of a man apparently suffering from intestinal obstruction. I found a

portion of the ilium strangulated under an adherent vermiform appendix. I tied the appendix in two places, and divided it. The patient made a complete recovery. There were no antiseptic precautions adopted in this case. With an experience of seventy-eight cases of ovariectomy, it seems to me that our results are improving, and, as we devote ourselves more to aseptic surgery, and less to antiseptic surgery, I think that our results will be better.

In the treatment of the pedicle, I do not use ligature, but rely on the actual cautery, not having the iron too hot, and applying it to the pedicle, held between clamps. After the application, the pedicle is allowed to remain five minutes undisturbed, and the clamp is then carefully removed. There is no fear of hæmorrhage after this procedure.

DR. S. C. GORDON, of Portland. I have seen but three cases of ventral hernia in eighty operations. These were due, I think, to the use of silver wire in closing the abdominal wound. It is difficult to twist silver wire so as not to strangle the tissues. If the part is strangulated, absorption is likely to occur. I now always use silk and include the transversalis fascia and linea alba. In hysterectomy I have treated the pedicle in an intra-peritoneal way and 90 per cent. of the cases have recovered.

In regard to cases of so-called normal ovariectomy, I have seen cases cured by operation in which all other measures had failed. I have done Tait's operation in thirty-three cases with three deaths. Twenty-five of these patients consider themselves well. Four or five have not been benefited.

DR. COUDIN, of Rock Island, Ill. Dr. Senn states that overdistension of the bowel causes longitudinal rupture of the peritoneum. Some years ago I suffered intussusception in my own person, the invaginated portion reaching almost to the anus. After other measures had been resorted to, I injected the bowel through a long, rubber tube. There was a sudden report, the bowel returned to its position, and the water entered. In my case the injection evidently passed through the ileo-cæcal valve.

DR. KREICHER, of Springfield, Ill. I would add to the cases of Dr. Parkes, a successful case of laparotomy for gun-shot wound of the intestine in the practice of Dr. David Prince, of Jacksonville. I have seen four cases of intestinal obstruction. The first was a case of acute obstruction. I saw the case one week after the onset of the symptoms, and proceeded to the operation. The intestine was in such a condition that the operation was abandoned and the patient died. In the second case, there was in connection with the obstruction extensive miliary tuberculosis of the peritoneum, and it was impossible to proceed with the operation. The third case was one of strangulated hernia, although there was no external evidence of the condition. The patient died eighteen hours after operation. The fourth case was one of one week's duration. Operation was recommended but not accepted. It is my opinion that cases of intestinal obstruction which do not yield to ordinary medication, injections and massage, should be submitted to exploratory incision, and the operation should not be delayed.

DR. SATTERTHWAITE, of Louisville, Ky. The first thing to determine is whether or not the abdominal cavity has been opened. This can only be done by careful exploration. There may be a valvular

opening which will not permit a probe to pass. If penetration is determined, the wound should be enlarged and the opening in the intestine closed by sutures, including only the peritoneal and muscular layers. If you wait for shock and the passage of feces the case will usually die.

DR. LINK, of Terre Haute. Gun-shot wounds of the intestine, even if not operated on, are not necessarily fatal. The presence of food in the peritoneal cavity is not of necessity fatal. I believe that many cases of pistol-shot wounds of the abdomen with perforation of the intestine, recover without operation. A probe should not be introduced into the opening until we are ready to proceed with the operation.

DR. PALMER, of Jonesville, Wis. In reference to the passage of fluids injected into the bowel through the ileo-cæcal valve, I would say that I have performed a number of experiments on dogs, producing invagination artificially. Rectal injections were then resorted to with the effect of relieving the invagination in the majority of cases. The same procedure has been resorted to in the human subject with satisfactory results in two cases. If we can relieve intussusception by fluid or gaseous injections we do away with the need for the knife, and if they fail, the knife can be used afterwards.

DR. A. C. BURNEYS, of St. Louis. In connection with Dr. Senn's recommendation of intestinal anastomosis I would mention a suggestion which I made in 1883. In order to form a communication, say between the stomach and intestines, an elastic ligature may be passed into the stomach and brought out a short distance from the point of entrance. The needle with the ligature is then passed into the bowel, brought out, and the ends tied together. Adhesion takes place and the ligature cuts through in twenty-four to thirty-six hours. This will do where you can wait, but when a communication has to be established at once, Dr. Senn's operation is eminently useful.

DR. GILMAN, of Lowell. I have treated three cases of pistol-shot wound of the abdomen without operation. In the first case there was a wound of the intestine with death from peritonitis. The second case had a wound of the stomach and recovered without a bad symptom. The third case resulted fatally from peritonitis.

DR. T. G. RICHARDSON, of New Orleans. I recently saw a case in which there was undoubted wound of the intestine, and the patient recovered without operation. The records of the Charity Hospital show that more than one-half of the cases of penetrating abdominal wounds in negroes, recover, while more than one-half of the cases in the white race die.

DR. RIDGE, of Kansas City. I have seen several knife wounds penetrating the stomach in which recovery followed without operation, and I think that I have seen as much damage from the operation as from waiting.

DR. DAWSON, of Cincinnati. I have made several experiments on the cadaver with reference to the possibility of passing fluids from below through the ileo-cæcal valve. In twelve cases, I found it impossible to pass fluid through. In one case fluid appeared in the mouth. Examination showed the valve to be imperfect. In the normal condition it will not allow fluid to pass.

DR. PARKES, of Chicago. The results of my experiments on animals shows the necessity of bringing

large surfaces of peritoneum in contact. With regard to Dr. Senn's suggestion for the treatment of multiple wounds of the intestine, I think that it is not necessary, for the plan of treatment by the continuous suture is sufficiently rapid and answers the purpose.

THREE CASES OF LAPARO-NEPHROTOMY,

by DONALD MACLAIN, of Detroit.

CASE I. Mrs. A., aged twenty-five years, presented herself with what had been diagnosed as an ovarian tumor. There was a cystic abdominal tumor about the size of the uterus at the seventh or eighth month of pregnancy. There was no history of renal trouble and no evidence that the tumor was connected with the kidney. The patient insisted that it had begun to grow from below. The operation was done with the expectation of removing an ovarian tumor. The left ovary was found enlarged to the size of a goose-egg, and was removed. The large tumor was found to arise from the kidney and it was removed. The patient did well for a time, but suppuration with the formation of a fecal fistula occurred, but the patient finally made a perfect recovery.

CASE II. Mrs. T., aged forty years, presented herself, with a tumor of the left side of the abdomen, which had been discovered six years previously. The enlargement had gradually increased. The tumor, when first seen, was too high for the ovary and too low for the spleen. The urine was normal. A diagnosis of tumor of the left kidney was made. It was decided to adopt the trans-peritoneal method of operating. A large cyst of the kidney was found. During removal it ruptured, with the escape of a material like soft soap. The posterior layer of the peritoneum was brought together with sutures. The case did well until the eleventh day when the temperature went up until it reached 104°. Examination showed fluctuation in the lumbar region. An opening was made with the escape of a large quantity of pus. Symptoms of collapse followed this operation, but these were overcome and the patient made a gradual recovery.

CASE III. A female infant, twenty-two months old. The family history was good. There was a tumor in the right hypochondriac region. This was movable and free from tenderness and pain. Tumor of the kidney was diagnosed and removal recommended. The incision was made just external to the rectus muscle. No difficulty was experienced and the operation was completed in seven minutes. The posterior layer of the peritoneum was closed with catgut sutures. For several days the case progressed favorably but the temperature remained high. On the fifth day a careful examination was made to determine the cause of the elevated temperature. During the examination the child coughed and the abdominal incision gave way, allowing the intestines to escape. These were replaced and a search failed to show the source of the trouble. The wound was reunited. The temperature continued high and the child died on the ninth day. At the autopsy the posterior layer of peritoneum was found united and in the space occupied by the tumor a small collection of pus was found surrounding the ligature on the pedicle of the tumor.

The speaker said that while the lumbar operation might be the safer, there were cases in which the trans-peritoneal operation was preferable. These cases point to the necessity of securing efficient drainage, although antiseptic precautions were adopted.

TUMOR OF THE HEAD, PROBABLY INTRA-CRANIAL.

A patient with a tumor of the head was presented to the Section and was referred to a committee for examination. The committee consisted of Drs. Moore, Dawson, and Brosseau. It reported that there was a large tumor of the head, five inches in diameter, occupying the temporo-parietal region. This occurred in a man thirty-five years of age, and appeared twenty months ago. There was some headache. There was some blindness, greater on the right side. There was deafness on the left side. The tumor was raised one inch above the surface. The committee believed that the growth was intra-cranial, causing expansion and partial absorption of the bones. While operation would hardly be successful, still, as the case must progress to a fatal termination, it would be proper to remove a portion of the skull, and if the growth was outside of the dura mater, there would be a reasonable prospect of success.

The Section then adjourned.

THIRD DAY, WEDNESDAY, SEPTEMBER 7th.

LAPARO-NEPHRECTOMY.

The meeting being called to order at eleven A.M., the discussion of Dr. Maclain's paper on Laparo-nephrotomy was taken up. The discussion was opened by Dr. HERFF, of San Antonio, Texas, who said:

I quite agree with Dr. Maclain that in suitable cases laparo-nephrotomy is the proper operation. Some years ago I had a case of a young woman who was newly married, and when about two months pregnant she discovered a tumor on the right side, which was nearly as large as a child's head. She had no pain and except that she had this tumor, she was in good health. The tumor, however, annoyed her very much, and she insisted on an operation being done. I therefore opened the abdomen in the median line and removed the tumor.

The remarkable thing about the case was that the tumor, which I had thought an ovarian one, proved to be the kidney and supra-renal capsule. From the lower end of the tumor the lower part of the kidney was hanging, while the upper part consisted of the supra-renal capsule enormously enlarged and sections of which presented under the microscope the appearance of the long cells of myoma.

The patient made a good recovery, and two years after the performance of the operation, she was in perfect health.

This, while a case of removal of the kidney, was also a removal of the supra-renal capsule. This made the case more remarkable to me because I have never read of its removal for disease.

Dr. DAWSON said, About these cases I wished only to thank Dr. Maclain for his kindness in bringing them before the Section. It is very interesting to look back a few years and see the advance in surgery that has taken place.

Dr. HUGHES said, I had precisely the same number of cases of kidney disease as Dr. Maclain, and I perfectly agree with him in everything save one, and that is the seat of operation. He seems to prefer the abdominal incision, while in all cases where it is practicable I would give the preference to the side, between the rib and crest of the ileum. My first case I operated on by means of the abdominal incision the only way that I could do, as the tumor was so large a one

that it could not have been brought through the opening between the ribs and the crest of the ileum. The second case was only a tumor about the size of the fist, and I operated in the space between the ribs and anterior crest of the ileum. I also operated on the third case by incising the lumbar region, and from these last cases I got the best results and also avoided opening the peritoneum.

Dr. EDWARD OWEN, of London, remarked: There are at least three factors which must influence the choice of the operation in each case; first, if there were doubts as to the exact nature of the tumor, the anterior operation would be chosen, and second, if the tumor were very large, the anterior incision must be chosen. Lastly, there was the line of practice of the individual surgeon. The gynæcological operator would naturally prefer the trans-peritoneal incision, even for a small tumor, because that is, to a certain extent, his own province, while the general surgeon would choose the space between the last rib and the iliac crest, because, for some reasons rather indefinite, he does not care to touch the peritoneum if he can avoid it. In a case of diseased kidney which I removed successfully, I made the incision through the luna semi-lunaris.

Dr. HARDEN remarked: I had a case somewhat similar to one which has been related here. In my case, I made the anterior section, but did not remove the tumor, on account of an enormous flow of blood, which would have become so alarming if we had attempted to separate the tumor from its connections, that I feared the patient would die, so all further operation was stopped. The tumor was shown after the death of the patient to be a kind of fibrocystic tumor of the kidney.

Dr. LANGE, of New York, said: In a large number of these cases of tumor of the kidney where there is fluctuation, they are cases of pyo-nephrosis of usually very large size. I have operated several times for the removal of the kidney, and performed both the anterior and posterior operations. In the small tumors, and in some of the larger ones, I prefer to make a small lumbar incision to empty the contents of the tumor out as far as possible, and then wait until the remainder of the tumor lessens in size, which it will be very apt to do, so that it can be gotten out through even a very small hole or incision.

Sometimes, in renal calculi, I have performed laparotomy, or rather, the operation in the lumbar region, and then, after making this incision by placing these patients in bed, lying on their stomachs on a pillow, the kidney would float up when the wound was made, and could easily be gotten up, and the calculus removed.

Dr. MACLAIN, in closing the discussion, said: I have been misunderstood in the discussion because I choose the operations in the front of the belly, instead of the lumbar incision. There were very good reasons in each of the cases I have had why I should choose the anterior operation; they were all too large for the lumbar incision.

Dr. M. H. RICHARDSON, of Boston, next read a paper entitled

GASTROTOMY FOR FOREIGN BODIES IN THE ŒSOPHAGUS,

in which he said that this operation was intended only for the removal of foreign bodies in the œsophagus

which had passed so far down the œsophagus as to be lodged near the cardiac orifice. In regard to the length of the incision, it was not fixed. It might be only a very short one, or it might be made large enough to put the hand inside the stomach, so as to reach up into the œsophagus, if that should be necessary in order to extract the foreign body. The incision through the skin should be made over the cardiac end of the stomach, or might be made in the median line, and the incision through the walls of the stomach must be made in the cardiac end of the stomach. All the caution necessary in making this was to get the incision made without wounding the convexity of the lesser curvature of the stomach, and, in order to avoid this, the better way was to put the lesser curvature on the stretch. After the opening into the stomach was made, instruments might be introduced for the dislodgement of the foreign body, or, if they were insufficient, the fingers and hand might be passed in, which would enable one to relieve the œsophagus of its burden. As to the scope of the operation, while it was chiefly applicable to the removal of foreign bodies, it might be useful in other ways, as its capabilities were considerable, as was demonstrated by his experiments on the cadaver. He concluded that if the foreign body was lodged within six inches of the lower edge of the cricoid cartilage, it was best removed by an operation from the side or above, but if situated more than six inches from the cricoid cartilage, gastrotomy was the best thing to be done. He then exhibited a patient from whom he had removed a plate of false teeth by means of gastrotomy.

DR. F. S. DENNIS, of New York City, then read a paper, the title of which was:

REPORT OF AN AMPUTATION AT THE HIP-JOINT FOR THE REMOVAL OF A MALIGNANT GROWTH, SARCOMA.

in which he said that it was only by collecting the cases which occur from time to time, and comparing them, that we are able to advance our knowledge. This case was that of a young man, aged seventeen years, who had no bad family history, and who had always been in good health until about five months prior to his admission in the hospital. At the time of his admission, his weight was eighty-five pounds. Five months prior to his admission, he had first noticed a dull pain in the thigh, and shortly afterwards, he discovered a swelling in the thigh. He had had no fall or blow.

About two months after the first appearance of the pain the tumor was aspirated, and about ten ounces of bloody fluid drawn off. The swelling was fusiform in shape, the skin was purple, and large veins were to be seen on the surface of the tumor while the glands of the thigh and groin were much enlarged. The diagnosis was that it was a sarcoma of the femur, and amputation at the hip-joint suggested, as the only means of saving life. This amputation was done, and the wound dressed antiseptically. The wound was entirely healed by the sixth or eighth day after the operation. After the patient left the hospital the wound reopened a little, and discharged pus mixed with blood. This was found to be due to sloughing of the ligament sutures, upon the removal of which the wound healed kindly, and the young man is now well.

DR. GASPER W. GARMANY then read a paper on the

SURGICAL TREATMENT OF EPILEPSY BY TREPHINING.

in which he related the case of a girl about eighteen years of age, struck on the head with a brick falling from a house-top, and causing fracture of the skull. The skull was trephined, and the splinters of bone removed, but some time after the wound had healed she began to have attacks of epilepsy, for which ordinary treatment was unavailing, and the reader finally operated on her, with an entirely successful result. As a result of his researches on the subject, the reader had found that lesions in the frontal and parietal regions are followed, usually, by the same symptoms, and that over fifty per cent. of the lesions in these regions are followed by epilepsy, which, later on, is complicated by insanity. Trephining at the site of the lesion, and removing the cicatrix, is usually followed by complete relief.

The Section then adjourned until 3 P. M.

(To be continued.)

— The returns of the Boston Board of Health show a greater prevalence of typhoid fever during the month of August of the present year than for a series of years past. The following table illustrates the comparative statistics on this point for the month of August in seven consecutive years:

Year.	Cases.	Deaths.
1881	60	18
1882	135	20
1883	115	25
1884	111	14
1885	136	18
1886	169	23
1887		

— That "heart-burnings" should not be a more frequent result than they are of great medical congresses and conventions, is rather a matter of surprise when men who have laboriously built up a wide professional reputation, see their fame scattered to the winds by the typographical vagaries of the "enterprising" medical journalists, with whom celerity of report outweighs accuracy. For instance, Dr. John Homans, the eminent ovariologist of Boston, appears in the columns of the *Medical Register* (daily), as Dr. John Thomas. In the report of the discussion the only approximation to an elucidation of the personality of this reader is afforded by the remarks of a speaker on the paper of Dr. "Horman."

— Dr. Morell Mackenzie, of London, who had the happiness to achieve so brilliant a success in the treatment of the throat of the Crown Prince of Germany, a success which showed to especial advantage in the focus of public attention incident to the exalted station of his patient, is beginning to reap his reward. He has received the honor of knighthood, and will doubtless receive what may or may not be considered of more value, the sum of \$12,500, the amount of his bill for services rendered. The Crown Prince has been spending some time in the Highlands of Scotland, and reports by letter to Prof. Virchow continued improvement in the condition of his throat, while the laryngological examinations show no recurrence of the growth and a decrease in the local congestion.

— Professor Alonzo Clark, M.D., LL.D., died at his home in New York, Tuesday, September 13th. Dr. Clark has been aphasic for some years.

THE BOSTON

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 15, 1887.

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94 BOYLSTON STREET, BOSTON, MASS.**THE MEETING OF THE INTERNATIONAL CONGRESS AT WASHINGTON.**

THE Ninth International Medical Congress being a thing of the past, the reports being all in, and a sufficient time having elapsed since the adjournment for sifting and comparing the observations and conclusions of various reporters and participants, we may venture to draw some more definite conclusions as to the characteristics, the success, and the results of this meeting. Before drawing any such conclusions, we would say that — not having been in sympathy with the impulses of, and the course pursued by, the majority who dominated the American Medical Association at New Orleans, and anticipating, since then, the unfortunate results which could not fail to follow the action taken there, and that subsequently by the enlarged Executive Committee at Chicago and elsewhere — it was our earnest desire not to pre-judge events, and to interpret reports, not merely in a fair, but in as favorable a light as possible, as will be evident from our last week's issue.

The question whether the Ninth International Medical Congress was a success and a credit to those who assumed its management is not, after all, one of "patriotism" or malevolence, any more than the question of official representation should have been made one of square miles of territory, but is simply a question of fact, and, though a question of fact, may be answered somewhat differently, according to the standard of success and credit. As registration could be made by letter, as well as personally, the number of delegates actually present and participating in the proceedings of the Congress can only be estimated. The registration was officially reported as 2,700, and the actual attendance may be liberally estimated at between 2,300 and 2,500, certainly a sufficiently large number to stamp the Congress as a moderate success, at least, from the mere point of view of size. When, however, the enormous domestic medical population is considered, and how slight an impediment a railway journey is to an American who wants to do some-

thing, the success from this point of view is hardly more than moderate.

The number of foreigners actually present was really small, possibly 150: and of the long list of vice-presidents read, only one responded to the invitation to come forward and take a seat upon the platform. The distribution of members from the different parts of our own country was very unequal, as was anticipated, the West and Southwest being most largely represented. There were, unquestionably, distinguished Americans and foreigners present at and participating in the Congress, but it is undeniable that distinguished names were conspicuous by their absence, rather than by their presence.

Of the actual value of contributions and discussions it is still early to judge absolutely. In regard to the papers contributed we are inclined to think that the same remark may be made as we have already made about the attendance. There was much disappointment about the papers promised to the General Section — papers usually among the most important — and the Section on General Medicine fell below the standard which should easily have been reached. The Surgical and the Gynecological Sections were the most active, the latter profiting by an attendance partially attracted by the approaching meeting of the American Gynecological Society, and also by papers which should have gone to the Obstetrical Section. The officers, and especially the Secretaries, of these Sections deserve credit for great industry. The discussions, some Sections being excepted, were either wanting altogether or very meagre.

The best that could be done under the circumstances probably was done to provide for social courtesies and entertainments; the provision, however, was disappointing and arrangements, on at least two occasions, were insufficient to accomplish the necessary ends or altogether neglected, and on this point we must, upon further information, recall the expression used in our editorial column last week.

Want of money was the cause of the inefficient and insufficient arrangements for social entertainment. The raising of the necessary funds was one of the responsibilities, and one of the most important, which the Executive Committee assumed in assuming its functions and taking control of the preparations. The main reliance seems to have been placed upon securing what might be needed from the public treasury. Secretary Bayard, however, explained in his address, that Americans are not in the habit of looking to Government for the support of educational and scientific interests. Whatever idea the foreign visitors may carry away of other American "institutions" their association with our bands of music and our claret punch, will not be flattering, for if any of them were cheerful — as reported by an esteemed contemporary — at the Pension Hall *conversazione*, it was in spite of these accessories. The season of the year amply accounted for any deficiency in private hospitality.

Much hard work was done by the Secretary-Gen-

eral of the Congress, and by members of the Executive Committee, otherwise the measure of success obtained, could not have been achieved. This was not sufficient to make the ninth Congress the largest, the most interesting, or in any one respect the most useful and important ever held, and it is useless to characterize it as such. A truly polite and amiable foreign delegate might permit himself to speak of it as a *succès d'estime*, but scarcely with more enthusiasm.

The JOURNAL has furnished special reports of the General Sessions, of the Section of General Medicine and Section of General Surgery. No attempt has been made to publish the proceedings of the other Sections. An incomplete report would have no value, and a complete report, if valuable, would attain a bulk inconsistent with a weekly publication. Having looked over the reports of our enterprising contemporaries, we are not disposed to repent our concentration. Such of our readers as find their desires whetted for more, after reading the reports furnished by the JOURNAL, and who are too impatient to await the official volumes, are referred to the daily edition of the *Medical Register*, and to the *New York Record* and *Medical News* of Philadelphia. *Jam satis est!*

Miscellany.

WHAT PROMINENT MEN SAY OF THE CONGRESS.

DR. N. S. DAVIS said to a representative of *The Medical News*, on Thursday evening, in reply to the inquiry whether he thought the Congress had been a success, that in point of numbers it stood second, if not first.

"But as to its character and the scientific value of its work?"

"Well, I have seen all the presidents of Sections to-day, and they each and every one of them report most favorably."

"From your experience of previous Congresses, do you not think there was a conspicuous absence of distinguished foreigners — such men, for instance, as Paget and Gull, and Pasteur and Verneuil, and Virchow and Lister, and others whose names are known all over the world?"

"Yes, that is so; but then you must remember that many of those you name are over seventy years of age, and at their time of life, with their professional duties, a journey across the Atlantic, and such a prolonged absence as is thereby implied, is a very serious matter. Sir James Paget himself told me he feared he would be unable to attend on account of his advancing years. Professor Virchow wrote me that he could not come because of an important conference to be held in Berlin this month, of which he is Chairman of the Committee of Arrangements. I do not remember exactly what that conference was, but it was something combining hygiene with some other subject."

"But what about Neudörfer and Lutaud, of Paris, who were to have been here and to have taken part in the proceedings?"

"Neudörfer is detained by sickness; and Lutaud — well, I can't say anything about him."

"Then, on the whole, do you think the delegates compare favorably with those of other Congresses?"

"Yes, I think so. They are younger men, true, but I understand some very valuable papers have been contributed even by those who did not come. M. Simon, for instance, a very eminent man I am told, has forwarded a most important paper. And you must remember we have had difficulties with regard to the foreign delegates"

"What were those?"

"I do not care to go into them, but, gentlemen — you could count them on the fingers of your two hands — have written and begged foreign delegates not to come. They said there were factional differences. They even went so far as to say that Washington was unhealthy; that the weather was very hot, and that typhoid fever was prevailing. Of course, this kept some away."

"How do you think the American reputation for hospitality has been maintained?"

"That I would rather say nothing about. I have heard many complaints from the foreign delegates that they were not able to get into the White House to see the President and Mrs. Cleveland last night — many such complaints. It was unfortunate, very. I am very sorry it occurred."

"Is there any prospect, do you think, that the Congress will ever meet in the United States again?"

"Not for twenty years, at least. These sessions are only triennial, and it is not likely that Washington's turn will come round again for twenty years, if then."

SECRETARY-GENERAL JOHN B. HAMILTON was asked how many delegates had registered.

"Over twenty-six hundred."

"How many foreigners?"

"Three hundred, it is estimated, but I have not the local registration-book at hand."

"Have you been cramped for want of money?"

"Yes."

"If the dissension beginning at New Orleans had not taken place, do you think there would have been a larger contingent of foreign delegates?"

"If there had been no system of general misrepresentation practised by many of those who resigned, and followed up by personal solicitation to stay away, the attendance might have been larger; as it is, the attendance from Transatlantic countries is larger than it was at former Congresses."

"Do you know of any dissatisfaction having been expressed by foreign delegates as to their treatment here?"

"No, on the contrary, see Sir James Grant's speech to-day, on this point."

"What do you think of the scientific aspects of the Congress?"

"They are entirely satisfactory, and will take rank with any former Congress. I can only view with contempt the statements made with evident intent to disgrace America, and belittle our guests."

"What about the absence of those American physicians who withdrew from the Congress and remain away?"

"While their absence is to be regretted, yet the facts show the Congress is entirely successful without them."

DR. UNNA, of Hamburg, being asked "What opinion he had formed of the Congress?" replied:

"I do not think it is of as high a character as those of Copenhagen and London. The discord at home has prevented many foreigners from coming. This discord was so promptly heralded abroad, that it became in a measure international. If it had not occurred many Germans would have come, not thirty or fifty, but two hundred. This number would have included the most prominent men of the country. I regret that the leading physicians of America did not overlook the discords when it was too late to reconsider action, and so give to the Congress more of the air of being international. Men like Agnew, Loomis, and others, are much missed. My strongest impulse in accepting the vice-presidency, and reading a paper, was to prevent the Congress from dwindling into simply a national affair. I regret that others did not take the same view. The scientific aspect, although not equal to former Congresses, is better than was to be expected under the circumstances. Papers in the Dermatological Section were good for the most part, but the discussions were poor; but such is the case at all Congresses. Socially I have not had much personally to complain of, although I am aware of many deficiencies. I know that many errors have been committed. The arrangements have been poorly announced. On the whole, there is much to be regretted."

DR. W. T. LUSK, of New York, was asked what opinion he had formed of the Congress.

He replied: "I have heard some complaints from foreign delegates regarding a want of courtesy on the part of the officers of the Congress. It seems there has been some want of business management, and perhaps a lack of experience on the part of the officials in managing such affairs. They have been too much disposed to regard the foreigners as they would our own people, who are always willing to look after themselves, while a European seems to require some one to take care of him."

"What do you think of the scientific value of the Congress?"

"I believe the volumes of Transactions, when published, will be equal, in respect of the papers contained therein, to those of any preceding Congress."

"If the unfortunate dissension which began at New Orleans had not occurred, would not the success of the Congress have been more marked?"

"Well, I must say, the presence of prominent members of the profession at the discussions was greatly missed."

Dr. Lusk, who was somewhat unwilling to give his views for publication, also stated that he thought that in the division of papers between the Sections of Obstetrics and Gynecology, the former had been unfairly treated by being deprived of several papers properly belonging to it.

DR. MARIANO SEMMOLA, Professor of Therapeutics in the University of Naples, Italy, was asked his opinion of the present Congress, and replied to the queries addressed to him as follows:

"You have attended other Congresses?"

"Yes; indeed, I think I have attended every one."

"What opinion have you formed of the scientific value of the Congress?"

"It is considerably below the average of any of its predecessors."

"Do you think that if the unfortunate dissensions at New Orleans had not taken place, that a larger number of distinguished men from Europe would have attended this Congress — such men as Porro, from your own country, and Pasteur, Virchow, Esmarch, Paget, MacCormac, etc.?"

"I have met many, if not all those gentlemen at preceding Congresses, and have no doubt at all that if there had been no quarrel among the profession here, some, if not all of them, would have crossed the Atlantic."

"How did you happen to come yourself?"

"I was assured that the quarrel was a matter that had entirely passed over, and so I came on."

"Have you met many of the Americans whom you expected to see?"

"Very few, indeed, and it is a matter of sincere regret to me."

"How have the social aspects of the Congress appeared to you?"

Dr. Semmola smiled at the question, shrugged his shoulders and said: "Well, I have had one or two private invitations, but as for the rest — it does not exist."

"You are not favorably impressed then?"

"No; how can I be?"

Correspondence.

[From our Special Correspondent.]

LETTER FROM WASHINGTON.¹

NOTES AND GOSSIP ABOUT THE INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, Saturday Evening, Sept. 10, 1887.

On Friday evening Secretary Whitney, of the Naval Department, gave a reception to the foreign members of the Congress at Grasslands. It is understood that the host himself was absent. He was represented by an officer of the navy, and lunch was served to the visitors, but the foreigners are understood to wonder if American hosts

usually consider their duties end with the issuance of the invitations.

It is said that 2400 bottles of champagne were consumed at the Pension Hall banquet of Thursday.

It is a little noteworthy that Secretary Bayard, who made the address of welcome at the opening of the Congress, is understood to be the most pronounced homœopath at Washington.

A reasonable verdict as to the Congress seems to be that it was, considering the circumstances, fairly successful, and no more. The gentlemen who came from abroad had a right to expect to come to a representative American gathering; and this they failed to find. Sectional as regards residence, scant in men of recognized professional eminence, the American contingent of the Congress was a body of very worthy family doctors. The whole registration, by the Secretary-General's count, was 2,700, which means an actual attendance of between 2,000 and 2,500. The number of foreign members was not far from 150; and of these there were but few of wide fame. As to the papers presented, quantity, not quality, seems to have been the rule. Instead of the two papers a day before the general session, which should have been the marked features of the Congress, lack of material reduced them to one daily, and of these, one, in the author's own words, was written merely to be read before a Section. The address of the President of the Congress fell heavily upon the listening ear. There were, doubtless, among the sectional papers, some that were worthy of preservation. Time alone will sift the big wad of documents, which ambitious young men of inexperience combined with respectable practitioners to accumulate; but it is believed that the world would weep at the loss of few of them. There inheres, of necessity, in every gathering of the sort, a wonderful power of attraction for cranks and wind-beaters; and there was no lack of these among the authors of papers or among those who discussed them. In certain sections, like that on gynecology, for example, where were present eminent men from abroad (attracted it may be, by the meeting the succeeding week of the American Gynecological Society, to which they had been specially invited) discussion meant more than mere words. But this could not be said in all cases.

As a means for the advancement of science, the success of the Congress was questionable.

So far as the local arrangements were concerned, the job appeared to be too big for the Committee in certain directions; at least the Chairman of the Committee expressed publicly his dissatisfaction with his own arrangements in as strong terms as did any mere member of the Congress.

The charm of the weather, the beauty of the city, the courtesy shown the Congress by the Chief Executive of the country, all favored the gathering. What it might have been under proper auspices can but be imagined.

"SHORT CUTS" TO DIPLOMAS.

BOSTON, 130 DARTMOUTH STREET,

September 3, 1887.

MR. EDITOR,—In justice to Professor Sewall's indignation (September 1st), to "Reader" (August 11th), and to the University of Michigan, let us notice that "the same college" in "Reader's" letter, does not mean the University of Michigan, but as it reads, it does mean in all probability the one mentioned in the original letter to the *New York Medical Record*, "The University of ——— situated among the hills of New England." If any reader will take time to look up that first letter he can easily establish the connection of the later ones and also recognize the college referred to.

By the way, I know a case in point: a student in the University of Michigan was "plucked" in February, immediately left for New York and returned with his diploma in April, to laugh at his class that had to "grind" until June.

Very truly yours,

C. P. PENGRA, M.D.

¹ Concluded from page 243.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 3, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	693	340	29.25	13.80	20.25	1.20	3.90
Philadelphia	993,801	395	185	16.56	9.66	7.13	3.91	2.99
Brooklyn	745,108	362	187	29.12	8.96	19.60	1.40	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	192	89	16.12	15.08	11.96	2.60	—
Boston	400,000	206	78	26.46	19.11	14.21	5.88	1.47
New Orleans	242,750	108	30	13.80	11.04	—	.92	5.52
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	83	36	26.62	9.68	14.52	6.05	2.42
Pittsburgh	210,000	96	44	34.32	11.44	10.40	9.36	6.24
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	14	4	35.70	7.14	14.28	14.28	—
Charleston	60,145	38	17	21.04	10.62	18.41	—	—
Portland	40,000	11	3	27.27	27.27	18.18	9.09	—
Worcester	68,383	29	13	34.48	14.80	22.15	6.90	3.45
Lowell	64,051	31	16	67.83	9.65	41.99	6.15	6.46
Cambridge	59,660	28	16	32.13	7.14	21.42	3.57	7.14
Fall River	56,863	35	23	45.76	2.86	37.18	5.72	—
Lynn	45,861	20	12	35.00	5.00	30.00	5.00	—
Lawrence	38,825	8	3	25.00	—	—	—	12.50
Springfield	37,577	11	6	54.54	9.09	27.27	27.27	—
New Bedford	33,393	21	10	42.84	4.76	14.28	4.76	23.80
Somerville	29,992	13	4	30.76	15.38	15.38	7.69	—
Salem	28,084	12	3	16.66	—	16.66	—	—
Holyoke	27,894	16	13	50.00	—	37.50	—	—
Chelsea	25,709	5	1	20.00	20.00	20.00	—	—
Taunton	23,674	4	—	—	—	—	—	—
Haverhill	21,795	9	6	44.44	—	44.44	—	—
Gloucester	21,713	3	2	66.66	33.33	66.66	—	—
Brockton	20,783	7	3	14.28	28.56	—	14.28	—
Newton	19,759	5	4	20.00	—	—	—	20.00
Malden	16,407	5	—	—	40.00	—	—	—
Fitchburg	15,375	6	4	33.33	—	33.33	—	—
Waltham	14,609	4	0	25.00	—	—	25.00	—
Newburyport	13,716	7	1	14.28	14.28	14.28	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,477: under five years of age 1,153; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 648, consumption 299, lung diseases 158, diarrhœal diseases 392, diphtheria and croup 88, typhoid fever 80, malarial fevers 33, whooping-cough 22, scarlet fever 17, cerebro-spinal meningitis seven, measles four, puerperal fever three, small-pox (New York) two. From malarial fevers, New York 11, Brooklyn and New Orleans eight each, Philadelphia and Baltimore two each, Boston and Charleston one each. From whooping-cough, Philadelphia eight, New York and Boston five each, Pittsburgh two, Brooklyn and Lawrence one each. From scarlet fever, New York, Boston, and Pittsburgh, three each, Brooklyn two, Philadelphia, Baltimore, District of Columbia, Nashville, Lowell and Holyoke one each. From cerebro-spinal meningitis, New York three, Boston, District of Columbia, Fall River and Holyoke one each. From measles, New York two, Brooklyn and Pittsburgh one each. From puerperal fever, District of Columbia, Pittsburgh and Somerville one each.

In the 21 cities and greater towns of Massachusetts, with an estimated population of 1,017,117 (population of the State 1,941,465) the total death-rate for the week was 22.78 against 21.60 and 27.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 20th, the death-rate was 23.3. Deaths reported 4,128: infants under one year of age 1,755; acute diseases of the respiratory organs (London) 178; diarrhœa 878, whooping-cough 100, measles 87, scarlet fever 61, fever 35, small-pox (Sheffield) four.

The death-rates ranged from 15.0 in Derby to 33.5 in Manchester; Birmingham 24.5; Blackburn 30.8; Hull 27.6; Leeds 21.5; Leicester 18.2; Liverpool 26.7; London 21.2; Nottingham 20.9; Sheffield 21.8.

In Edinburgh 16.9; Glasgow 19.5; Dublin 35.5.

The meteorological record for the week ending September 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, Sept. 3, 1887.																				
Sunday, ... 28	30.00	61.0	69.0	54.0	71.0	56.0	64.0	64.0	N.W.	S.E.	S.W.	8	6	5	C.	C.	C.			
Monday, ... 29	30.10	62.0	70.0	55.0	65.0	61.0	69.0	65.0	N.	S.E.	S.W.	10	7	5	C.	F.	F.			
Tuesday, ... 30	30.22	60.0	65.0	53.0	68.0	77.0	89.0	85.0	N.W.	S.E.	E.	6	12	5	C.	F.	F.			
Wednesday, ... 31	30.30	57.0	65.0	52.0	97.0	76.0	86.0	86.0	N.E.	E.	N.E.	6	12	4	C.	C.	C.			
Thursday, ... 1	30.17	60.0	69.0	50.0	82.0	58.0	81.0	74.0	N.W.	S.E.	S.W.	5	5	3	C.	C.	C.			
Friday, ... 2	29.88	65.0	73.0	52.0	84.0	70.0	85.0	80.0	S.W.	S.W.	S.W.	12	14	12	C.	C.	C.			
Saturday, ... 3	29.94	63.0	70.0	58.0	79.0	58.0	72.0	70.0	N.W.	N.W.	N.W.	16	24	12	C.	O.	O.			
Mean, the Week.																		2	*T	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

Original Articles.

CONDITIONS FAVORABLE TO OUT-OF-DOOR LIFE IN COLORADO.

BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.,

Professor of Diseases of the Nervous System, University of Denver, Col.; Member of the American Climatological Association; etc.

OF all the methods that have arisen, of late years, to aid in the arrest, or cure, of Pulmonary Consumption, there has not yet been found one to take the place of change of climate. Even the most ardent advocates of gaseous enemata, of deep inhalations, or of deep injections do not claim for their methods superiority to the climatic treatment, but the most they can urge is that they may be valuable adjuvants, or, at least, that they can be profitably employed, when through financial, or other reasons, a change of climate is impossible. Assuming, then, that the climate is the best treatment known in the arrest, or cure of consumption, or in prophylaxis, the question arises as to which is the best climate. This is a much debated point, and the weight of evidence is often, in the mind of the reader or listener, based upon the esteem in which the one giving utterance to the opinion is held. There are those who contend for a sea air, and others for a mountain air. "Many people," says Dr. Hermann Weber, "still cling to the idea that cold is injurious and warmth curative in phthisis, but this idea is quite incorrect. Another idea, that equable climates are the best in the treatment of phthisis, should likewise be much restricted."

However various the opinions, on two points there is, practically, unanimity:—

(1) That the air should be pure, aseptic, free from germs.

(2) That it should conduce to life out-of-doors.

The former condition, that of an aseptic atmosphere, has been shown by Professor Tyndall, Miguel and others, to belong to elevations of 6,000 feet and over; such an elevation as is to be found along the slopes of the Rocky Mountains, in Colorado, Wyoming and New Mexico.

The conditions that conduce to out-of-door life are those that render life in the open-air not simply tolerable but attractive, so as not only to make the invalid feel that he *ought* to be out-of-doors, but that he *wants* to be. How far these conditions are fulfilled by a life in Colorado, it is my purpose to show.

An important element, perhaps the most important, in making life out-of-doors attractive is that the sun should be shining. Clouds depress, sunshine exhilarates, and between two climates equally good in other respects—if indeed such a thing can be imagined—that one in which the sun shines the most hours in a day and the most days in a year, should be selected for the mental effect—if for none other.

I wish to speak now of sunshine, disregarding, for the present, its effects upon temperature, dryness, (atmospheric and soil), the processes of growth and blood formation, etc. Some years ago¹ I pointed out by the following table that, of the twelve places included in the list, selected with reference to their geographical location, and taking a mean of five years, there were fewer cloudy days in the eastern slopes of the Rocky Mountains than in any other portion of our country.

CLOUDY DAYS. MEAN FOR FIVE YEARS.

Augusta, Ga.	92	Chicago,	107
Jacksonville,	87	St. Paul,	104
Boston,	115	Denver,	46
Newport,	111	Santa Fe,	41
New York,	109	Salt Lake,	93
Philadelphia,	112	Los Angeles,	51

The data on which this assertion was based were derived from the Signal Bureau, U. S. A.—and the conclusion I drew was:—"It is seen that, in Denver there is only about one-eighth of the entire year where an invalid would be kept in the house on account of the weather; in Jacksonville and Augusta he would be confined to the house for the same reason, one-quarter of the year; in St. Paul he would be kept indoors between a third and a quarter of the time, while in Boston he would have to be housed a good third of the time."

These facts were questioned, and the methods of deriving them criticised, by the late Edward T. Ely, M. D.,² and the objection was raised that the hours for taking the observations that furnished these figures were 5 A.M., 1 and 9 P.M. (local time) and that the two hours 5 A.M. and 9 P.M., coming at night, were of no interest to the Colorado invalid in estimating the amount of time that he could spend out-of-doors, because of the clearness of the sky.

To meet this objection I compiled the following table, the data being derived from the U. S. Signal Bureau.

CLOUDY DAYS. WINTER, 1884-5.

Months.	Denver Time.			
	9.08, A.M.	1.08, P.M.	5.08, P.M.	All Day, 9 A.M.-5 P.M.
September	2	0	3	0
October	7	2	5	1
November	3	4	6	1
December	11	9	9	1
January	5	5	3	1
February	9	9	5	1
March	4	5	7	3
April	12	5	6	3

The conclusion drawn was:³ "While there occurred days in the winter, under observation, when the sun was not shining at 9 A.M. or at 1 P.M. or at 5 P.M., as the case might be, there were only eleven days in the whole eight months when the heavens were completely obscured at all three observations. In other words, there were only eleven days in the winter of 1884-1885 when the sun did not shine upon Denver between the hours of 9 A.M. and 5 P.M."

The same subject has been represented, diagrammatically, in maps furnished the Colorado State Medical Society by the United States Signal Bureau, at the request of the former. These maps, copies of which, with a reduced scale, I here introduce, are of interest, more as giving the ratios of cloudiness, than because they show the relative amounts of sunshine.

My reasons for making this assertion are that they are compiled from observations taken, the country over, at 7 A.M., 3 and 9 P.M., Washington time, two of the three observations being, practically, for most places, in the night (the corresponding times for the Rocky Mountains region being 5 A.M., 1 and 9 P.M.). Furthermore, in order to show the actual number of hours of sunshine at any given place, a self-recording instrument, of the Draper or other pattern, should be used to jot down the record for every minute of the

¹ Science, October 5, 1883.² New York Medical Journal, July, 1884.³ Popular Science Monthly, March, 1886.

day. Such instruments are not introduced into the Signal Service Stations, nor has there been any in operation, in Colorado, until quite recently, when three of the stations of the Colorado Meteorological Association have supplied themselves with them. These three instruments have, however, been in operation too short a time to furnish the required data.

Turning, then, to these maps, it will be seen that, in the spring of 1882, while the highest percentage of cloudiness in the United States was from $\frac{6}{10}$ — $\frac{7}{10}$, in Denver it was from $\frac{4}{10}$ — $\frac{5}{10}$, the minimum being $\frac{2}{10}$ around Yuma.

In the summer of the same year, Denver was $\frac{3}{10}$ — $\frac{4}{10}$, as against a highest $\frac{5}{10}$ — $\frac{6}{10}$, in the East, and a lowest $\frac{1}{10}$, in lower and Western California. In the autumn, Denver was in the portion of the country freest from clouds, the cloudiness being only $\frac{2}{10}$, and in winter it was still in the least cloudy portion, the cloudiness being only $\frac{1}{10}$.

These maps show that in the autumn and winter months, Denver, which may be taken as standing for Colorado, was in the portion of the whole United States where the sky was least obscured by clouds, while, in the spring, it was about mid-way in the scale.

In considering the amount of sunshine, as influencing the extent to which an invalid can be out-of-doors, it is fair to speak not only of the number of days in a year in which an invalid can enjoy the sunshine, but the number of hours in each day. At present, we can only show this by comparison with other resorts, and by giving the hours of sunrise and sunset.

The much-famed Davos has, according to Dr. Hermann Weber,⁴ on the average, four hours and sixteen minutes per day during November, and four hours and forty-five minutes during January. This is due to its position, being located in a long and narrow valley, where the sun comes over the mountains late, and sets early.

In treating of this subject, Dr. Tucker Wise⁵ gives the following table of sunrise and sunset for the first day of January:

	Sunrise.	Sunset.
Malaja	9.35, A.M.	3.45, P.M.
Wiesen	10.35 "	3.45 "
Pontresina	8.30 "	3.10 "
St. Moritz	10.00 "	3.05 "
Davos Platz	11.03 "	3.00 "
Andermatt	11.45 "	3.15 "

By way of comparison, I introduce

Denver	7.30, A.M.	4.37, P.M.
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I do not mean to say that what is true of Denver in regard to the hours of sunshine is true of each and every portion of the State; but I do assert that it is true of most of the places of resort, and that the geographical conditions for length of sunshine that exist at most of the resorts of Colorado are beyond comparison with that of most health-resorts, for here the sun rises early over a boundless plain, and rolls on an unobstructed course to a late setting beyond the distant mountains.

Whatever the advantages, then, that come from uninterrupted sunshine—and many claim, amongst the chief of these, an increased production of blood-corpuscles—whatever the advantages that come from uninterrupted sunshine, they are to be enjoyed to the full in Colorado.

Another factor in enticing an invalid to a life out-of-doors is not alone that the sun should be shining, but

that the temperature should be comfortable. It is on this point that the Colorado climate has been most severely criticised by those who are without any personal experience of it, and it has been difficult to carry conviction to the minds of such that the assertions that have been made with respect to the comfort of being out-of-doors at mid-day in the very heart of winter, in this climate, have been true.

We, who have written on the subject, have asserted the facts time and again. We have told of going around, day after day, without overcoats; of sitting with open doors and windows; of sitting out-of-doors in shirt-sleeves; and of picnicking in mid-winter, only to be met with the: "But doesn't the mercury ever go below zero?" "Yes, occasionally it might. "Then it must be cold, where the mercury is below zero." Such persons are not to be blamed, never having experienced the difference, in feeling, between the same temperature in the damp air of the sea-board and the dry air of an elevated region, like that of the Rocky Mountains, they cannot appreciate the truth of Dr. Franklin's⁶ remark that: "Even with a much lower thermometer, the air, if still, feels warmer at an elevated station than in lower and denser regions of the atmosphere, in consequence of the slower abstraction of heat from the body."

This explanation of the "slower abstraction of heat" should be borne in mind in interpreting the figures in the accompanying table, which gives the mean temperature at Denver, Col., for the eight months, September to April, inclusive, at the hours of 9.08 A. M., 1.08 and 5.08 P. M.

MEAN TEMPERATURE, 1884-85.				
	9.08, A.M.	1.08, P.M.	5.08, P.M.	
September	67.4	75.4	74.6	
October	56.2	61.1	64.1	
November	41.6	53.3	49.9	
December	35.6	32.5	26.8	
January	37.0	35.8	33.3	
February	31.9	38.0	37.8	
March	41.5	48.2	47.7	
April	47.7	53.9	54.3	

Furthermore, it should be remembered that these temperatures are the readings of a thermometer in the "shelter-box" of the local Signal Station, placed 100 feet or so, above the ground—and, so far as possible removed from the sun's rays and the influence of solar radiation.

This factor, solar radiation, is of great importance in considering the day temperatures of Colorado; one that can be explained by figures, but not thoroughly understood, save from personal experience. Says Prof. Edward Franklin, M. D., F. R. S., whom I have already quoted:—

"The sun's rays are far more powerful at great, than at low elevations, and their intensity is much more equable throughout the day."

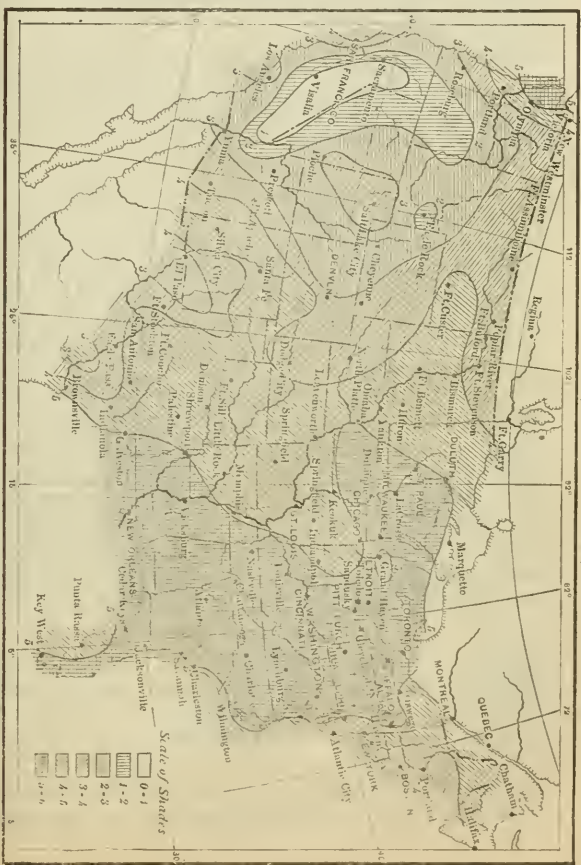
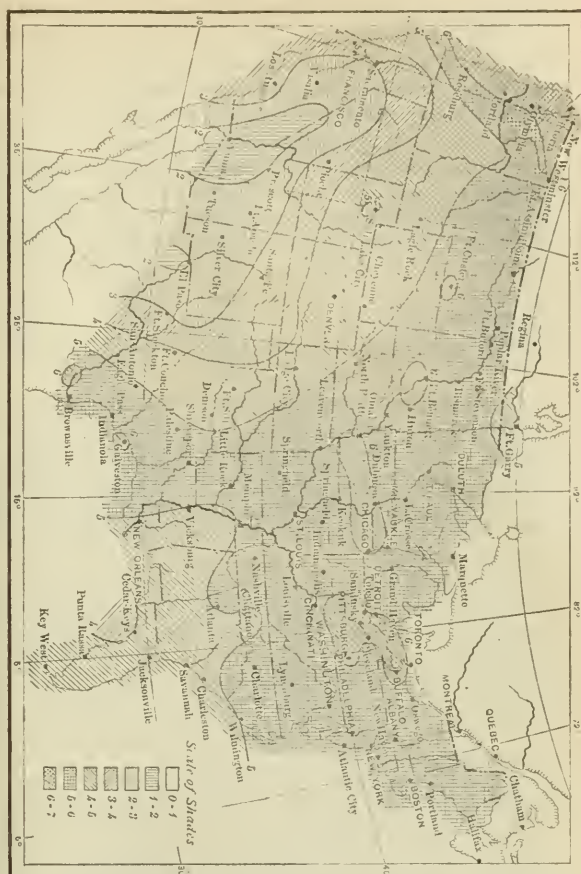
It is the *intensity* of the sun's rays, added to the *slower abstraction of heat* from the bodies that makes the day temperatures of Colorado enticing to an invalid for an out-of-door life; that makes it possible to sit with doors and windows open, and to picnic even in the middle of winter.

Not until recently have we been able to give figures in corroboration of our assertions, but for a year or more, the Colorado Meteorological Association has been taking observations with a solar thermometer (a blackened-bulb thermometer *in vacuo*) placed at the same elevation as the signal thermometer from which the

⁴ Croonian Lectures, 1885, p. 83.

⁵ "The Alpine Winter Cure," p. 68.

⁶ Popular Science Monthly, July, 1885.



readings given above, were taken, and exposed to the same surroundings save that the one is in a "shelter-box" and the other is exposed to the direct rays of the sun. The following table is a summary of results for the 1 P. M. reading for the year 1886.

MEAN TEMPERATURE. 1 P.M.			
1886.	Solar.	Air.	Difference.
January	92.5	27.3	65.2
February	106.3	48.0	58.3
March	107.8	41.1	66.7
April	110.6	52.3	58.3
May	141.3	74.3	67.0
June	142.2	75.1	67.1
July	146.5	85.2	61.3
August	143.7	81.5	62.2
September	132.3	72.0	60.3
October	119.5	64.2	55.3
November	100.0	41.3	58.7
December	100.2	45.5	54.7

It should not be necessary for me to go into an explanation of these figures. They prove conclusively that it is possible for one to be around in the sunshine of the noon hours, even in mid-winter, without an overcoat; that it is possible to sit out-of-doors, *in the sun*, even in December, or January, or February, without being chilled.

The sensation is most novel and exhilarating. A sun-temperature of great intensity beating down upon one while he is constantly being bathed with the refreshing coolness of the air. I cannot describe it! One can theorize about results as he may please. He may say that the extremes between the air temperature and the sun temperature must be injurious and not to be borne.

I know, and every one of the thousands of inhabitants of Colorado knows, that, far from being injurious, it is most salutary; that it renders life out-of-doors wonderfully attractive; that one goes swinging along, in mid-winter, unimpeded by unnecessary wraps, with a step of bouyancy and a feeling of intense exhilaration.

With these factors of which I have spoken, a large percentage of sunshine, and a temperature of sufficient warmth to do away with over-coatings and wraps, what life does not open to our invalid!

Be he quite delicate, he can sit in a sequestered nook, away from draughts and winds, and bathe for hours in the genial warmth of a hot sun, while he is breathing an aseptic, dry, rare air. Be he more vigorous, he could do as is most common with our invalids, he can ride or drive, he can play croquet, tennis, or what not. — in short, he can be out-of-doors, almost constantly from sunrise to sunset and be pleasantly occupied the while.

It may be that in making these assertions I am forestalling things that should first have been said. Life in the air would not be so enticing were there rain, or snow, or fog. To be sure, it can hardly be true that there will be much rain, or snow, or fog where there is so much sunshine; yet to clear up any doubt and to state the matter positively I introduce the following table giving the total amount, in inches, of rain or snow (melted) that fell each month of the year 1886.

PRECIPITATION, 1886.			
January	0.62	July	0.50
February	0.72	August	1.62
March	2.36	September	0.78
April	2.73	October	0.33
May	0.09	November	1.93
June	2.26	December	0.97
Total			14.87

I will further state, that having had occasion to investigate the subject, some time since, I found that

there was *not a single fog* recorded at our signal station during the months September to April inclusive, in 1884-85, as occurring between the hours of 9 A.M., and 5 P.M. Fogs do occur, but so rarely as almost to warrant the assertion that such a thing does not exist in Colorado.

One more factor I wish to speak of as favorable to out-of-door life in Colorado, and in this connection I may say that here, as in all else I have said, I make especial reference to the months that constitute an invalid's winter. September to April inclusive — and that is that this life out-of-doors is led on a dry, sandy, porous soil, free, almost the entire time, from any covering of snow and absolutely dry.⁷ It is not my object to speak of soil-moisture in its relation to the production of consumption, a subject so ably treated of by Drs. Bowditch and Buchanan, but rather to urge the advantage to be derived from being out-of-doors on an absolutely dry, sandy, soil.

How could our invalids lead the life they do were there snow and ice on the ground? Horseback riding would be impossible, and this constitutes the chief exercise of our invalid population, and even driving would be uncomfortable. I say would be, because sleighing is a condition of things nearly unknown in Colorado. When snow falls, as it sometimes does, to the extent of fourteen inches or so, the intense solar heat, and warm winds soon melt it, and the porous soil soon drinks it up, and like Aladdin's palace it is gone. Of course this freedom from snow does away with wet feet, so common when there is snow, and with the inevitable and distressing "thaw."

The advocates of ice- and snow-covered soils, such as exists in the Engadine in winter, trace its advantages to two sources; namely,

(1) It prevents dust and decay, and the microbe-laden evacuations from the soil (Hermann Weber).

(2) It influences the sun-temperatures by reflecting the solar rays from the snow (Franklin).

To show how unimportant this latter factor becomes, I quote figures from observations taken in the "Maloja," by Dr. A. Tucker Wise, and compare them with my own, already introduced.

MEAN SOLAR RADIATION.			
Maloja.	Fahr.	Denver, 1 P.M.	Fahr.
November, 1883	113	November, 1886	100.0
December, 1883	89	December, 1886	100.2
January, 1884	105	January, 1886	92.5
February, 1884	108	February, 1886	106.3
Average	103.75	Average	99.75

In regard to the prevention of dust and decay and microbe-laden emanations from the soil, chapters might be written. It might be asked, for instance, whether decay and microbe-laden emanations will not be produced to an exaggerated degree by the thawing of the ice and snow that have kept them dormant for months; and whether this thaw will not come at these resorts at times when they should be especially in demand, because of the inclemency of the weather at the invalid's home.

The microbe-laden emanations are also the results of putrefaction, and can hardly be applicable to the vast extent of mountains, or the boundless plains, where there is but little animal or vegetable matter to decompose. In communities the prevention of these emanations must be a matter of sanitation.

⁷ This is not always true of Denver, where the soil is more alluvial and is sometimes muddy, but it is true of the State at large, and especially of such places as Colorado Springs, Poncha Springs, Boulder, Idaho Springs, etc.

Perhaps the heaviest charge to be laid at our door as regards the prevention of out-of-door life, is the question of winds. While the average daily velocity in miles at Denver, is much less than in Boston, as is shown by the following table, yet it sometimes happens that we have high winds, which, in a city like Denver, where the streets are not paved and there is no snow upon the ground, picks up the dust and makes a so-called "dust-storm."

VELOCITY OF WIND, 1880.

	Spring.	Summer.	Autumn.	Winter.
Boston	257	184	223	281
Denver	156	143	115	127

In places like Colorado Springs, Boulder, Idaho Springs, Poncha Springs, etc., where the soil is more gravelly and where there are not any narrow streets, through which the wind can sweep, as through a funnel, dust-storms are infrequent. Even in Denver the days in which there was a wind of eighteen miles, or over, for two consecutive observations of the three, 9 A.M., 1 and 5 P.M., during the year 1886, were as follows:

HIGH-WINDS, 1886.

	1	July	0
January	5	August	1
February	1	September	1
March	1	October	3
April	2	November	6
May	0	December	2
June			

There were, in addition, about an equal number of times when there was a wind, of eighteen miles or over, at only one of the three observations.

These figures, I know, can carry but little idea, for unless one is acquainted with the methods of taking observations the simple statement that a wind is blowing eighteen miles an hour does not convey much information. It is nothing like a tornado, and perhaps should not be called a high wind. Many would speak of it as a pretty stiff breeze.

In mentioning the aseptic air, the clear weather, warm sun, dry soil, freedom from fogs, etc., as amongst the attractions that conduce to life out-of-doors in Colorado, I must not forget to add to them the vast number of natural objects that awaken interest and excite the curiosity.

There are mountains, and dells, and caves, and cañons to be explored; remarkable and grotesque formations in rock to be visited; an almost unknown Flora and Fauna to be studied, and upheavals and wonderful geological formations to be noted. There are mountains, on the one hand, with all the attractive features of life amongst the eternal hills, and plains close by to be roamed over at will, as one drifts about over the rolling sea.

Space will not permit of my going into detail, the guide-books and other writings are full of descriptions; and so I will draw what I have to say about the attractions to an out-of-door life in Colorado, to a close, by quoting from a remarkably impartial article written by the late Dr. Ely, who, himself an invalid, kept close observation of the weather of Colorado Springs. "From the 1st of September (1883) to the 1st of May (1884)" he writes: "I have been confined to the house by bad weather forty-two days—that is, there have been forty-two days (out of two hundred and forty-two) on which I have not been able to go out even one hour, and such may be fairly reckoned as days indoor. Of the remaining days there have been many when I should only be out from two to four hours,

and when being out was a burden to the flesh. This record is satisfactory enough for me."

He then concludes his article as follows: "Colorado can easily afford to rest on its own merits, which are indisputable, and is only injured by much of the indiscreet praise bestowed upon it by its friends. Despite all objections which may be raised, the climate is, probably, as we have already said, the very best of its kind at present available for invalids, and destined to grow in popularity as its merits become more accurately understood."

ATYPICAL TYPHOID FEVER, WITH REPORT OF A CASE.

BY H. LAWRENCE JENCKES, M.D., HAZEL GREEN, WISCONSIN.

THE typical or common form of this disease is too familiar to require any description in this article. The report, however, of a case in which the temperature during most of the patient's illness was subnormal, may be of interest.

In a lecture on the subject by James C. Wilson, M.D.,¹ at the Philadelphia Hospital, he divided the atypical forms into the following classes; namely, (a) Mild typhoid; (b) abortive typhoid; (c) typhoid of childhood (infantile remittent); (d) typhoid of the aged; (e) cases of febrile intestinal catarrh; (f) cases of afebrile intestinal catarrh. It is to this last and rare form that I would direct attention.

The writer was called on the 20th of April, 1886, to see a child ten years of age who had been unwell for several days. His tongue was slightly coated, bowels constipated. Pulse 100, temperature 100°, under the tongue when it was taken at each examination. At this visit he was given a dose of calomel and bismuth, and a Dover's powder left to be taken at bedtime. The calomel produced several free evacuations from his bowels during the night.

On the afternoon of the next day there was little change in his condition, his headache had not abated, pulse 100, temperature 101°. He was ordered a fever mixture. The next afternoon his pulse and temperature were 110 and 102.2° respectively. A milk diet was ordered. On the 24th there was no headache, but the pulse was 118, temperature 103.5°. No tympanites, but marked tenderness in the region of the ileo-cæcal valve. The case was pronounced one of typhoid fever, and the patient put upon the so-called "specific treatment" of carbolic acid and tincture of iodine, which caused so much nausea, however, that, after a few days it was discontinued, and the previous fever mixture was resumed.

On the afternoon of the 26th, the patient seemed worse. He would answer questions very slowly; his abdomen was slightly tympanitic and tender on pressure, pulse 118, temperature 101°. It will be noted that the temperature fell 2.5° on the seventh day of treatment, and about the tenth day of his illness. As he had not been overwhelmed with quinine or antipyrene, it could hardly have been the result of treatment. On the 27th, a moderate diarrhoea set in, with pulse 120, temperature 99°; in all other respects the condition was unaltered. There was no change on the 28th, but on the 29th the tympanites had increased, and blood appeared in the discharges; pulse 124, temperature 98°. For six days, until May 5th, there

¹ Medical News and Abstract, July, 1881.

was little change in any of the symptoms. Rose spots appeared upon the abdomen, the pulse ranged from 118 to 124 and temperature from 98° to 99°.

From the 5th to the 18th, the pulse remained about 115 to 120, and the temperature about 98°. On the 19th his pulse fell to 108, after a profuse perspiration, and his temperature was 98.5°. After the 20th no record was kept, but on the 24th the temperature was normal, the pulse 100. The patient was quite cheerful and sat up an hour that day. The only striking feature of this case is in connection with the temperature which remained at 98° for about three weeks, with all the other symptoms of severe typhoid fever, well marked. This case, with a few others that have been published has a tendency to prove that elevation of temperature is *not absolutely necessary* in cases of typhoid fever, although the general belief is that it is excepting in mild cases.

In looking over the literature at hand upon the subject, I can find but few cases reported. Hartshorne says: "An attack of disease, in which, on the second day, the heat in the axilla is as high as 104°, is not typhoid fever, and the same exclusion applies if, from the fourth to the eleventh day, the temperature falls below 103°."

Fräntzel³ reports the following: "Several cases of typhoid fever which attacked exhausted individuals, and which ran their course with low temperature, or without fever, but in which occurred general collapse, serious cerebral symptoms, and tendency to gangrene of the extremities, which run a strikingly acute course. Such cases indicate that high temperature is not the only cause of death in typhoid fever, but that cerebral symptoms are of great importance, and that patients even with low temperature must be carefully watched, to prevent them from the many evil consequences of even quiet delirium."

In the article on typhoid fever by Liebermeister,⁴ cases are mentioned in which the temperature is not high (afebrile cases), but such cases are classed as mild. He attributes more significance to the character of the temperature than to any other symptom of the disease.

Professor Flint⁵ says: "More or less increase of the heat of the body is invariable. The rule that, during the greater part of the disease, the temperature is raised is without exception; but, under certain circumstances, the heat may not exceed, and it may even fall below, the standard of health."

In a review article⁶ I find the following: "Mr. J. V. Lentaigne's case of fatal peritonitis, following perforation of an ulcerated small intestine, is of very great value with reference to the diagnosis of enteric fever and the occurrence of afebrile cases of that disease. The patient from whose body the specimens were taken came from a notoriously unwholesome tenement, in which thirty-three or thirty-four persons lived in eight apartments. Seven deaths had recently occurred, and one man was then sick abed. Furthermore, the main sewer of the street had been for some weeks 'open.' The man had been ill for about a fortnight, and had been refused admission to three hospitals. When received into the Jarvis Street Hospital, al-

though manifestly ill, his temperature was normal, and the difficulty in diagnosis appeared to be due to this fact. The autopsy discovered the lesions of enteric fever. The writer of this review has elsewhere insisted upon the fact, too little recognized, that enteric fever may run its course not only without the typical temperature of Wunderlich, but even with a sub-febrile temperature; and, in certain rare cases, the nature of which is established by the complexus of symptoms and the coexistence of house epidemics, actually without any rise of temperature at all. It is a quibble to say that such cases are not enteric fever. They are the specific enteric disease, of which the usual fever is merely one of the prominent, but not, therefore, always essential symptoms."

From this imperfect review of the subject, the following may be deduced:

(1) The typical course of Wunderlich does not occur in all cases of typhoid fever.

(2) Even severe cases are occasionally seen in which the temperature does not exceed the normal.

(3) That it is unnecessary, and may even be hurtful, to direct the treatment *solely* to the reduction of the fever, but that symptoms must be met as they arise.

REPORT ON PROGRESS IN DISEASES OF THE CHEST.

BY F. C. SHATTUCK, M.D., BOSTON.

MORTALITY FROM CONSUMPTION AMONG THE TROOPS IN THE UNITED KINGDOM.¹

AN important paper on this subject was read before the Statistical Society of London in January, 1887, by Robert Lawson, LL.D., Inspector-General of Hospitals. The periods embraced were from 1837 to 1846, and from 1860 to 1884, there having been no returns from 1847 to 1858.

It is shown that there has been a marked reduction in the mortality from consumption in the military, just as in the civil population.

There is a very general belief that the great reduction of consumption in the army was due to improved ventilation in barracks; this was commenced in 1859, and was pretty generally introduced in 1862, and should immediately have begun to show its effects. The mortality from consumption in 1860-62, however, was 5.80 per 1,000, and that of 1864, 5.56 — a reduction of 0.24 only after two years' full operation of the ventilation — while, in 1865, the ratio was 4.84, or full three times as great which followed the substitution of flannel for linen or calico shirts in 1864; and this low ratio continued, with little alteration, for the next fifteen years. Up to 1823, the troops wore cloth-trousers in summer. That year, white linen was introduced instead, which were often put on damp, and without any under-clothing. In 1846, a light woollen material was introduced in place of the linen. So far as the records enable an opinion to be formed, the introduction of the linen was followed by a large increase of deaths from consumption, and the substitution of woollen material, in 1846, was followed by an equally remarkable reduction. In 1880-84, the mortality from consumption between the ages of eighteen and forty-five in civil life was 2.81 per 1,000; in the army, 2.70 per 1,000.

² Essentials of Practical Medicine, p. 283.

³ Zeit. für Klin. Med., Band ii, § 217, from the Medical News and Abstract, September, 1881, p. 537.

⁴ Ziemssen's Encyclopedia of the Practice of Medicine, Vol. I.

⁵ Flint's Practice of Medicine, p. 878.

⁶ American Journal of the Medical Sciences, October, 1884, p. 93.

¹ Dublin Journal of Medical Science, March, 1887, p. 311.

It would appear that the causes chiefly concerned in reducing consumption, lately, at least, are such as improve the general health.

ASTHMA: ITS ETIOLOGY AND MECHANISM.

Glasgow² has made laryngoscopic examinations in a number of cases of asthma during the paroxysms. He was led to this course by a previous study of a peculiar condition of the nasal mucous membrane encountered in "persons of a marked nervo-vascular temperament, and in whom functional nerve disturbances were common." This condition is characterized by pallor, swelling, and œdema; any irritation of the membrane is followed by an increase in the swelling, and the pouring out of a thin, watery secretion. The swelling subsides on the inhalation of ether and amyl nitrite, or the application of atropia or morphia, but is not influenced by cocaine. The pathology of the condition is thought to be vaso-motor spasm of the arterioles of the membrane.

During an asthmatic paroxysm, a similar condition of things can be observed in the pharynx, and also in the larynx and trachea, the swelling, however, being less marked in the latter than in the former. Glasgow thinks it fair to infer that the bronchial mucous membrane shares in this condition. "I would, then, consider asthma to be a disorder of vascular irritability; that the paroxysm is directly due to a partial occlusion or cylindrical narrowing of the lumen of the bronchi, through the swelling of the bronchial mucous membrane; that this swelling is caused by a vaso-motor spasm of the arterioles, with a saturation of the tissues by the liquor sanguinis. This condition is accompanied by a general high blood-pressure.

"With this theory, we find a complete explanation of all the physical signs of asthma. We see the possibility of the rapid changes of physical signs observed during the paroxysm, and we have in its support the physiological action of all the drugs which experience has found to be of value in allaying the paroxysm. The nitrite of amyl, morphia, chloral, lobelia, and iodide of potash, in their action, allay the spasm, at the same time that they tend to reduce general blood-pressure, whilst drugs like the bromides prove of less value in breaking the paroxysms when once in force, although they are serviceable in preventing a recurrence."

In connection with the above paper, it is of interest to abstract briefly a recent paper of Professor Fraser,³ who thinks that the changes which take place in asthmatic dyspnoea under the influence of the nitrites can be explained only by the acceptance of the old and long generally-received theory that the essential feature of bronchial asthma is spasm of the muscular coat of the bronchioles.

"The first observations I made with these objects in view was in 1880, on a patient twenty-two years of age, of markedly nervous diathesis, who had suffered from asthma for several weeks. The chest was auscultated during an asthmatic paroxysm of moderate severity, and it was found that cooing, whistling, and creaking râles were abundantly present. She inhaled, during fifty seconds, a few minims of nitrite of amyl. Two minutes after the inhalation had been commenced the râles had entirely disappeared, and her breathing had become quite easy. In another minute the râles had returned, and the breathing had become more

difficult. After an interval of six minutes, when both the râles and the dyspnoea were present in their original abundance and severity, she again inhaled nitrite of amyl, this time for thirty seconds, and in forty-five seconds after commencing the inhalation the râles had entirely disappeared, and the breathing was perfectly unembarrassed. In five minutes afterwards, the original state of breathlessness, with its accompanying auscultatory phenomena, had returned. After an interval of ten minutes, nitrite of amyl was a third time inhaled, with essentially the same results as on the previous two occasions."

This observation has been since repeatedly verified, other nitrites and nitro-glycerine being used. Also in bronchitis accompanied with dyspnoea, similar results have been obtained, the breathing becoming easy, and the dry râles disappearing. Of the class of remedies under consideration, the author prefers nitro-glycerine and nitrite of sodium, both stable compounds, and capable of subcutaneous introduction into the system.

It will be noticed that Glasgow attributes the effects of the nitrites to their action on the unstriped muscle of the arterioles; Fraser, to their action on the unstriped muscle of the bronchioles.

PNEUMOTHORAX IN APPARENTLY HEALTHY PERSONS.⁴

Dr. de Haviland Hall reported, at a meeting of the London Clinical Society, a case of pneumothorax coming on suddenly, and gradually disappearing without leaving any traces behind it. He, at the same time, gave brief abstracts of four similar cases which he had found in literature. Dr. Hall, as well as most of those who took part in the discussion, thought it probable that a latent and limited tuberculosis was present in most of these cases. Dr. Burney Yeo said that, during ten years' experience at Brompton, he had never met with such a case as those described by Dr. Hall. He supposed that sufficient stress had not been put on dry pleurisy as a cause for the condition. This form of pleurisy might easily escape notice, or be discovered only by accident.

SUDDEN DEATH IN PLEURISY.

This important subject is carefully studied by Weill,⁵ who has collected, and, as far as the scanty details of many of the cases will allow, analyzed twenty-seven cases. His conclusions are of special interest in that they differ, as will be seen, in some respects from those generally entertained.

The principal conclusions to which the author's studies have led him are as follows:

(1) Sudden death in pleurisy seems to be referable to certain lesions, the chief of which are thrombosis and embolism of the heart and pulmonary artery, œdema of the lung of the other side, and changes in the myocardium. The latter are often overlooked, inasmuch as their detection requires the aid of the microscope.

(2) It is not possible, at present, positively to affirm or deny the dependence of sudden death in pleurisy on simple functional disturbances, such as syncope; mechanical causes, like dislocation of the heart, twisting of the vessels, rectangular bending of the ascending vena cava; or hypothetical lesions, such as capillary embolism of the brain.

(3) Sudden deaths occur in all kinds of pleurisy.

² Am. Jour. Med. Sciences, July, 1887.

³ Lancet, 1887, II, p. 61.

⁴ British Medical Journal, 1887, I, p. 618.

⁵ Revue de Médecine, January 10, 1887.

whether right or left; acute or chronic; in the increasing, stationary, or declining stage. The fluid is generally serous.

(4) Pleurisy terminating in sudden death may or may not be accompanied by such special symptoms as attacks of dyspnoea, premonitory faintness, irregular pulse, or displacement of the heart. Often death comes on at a time when the patient seems to be doing extremely well. It generally follows motion or exertion.

(5) Treatment, though powerless in cases of myocarditis or thrombosis of the peripheral veins, has a prophylactic value in cases of another nature. This preventive treatment is thoracentesis.

THE OPERATIVE TREATMENT OF ABSCESS OF THE LUNG (QUINCKE).⁶

A man of twenty-six was admitted into hospital with an abscess in the left lower lobe, the result of pneumonia two years before. The expectoration was not at first offensive, but became so after a fresh attack of pneumonia in the right lower lobe, apparently due to aspiration of the secretion from the cavity. The cough was very troublesome, and irregular fever was present. The examination showed that the abscess-cavity was connected with one or more bronchi, that it was lined with a smooth membrane, and surrounded by thickened tissue, but that the pleural layers over it were not adherent. The latter conclusion was warranted by the fact that the movements of the affected side were not limited, and the portions of the left lung bordering on the heart and spleen moved freely in respiration.

The indication was clear to incise and drain the cavity, but the author's previous experience had taught him the danger of such a procedure when the pleural cavity, at the point of section, is not obliterated by firm adhesions. A cut was, therefore, made June 2d, in the eighth interspace through the skin and muscles, and in the cut was placed chloride-of-zinc paste. July 2d, a fine trocar was thrust into the line of incision without result. July 9th, it was again inserted and left in place, but replaced several days later by a lead-sound. The result was again negative, as was also puncture in another spot, followed by the thermo-cautery. August 21st, an inch of the ninth rib was resected, and the thermo-cautery was worked into the lung to the depth of an inch. Several other fruitless attempts were made to reach the cavity, which finally, September 14th, opened itself through the wound. Drainage was not, however, satisfactory, and it seemed that the cavity did not communicate directly with the wound, but was connected with it by a bronchus.

The following month, portions of the sixth, seventh, and eighth ribs were resected, with the hope of allowing the chest-wall to fall in, and thus aid in the obliteration of the cavity. This hope was not realized, and the patient did not wish to undergo any more rib-resection. In December, he left the hospital and resumed his occupation — locksmith. In the last three-and-a-half years he has worked steadily, has married, and is a father. He has no cough or expectoration. The cavity still discharges, but the patient wears an ingenious contrivance of his own, which saves him any great inconvenience from the discharge, which is perfectly sweet.

⁶ Berliner Klin. Wochen., 1887, No. 19, p. 337.

While he was in the hospital, the discharge was repeatedly examined for bacilli, without result.

The report of the case is followed by remarks on the literature of the subject, and reasons for the great importance of making sure that there is pleural adhesion before operative treatment is resorted to in these cases.

AORTIC ANEURISM AND AORTIC ATHEROMA IN CHILDREN.⁷

Aneurism is a very rare disease in childhood. Roger, in 1863, showed a specimen of aortic aneurism in a child of ten years, and Crisp then reported that, out of 551 cases of aneurism, only five occurred in persons whose age varied from a few days to twenty years. In this paper, Sanné gives notes of four cases. The first, observed by Phaenomenon, was found in the body of a still-born child. The aneurism, which affected the abdominal aorta, was ten centimeters in breadth, and eleven centimeters in length. The structure of the arterial coats is said to be "altered," but in what way is not stated. The second case, that of Roger, was in a child of ten years, who had all the physical signs and clinical features of aneurism of the arch of the aorta, but was taken out of hospital before death. Case 3 was observed by Sanné himself: a child of thirteen years suffered for six months from cyanosis, dyspnoea, with occasional oedema of the legs. The physical signs showed dilatation of aorta and insufficiency of the aortic valves; death in three months. Section: hypertrophy of left ventricle; dilatation of aortic arch; atheroma and thinning of its walls, with a small sac at the top of the curve; aortic valves incompetent and atheromatous. Fourth case, reported by Moutard-Martin, had not an aneurism, but the heart was greatly dilated, and the aortic valves and aorta itself showed patches of atheroma; this child was ten years of age. A fifth case was shown by Dr. Norman Moore to the London Pathological Society, in 1882, from the body of a child of five years. The symptoms and physical signs are the same as in the adult; no information as to the etiology is given.

VALVULAR DISEASE OF THE HEART AS A CAUSE OF EPILEPSY.

Lemoine⁸ reports three cases in which the disturbances of the cerebral circulation secondary to imperfectly-compensated valvular lesions seemed to be causative of epileptic attacks. The latter entirely ceased, or grew far less frequent, after the administration of cardiac tonics — digitalis and caffeine. Two of the cases were of mitral, one of aortic disease. In the former, of course, the tendency is to venous congestion of the brain; in the latter, to arterial and general anæmia. A possible result of either of these opposing conditions is convulsion.

DILATATION OF THE RIGHT AURICLE.⁹

Schrötter lately found in a case dulness in the right side of the chest, near the sternum, over an area corresponding to the situation of the right auricle. In order to determine whether the dulness was due to a dilated auricle, or to an encapsulated pleural or pericardial effusion, he inserted a needle, and obtained

⁷ Centralblatt für Kinderheilkunde. Edinburgh Medical Journal, August, 1887, p. 188.

⁸ Revue de Médecine, 1887.

⁹ Fortschritte der Méd., 1887, No. 13, p. 415.

only pure blood, thus establishing the diagnosis of dilated auricle.

Death occurred later, apparently in no way hastened by the puncture, and marked tricuspid stenosis was found to be the cause of the increase in the size of the auricle.

SPARTEINE AS A HEART-TONIC.

In the "Report on Progress" for March 4, 1886, the high recommendation of this drug by Sée was noticed. Since that time the remedy has been tested by others, all of whom do not join with Sée in rating it higher than digitalis. Among these are Voigt, who used it in Nothnagel's clinic, and Stössel,¹⁰ who reports on its use in Schrötter's clinic. The drug was given in valvular disease, Bright's disease, and cirrhosis of the liver. Its action is similar to that of digitalis, but is less powerful, and no diuretic effect was obtained. "Digitalis is superior to sparteine in every respect," and is to be used only when the former disagrees, or as a substitute, the former having been already used with good effect.

VALVULAR DISEASE OF THE HEART KNOWN TO HAVE EXISTED FOR OVER FIVE YEARS WITHOUT CAUSING SERIOUS SYMPTOMS.

Sir Andrew Clark¹¹ finds in his case-books, between the years 1873 and 1886, "684 cases in which there existed chronic valvular disease of the heart, the presence of which was not indicated by symptoms, and did not sensibly interfere with health; and if I were to add to this number the instances which I have not recorded, the instances which I have failed to discover, and the instances which I have met with in consultation with other medical men, the number would be raised to a thousand."

These 684 cases are tabulated and analyzed: 326 of these were led to seek advice by disorders or diseases of the digestive system; 134 by disorders of the nervous system; 81 by rheumatic affections; 47 by respiratory disturbance; 30 by cutaneous diseases; and 23 by gout.

Some most interesting and instructive cases are detailed, among them cases in which the health first began to suffer after the patients were told by their physicians that they had heart disease.

In the great majority of cases of chronic valvular disease of the heart, it is not only safe, but desirable to recommend the patient to return, in a more or less modified degree, to a strict observance of the physiological conditions of life as respects diet, clothing, exercise, and occupation. But, "when the heart is irritable, frequent, intermitting, or irregular; when the murmurs vary in character and intensity; when there is any suspicion that recent changes have been occurring in the interior of the heart; and, more especially, when there is any febrile disturbance of the system, it is necessary that the patient should be kept at rest, and fed upon the lightest food."

Another point of very great interest and importance is well brought out by the author; namely, that inflammatory changes in the valves may, in the course of time, quite disappear, leaving no trace behind them. Thus organic weakness may, after lasting some years, vanish entirely.

"And now, turning to another side of our subject,

let me ask, concerning a given case of valvular heart lesion — say, for example, a case of mitral regurgitant disease — what are the conditions which, assuming, on the part of the patient, obedience to properly-adjusted rules of health, would justify us in permitting him to continue the ordinary duties and enjoyments of life, in sustaining an application for life-insurance, in sanctioning marriage, and in speaking favorably of his prospects of longevity. Well, according to my experience and judgment, these conditions are as follows:

- "(a) Good general health.
- "(b) Just habits of living.
- "(c) No exceptional liability to rheumatic or to catarrhal affection.
- "(d) Origin of the valvular lesion independently of degeneration.
- "(e) Existence of the valvular lesion without change for over three years.
- "(f) Sound ventricles, of moderate frequency and general regularity in action.
- "(g) Sound arteries, with a normal amount of blood and tension in the smaller vessels.
- "(h) Free course of blood through the cervical veins.
- "(i) Freedom from pulmonary, hepatic, and renal congestion.

"Here it must be said, as a matter of course, that the conditions of a favorable prognosis would differ for different valves, and for each valve, according to the character of the lesion. A comparatively small 'loading' might justify assurance, in a favorable case, of mitral regurgitant disease, whilst no 'loading,' however heavy, for a time however short, would warrant acceptance of a case of regurgitant disease of the aortic valves. If, in the former case, the risks to be incurred were to be reckoned as one, then, in the latter case, the risks to be incurred would have to be reckoned as a thousand. The person with aortic might possibly live as long as the person with mitral disease, but there would be such small security for the transaction, that, considering the possibilities of disaster, it could not be regarded as other than a reckless speculation."

This most valuable paper concludes with the following propositions:

"(1) That there are many persons with long-standing valvular disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, enjoyed good health, and have reached an advanced age.

"(2) That the mitral regurgitant murmurs so often encountered in chorea for the most part disappear within eight or nine years of the attack.

"(3) That valvular inflammations and their effects, arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence; and that this, occurring for the most part in the young, also occurs sometimes in the middle-aged.

"That the signs of valvular defects arising out of the degenerative changes of middle life do also, on rare occasions, disappear, and that, when circulatory and respiratory disturbances accompany their commencement, they sometimes subside, and permit of apparently complete re-adjustment.

"(5) That as there must be in the histories, habits, occupations, and surroundings of patients with valvular disease conditions which, in one case, bring about secondary disorders, and, in another case, exempt it

¹⁰ Centralblatt f. d. Gen. Therapie, 1887, p. 163. Fortschritte der Medizin, May 16, 1887.

¹¹ British Medical Journal, 1887, I, p. 260, 325, 370.

from them, it is desirable that the respective differentiae should be discovered, and made capable of application to practice.

"(6) That any systematic and critical study of this subject likely to lead to practical issues should be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners, who possess, in a special manner, the knowledge necessary to the end in view.

"(7) That a joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them."

Clinical Memorandum.

AN ACCIDENT WITH COCAINE.

BY ALBERT N. BLODGETT, M.D.

ON the afternoon of April 25th, 1887, I was visited in my office by Dr. J. R., aged twenty-three years, who has always been well and strong, and is not addicted to the use or to the abuse of any stimulant or narcotic. He desired to consult me in relation to a small growth situated upon the right side of the face, at a point about half an inch in front of, and on the level of the superior border of the tragus of the right ear. The growth had been noticed but a few weeks before, and had caused no inconvenience, but on account of a supposed predisposition to the development of malignant disease in his family, the discovery of this small tumor had given rise to some degree of anxiety in the mind of the patient. The patient was in perfect health, pulse sixty, and had been employed all day in his usual avocation. Dr. R. had used cocaine to a considerable extent in his practice for the purpose of producing local anæsthesia in the operations of minor surgery, and suggested that this agent should be employed by subcutaneous injection in his face. I agreed to this, and injected three minims of a twelve per cent. solution, which he had brought with him, and which had been specially prepared for the occasion. The syringe was one of mine, and had not been used previously to this occasion. All air was carefully evacuated from the shaft and needle of the syringe, and the cocaine was injected at two points, one in front and the other behind the tumor, care being taken to avoid the location of the facial nerve, the parotid gland, and the larger vascular channels of this region. Thirty seconds after the injection was made the patient began to complain of a feeling of great depression, a sensation of coldness, and of faintness. It was thought at first that these sensations were due to fright, or to an undue amount of apprehension as to the action of the drug; but this proved to be erroneous. The patient rapidly became cyanosed, the breathing changed to a sighing character, the pulse was one hundred and forty and weak, the face was bathed in cold perspiration, there were short periods of profound collapse with unconsciousness. The patient was assisted to a couch, where he soon became quite helpless. Stimulants were administered, the heat of the surface was maintained, the body warmly covered. At the expiration of a quarter of an hour

the finger on the pulse showed a commencing improvement in the patient's condition. With the restoration of the organic functions, came a mild form of delirium, the patient talking incessantly upon all possible subjects, and apparently not realizing that he had been in any abnormal condition. Soon the pulse was reduced to eighty per minute, and the skin became warm. The delirium gradually subsided, and the patient slowly returned to his natural state. Another injection of two minims of cocaine was now made in the periphery of the tumor, and after waiting for a few minutes, the small growth was quickly and painlessly removed. The patient remained somewhat excited and was unusually loquacious for some hours afterward, but had no return of the collapse or any other sign of impending danger.

I have thought that possibly the first injection was of too large amount, and by its sudden presence in the vascular system, may have dangerously affected the central organs of circulation, or the higher nervous centres. The latter would seem the most probable explanation, as the effect was developed with a degree of rapidity which I have never seen equalled by any other drug which I have ever used by subcutaneous injection. I was incredulous when the patient began to complain of the effects of the injection, for I thought it too soon for any effect whatever to be produced, but the clammy perspiration, the lividity of the face, the accelerated pulse, the weakness, the loss of consciousness, the sighing respiration, and the general collapse proved that it was not fright alone, for the patient was not afraid of the drug; but that it was due to the action of the substance upon the most important structures of the body.

I was much impressed at that time by the report of the fatality which had then recently occurred in Russia in consequence of the use of cocaine, and for a time feared that some unfortunate result might follow in this case, but I now think that the collapse was not of sufficient gravity to warrant so grave apprehension. I shall, however, endeavor to secure the action of the anæsthetic on future occasions by slower administration of the drug, and thus hope to avoid a repetition of this disagreeable experience.

Reports of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.¹

ELEVENTH ANNUAL MEETING.

THURSDAY, SECOND DAY. — MORNING SESSION.

At the business meeting, the following officers were elected: President, Dr. I. E. Atkinson, of Baltimore; Vice-President, Dr. P. A. Morrow, of New York; Secretary and Treasurer, Dr. G. H. Tilden, of Boston.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. I. E. Atkinson, of Baltimore, was appointed representative to the Executive Committee of the Congress, and Dr. G. H. Tilden, alternate.

The first paper read was by Dr. E. B. BRONSON, of New York, presenting a

CLASSIFICATION OF DISEASES OF THE SKIN.

The classification was made upon an anatomical

¹Continued from page 259.

basis. Cutaneous affections were divided into the following five classes: (1) idioneuroses; (2) angioses; (3) epidermidoses; (4) cryptoses; (5) dermoses. Diseases of the skin were further divided into sub-orders, tribes, families, genera, and species.

DISCUSSION.

Dr. P. G. UNNA, of Hamburg. We can never have a complete, definite, scientific classification of affections of the skin. As the knowledge of disease progresses, so must our classifications change. The ideal classification would be one made, not upon anatomical, but upon an etiological basis.

Dr. L. D. BULKLEY, of New York. I would express great admiration for the classification which has been presented, but I think that it is hardly suited for practical, every-day use. As an attempt to scientifically classify diseases of the skin, it is far in advance of any classification yet offered.

THE DIAGNOSIS OF DERMATITIS HERPETIFORMIS.

by Dr. L. H. DÜHRING, of Philadelphia.

The author had been led to believe, from the perusal of various reports of cases, that this affection was not thoroughly understood. He, therefore, thought it desirable to offer some remarks with reference to its diagnosis. The chief characteristic of the affection is the multiformity of its lesions manifested in the natural evolution of the disease. If a given case remain sufficiently long under observation, multiformity of lesion will sooner or later be noted, and this will repeat itself.

Blebs, vesicles, and pustules may appear together or separately. Mixed eruptions are the most common, vesicles predominating. In one attack or another, only one kind of lesions may be present. The disease presents clearly-defined characters in distinct elementary lesions, and certain distinctive abortive lesions. Secondary forms of lesions also exist. Pigmentation of a dirty yellow or brownish hue, and variegated, is usually a marked feature in chronic cases. Excoriations from scratching, with thickening of the skin, usually exist. In no other affection are such varied combinations of lesions met with as in dermatitis herpetiformis.

Erythema and vesicles, or vesicles and blebs, or blebs and pustules, frequently exist, side by side, in close proximity, with more or less pigmentation, excoriation, and secondary changes. Itching is usually a most distressing symptom, and is most severe in the vesicular variety. In the pustular form, subjective symptoms may be wanting. The disease is extremely chronic, extending over a number of years. In two cases under the author's observation, the duration had been thirteen and eleven years, respectively, and the disease was still active, with no prospect of cure. The eruption tends to recur at variable periods, usually six or eight weeks.

Some cases of dermatitis herpetiformis closely resemble cases of erythema multiforme, but the lesions of the former disease are less sharply defined, and the course of the two affections is different, erythema multiforme being an acute disease of short duration. The disease occasionally resembles herpes iris, but the chronicity of the affection would exclude herpes iris. The lesions are also more virulent, and accompanied with a more profound degree of cutaneous disturbance. Herpes iris is a benign affection, running

an acute course, and terminating in recovery, although subject to relapses. When the bullous varieties exist alone, they may resemble pemphigus vulgaris. The combination with other lesions will, however, prevent any confusion in the diagnosis.

With reference to the term dermatitis herpetiformis, the author stated that he had adopted it in preference to dermatitis multiformis, for the reason that there was already a disease named erythema multiforme, and the use of the term dermatitis multiformis might lead to confusion, and give rise to the opinion that its was simply an advanced stage of erythema multiforme.

DISCUSSION.

Dr. L. D. BULKLEY, of New York. I wish to briefly report a case showing some of the difficulties of diagnosis. A man was admitted to the hospital with remarkable skin lesions, and the case was regarded by all who saw it as one of dermatitis herpetiformis. The patient was suffering with fever, and the temperature remained high until death. In connection with the lesions of the skin, there was general alopecia of the body. At the autopsy generalized sarcoma was found, affecting the spinal cord and various internal organs. Whether or not the cutaneous lesions were simply the manifestation of the internal disease, I cannot say.

The President, Dr. H. G. PIFFARD, of New York. I cannot help thinking that the author has included in his description diseases of quite different nature. Some of these cases are analogous to the old hydroa, others may be of septicæmic origin, while possibly, some may be the result of local irritation. It seems unphilosophical to consider these different conditions under one head. I have seen, as the result of bites of insects, lesions corresponding to those described in some of the cases of dermatitis herpetiformis. I should hardly consider such a case an example of this disease.

THE TREATMENT OF LEPROSY,

by Dr. P. G. UNNA, of Hamburg.

The speaker, after referring to the fact that leprosy was usually considered incurable, and that as a consequence, treatment was not resorted to, stated that he had recently treated five cases of this affection with encouraging results. The treatment consists in the external use of the following ointment:

Chrysarobin	.	.	.	.	.	Five parts.
Ichthylol	.	.	.	.	.	Five parts.
Salicylic acid	.	.	.	.	.	Two parts.
Vaseline	.	.	.	.	.	One hundred parts.

This is applied to the nodules on all parts of the body with the exception of those on the face, neck and hands. In the latter situations pyrogallie acid is substituted for the chrysarobin in the above formula. Such an application may be continued for months. For some of the older nodules, this is not sufficiently strong. For these the author employs salicylic acid or salicylic and chrysarobin in the form of a plaster on muslin. This is allowed to remain two or three days or a week. Under this application the tubercles disappear.

In the five cases treated by this method, there has been a rapid disappearance of the leprosy matter in the skin. There also was in these cases a decided improvement in the general condition, although no internal remedies were given, the object being to test the efficacy of the external applications.

DISCUSSION.

DR. P. A. MORROW, of New York. I have recently had the opportunity of treating a number of cases of leprosy, and I believe that certain cases of leprosy are as responsive to chaulmoogra oil, as are cases of syphilis to mercury. In the case of a Norwegian, the subject of tubercular leprosy, the lesions have disappeared and he has apparently recovered under the use of chaulmoogra oil. On a number of the nodules of the face, I used caustic potash, and they disappeared very rapidly. Some cases, however, fail entirely to respond to this treatment.

The President, DR. H. G. PIFFARD, of New York. Some time ago I treated a case of leprosy in a young man from Bermuda. When he entered the Hospital, he was unable even to dress himself. He was given a preparation containing strychnine, and in six weeks was engaged in rowing a boat across the river. I have also used *nux vomica* in as full doses as the patient would tolerate. I am in the habit of associating this with the external use of chaulmoogra oil.

AFTERNOON SESSION.

THE USE OF MEDICATED RUBBER PLASTERS IN CERTAIN CUTANEOUS DISEASES,

by DR. H. W. STELWAGON, of Philadelphia.

The speaker had employed rubber plasters containing a certain percentage of various substances, such as chrysarobin, pyrogallie acid, ammoniated mercury and oxide of zinc. The special field of these plasters is in the treatment of certain chronic affection, such as sluggish patches of eczema, psoriasis, callosities and ring worm. A ten to twenty per cent. plaster of salicylic acid is useful in the treatment of callosities. In the treatment of lupus vulgaris the effect obtained from the pyrogallie acid plaster was equal to that obtained by the use of the ointment. Chrysarobin plaster has been used with advantage in ring worm. The application may be allowed to remain in position one or two weeks.

DR. P. G. UNNA, of Hamburg. In the plasters which I have employed, the plaster mass is spread upon muslin much more flexible than that on which the rubber plaster is spread. The adhesive material which I have employed has been either the oleate of aluminium or the best india rubber. As little of the adhesive material as possible is employed, not more than two to five grammes to the square metre. The strength of the plaster is reckoned, not by percentages, but as so many grammes of the active agent to the square metre.

SALT IN DERMAL HYGIENE AND THERAPEUTICS,

by DR. H. G. PIFFARD, of New York.

Ordinary sea water contains two per cent. of saline matter. It also contains an organic matter which gives to the skin a slimy feel after coming out of the bath. On entering sea water at a temperature of 70° a momentary chill is experienced, which soon passes off. In the course of half an hour a second chill is felt, due to the gradual abstraction of the body heat. This persists as long as the individual remains in the water. In robust individuals, who leave the water before the occurrence of the second chill, sea-bathing may prove beneficial, but in feeble individuals, the sea-bath, as ordinarily taken, is apt to result in harm, mainly, he thought, through abstraction of the body

heat by the water. The local effects upon the skin coincide with the general effects. In vigorous individuals psoriasis and chronic eczema will often be benefited by a short bath followed by rubbing. If the patient be feeble or the bath prolonged, the result will be unfavorable. Prickly heat, pruritic affections and furuncles are often benefited by sea-bathing. The principal precautions with reference to sea-bathing are not to go into the water when it is too cold and not to remain in it until the occurrence of the second chill.

The author had also experimented with artificial brine, varying in strength from 5% to 25%. When the percentage reaches 25%, the change can be detected by the feeling. If genuine sea-salt is used, the sticky, clammy feeling is apparent. If white salt is employed, there is a sensation of extreme cleanliness. A 5% solution, used as a bath at a temperature of 95%, and the immersion continued fifteen to twenty minutes, removes the bodily odors and exudations better than a bath with soap, and the body remain free from odor for a longer period than if soap has been used. The skin presents a condition of softness not seen after any other bath. A bath of a 20% to 25% salt solution had been also used with no irritating effect except upon the mucous membrane. In this strength of solution, the water does not seem to wet the skin but rolls off, leaving the body dry.

In acute eczema the use of ordinary water is as a rule followed by temporary aggravation of the trouble. In these cases a full bath of 0.5% to 1% solution had been used with great comfort to the patient. In sub-acute eczema, psoriasis, furuncles, in irritable summer rash, whether papular or pustular, and in ulcerating syphilides, a 5% solution of salt may be used with great advantage. The salt water should be used as hot as can be borne, the bath continued fifteen to twenty minutes, and should be taken just before retiring. Genuine sea-salt is not so good for the bath as coarse white salt, on account of the slimy feeling which is left. The therapeutic effects are identical.

DR. E. WIGGLESWORTH, of Boston. Was any effect upon the growth of the hair observed?

DR. PIFFARD. My observation in reference to this point is limited to my own person. I have, this summer, noticed an unusual growth of body-hair. Whether or not this was due to the daily use of a strong saline bath, I cannot say.

TWO CASES OF TYPICAL IMPETIGO SIMPLEX,

by DR. L. H. DUHRING, of Philadelphia.

Considerable skepticism exists concerning the existence of a distinct disease entitled to the name impetigo simplex. Impetigo is one of the rarest of cutaneous affections.

CASE I. A boy, aged four years, and well nourished, was brought to the author with the history that, two weeks previously, he had some itching, and this was followed by the appearance of white nodules. Shortly after this, pustules formed. They appeared a few at a time, lasted several days, and then dried up. At the time of observation, there existed about two dozen lesions upon the fingers, toes, and legs. These were typical pustules of the size of a split pea, raised about one line above the surface of the surrounding skin. They were seated upon bright-red, non-indurated bases. They were discrete, and manifested no tendency to group. Microscopical examination did not

reveal the presence of any micro-organisms in these lesions. The process ran its course in about three weeks, no local or internal treatment being employed.

CASE II. A boy, aged four years, perfectly healthy, presented a discrete pustular eruption, which had appeared seven days previously. Twenty or thirty small pustules, with a slight areola, were found. They were most marked on the fingers and toes. The pustules had thick walls, and showed no tendency to rupture. There was no itching. The disease terminated in spontaneous cure in two or three weeks. The disease in neither of these cases appeared to be contagious.

A CASE OF PURPURA WITH CIRCINATE LESIONS,
by DR. H. W. STELWAGON, of Philadelphia.

The patient, a strong and robust man, came under observation in April, 1887. The abdomen was found to be the seat of a macular, reddish-yellow eruption of annular form. The lesions were about the size of a dime. Most of them were almost completely annular in form. The eruption was most profuse on the anterior part of the trunk. The lesions were of a hæmorrhagic nature, there being no hyperæmia. The eruption had appeared as small white spots, three months previously, above the umbilicus, and had gradually extended. There were no subjective symptoms, and the general health was good. The case remained under observation for three weeks, and then was not seen for four months. The eruption had then almost disappeared. The whole duration of the case was about nine months.

So far as the author was aware, only one other case of this character had been reported, and that was put on record by Drs. Duhring and Harlingen.

The last paper was entitled

PROTEST AGAINST EXCESSIVE STRENGTH OF LOCAL APPLICATIONS (OFFICIAL AND OTHER) IN SKIN DISEASES,

by DR. S. SHERWELL, of Brooklyn.

(In the absence of the author, the paper was read by the Secretary.)

The author claimed that most of the local applications of the pharmacopœia were too strong to be used with safety. Instead of diluting these preparations, it is better to order a preparation of the desired strength, for after a preparation has been kept some time, it seems to become more irritating. Numerous illustrations of the views expressed in the paper were given.

The Society then adjourned.

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.¹

SECTION ON GENERAL SURGERY.

WEDNESDAY, THIRD DAY—AFTERNOON SESSION.

FISTULA IN ANO OF THE HORSE-SHOE VARIETY,

by SAMUEL BENSON, M.D., of London, Eng.

The objects of this paper, as stated by the author, were, first, to point out that an important cause of the failure of the operative treatment of anal fissure is the presence of a coexistent horse-shoe fistula, left un-

recognized and untreated. Second, to define what is meant by a horse-shoe fistula, and to comment upon the different kinds of horse-shoe or semi-circular fistulæ met with in practice.

Fissure is such a common complaint, that, doubtless, cases have come under the notice of all present. This malady, if taken early, is very amenable to medicinal treatment; but in many cases, especially in females, the disease is allowed to progress for some length of time before it is brought to the notice of the surgeon, and some operative treatment then becomes necessary. There is a form of fistula, horse-shoe or semi-circular in shape; namely, the blind, internal, horse-shoe fistula, which, though far more common than the complete horse-shoe fistula, is not referred to in any books that I have consulted. Some writers mention the blind, internal fistula which commences in an abscess, but the fistula referred to by the speaker does not commence with an abscess. It is merely a subcutaneous ulceration, extending between, and separating the mucous from the muscular coat of the bowel, just inside the anus, and usually commences in a fissure that has been of some months' duration. A fissure that has been neglected, or treated alternately by caustics and emollient ointments, soon drifts on to the formation of a painful rectal ulcer, with its base of an ashy-gray appearance, and the edges of the sore well marked.

While forcibly dilating the sphincter, it is quite possible that the mucous membrane may sometimes be torn from the sphincter muscle, especially around the parts near the anal ulcer, and a sinus made traumatically. Therefore, when the patient is under an anæsthetic, the examination with a blunt-pointed probe should be made at the base and sides of the fissure before the sphincter ani is interfered with. A blind, internal fistula can then sometimes be demonstrated.

Horse-shoe fistulæ, as at present understood, are complete fistulæ, the external opening being situated on the opposite side of the bowel to the internal opening. This kind of fistula is rare, having been found five times in 750 cases of rectal disease.

From these cases, we gather that fistula in ano of the horse-shoe shape may be complete or incomplete. Horse-shoe fistula may be complicated with prolapsus. The most usual complication is anal ulcer. Sometimes polypus is also found. The average age of the patient is thirty-five years, males and females being attacked indiscriminately. The average number of days in bed is fourteen. If a correct diagnosis is made, the treatment consists in laying open the sinus, and paring the edges with scissors, dividing or paralyzing the sphincter muscle, and packing it systematically with cotton-wool, to prevent the edges sticking together, and getting the wound to heal from the bottom.

A paper by ARTHUR TREHUNE NORTON, F.R.C.S., London, England, was then read by the Secretary, in the absence of the author. It was entitled,

REMARKS ON RODENT ULCER OF THE RECTUM,

in which the author declares that there is an ulcer of the rectum, persistent, unyielding to treatment, advancing to complete stricture of the rectum and usually appearing after thirty years of age.

The ulcer begins immediately within the anus, after a time extending and completely surrounding the rectum; it is accompanied by a pain which is not usually

¹ Continued from page 268.

severe, and as it extends up the rectum constriction takes place with all the signs of stricture. Treatment by dilatation sometimes relieves for a time.

From the clinical features of the disease and the microscopical characters, the author was of the opinion that the disease was identical with rodent ulcer and suggested that further investigation into its pathology be made.

The discussion which followed related to the treatment of fistulæ in general, and was participated in by Dr. Foster, of Bieracth, Syria, Dr. Quimby, of Jersey City, and Dr. Grant (Bey) of Egypt, who all related cases and agreed as to the proper method of treatment.

DR. GRANT (BEY), then read a paper entitled,

REPORT OF SOME CASES OF LIVER ABSCESS AND THEIR TREATMENT,

in which he gave as his deduction from the result of the cases the opinion that in all cases of liver abscess we should first aspirate the abscess and if that was not followed by cure then lay the abscess open, by a free incision and in extreme cases excise a portion of the ribs (one or more) over the site of the abscess so that free access might be had for clearing out the abscess cavity thoroughly with antiseptics.

In the discussion which followed, Dr. Winslow, of Baltimore, Dr. Pascal, of Mexico, and Dr. Moore took part, and while all agreed as to the principle of treatment, each had his own particular way of arriving at the same result.

DR. LEWIS H. SAYRE then followed with a paper on

THE TREATMENT OF PSOAS ABSCESS BY POSTERIOR LUMBAR INCISION,

in which the author strongly insisted on the early and free posterior and anterior incision in these abscesses, and this to be followed by thorough drainage.

DR. EDWARD OWEN, of London, opened the discussion which followed and spoke long and earnestly, strongly deprecating "ostrich surgery" in these cases, and advising early opening of the abscess with free drainage.

DR. SPRENGLE, of Dresden, thought that in many cases there would be absorption of the pus if we waited for it, and if we opened the abscess it was best to do it with an aspirator or fine trocar.

DR. LANGE spoke of the constitutional treatment, along with the surgical, and thought that he would not open these abscesses if he could avoid it, until after the acute stage had passed.

DR. CHAVASSE, of Birmingham, England, thought it best to open these abscesses as soon as possible, and give the sufferers a chance.

A paper on

THE REMOVAL OF SEQUESTRA BY SOLUTION IN ACID,

by Dr. EDMUND ANDREWS, of Chicago, was then read, in which the author gave his experiments in detail, and related a number of cases in which the sequestra had been removed by the use of acids without operation. He recommends that hydrochloric acid be used of a strength a little weaker than the official dilute acid.

FOURTH DAY, THURSDAY, SEPTEMBER 8TH.
MORNING SESSION.

The first business of the meeting was the discussion

of the paper of Dr. RICHARDSON, read on Wednesday.

GASTROTOMY FOR FOREIGN BODIES IN THE OESOPHAGUS.

DR. BURNEY, of St. Louis. I have had a somewhat similar case to that reported. A tailor swallowed an ordinary silver case-knife, which passed into the stomach. I saw him one hour after the accident and performed gastrotomy. The incision was made in the linea alba. The knife was found lying transversely with the handle towards the pylorus. A short incision was made, the knife removed and the opening in the stomach closed with a double row of sutures. I think that in such cases the continued suture is to be condemned.

Next came the discussion on Dr. DENNIS' paper on

AMPUTATION OF THE HIP.

DR. DONALD MACLAIN, of Detroit. An important practical point is with reference to the method of restraining hæmorrhage. The mortality in olden times was largely due to the defective measures of controlling bleeding. The method described by Dr. Dennis seems open to the objection that the elastic band might slip, when the operation was delayed. I have amputated the hip a number of times and have had the utmost satisfaction from the use of Lister's abdominal compressor. I believe that this is superior to any other method for controlling hæmorrhage in this region. If the compressor is not at hand the fists of an assistant will answer the purpose, the compression being made on the umbilicus.

DR. WEEKS, of Portland, Maine. I have employed an elastic compressor consisting of the ordinary black rubber bandage, doubled so as to make four strands ten feet in length. This is passed between the thighs, brought between the tuberosity of the ischium and the rectum, and up in front over the femoral artery. An ordinary roller bandage is placed over the artery. The ends are brought over in front and held by an assistant. This also controls hæmorrhage from the gluteal vessels.

DR. GUNN, of Missouri. I understood the author to state that he did not know of a case of sarcoma of femur which was alive one year after operation; I assisted at an operation on a case of sarcoma on the lower third of the thigh. Eighteen months later the patient was living and healthy.

DR. REYHER, of St. Petersburg. I think that in emaciated subjects it would not be advisable to make such sudden compression as is caused by Lister's compressor. I have used the rubber tourniquet but without special satisfaction. I have performed another operation. I make an excision in the head of the bone; I then place a stick through the wound and another in front, securing them together by rubber bands. The same thing is done with the posterior portion. The flaps can then be cut without hæmorrhage. In three operations I have had no disagreeable results from this measure.

DR. W. BOONE, of Shanghai, China. No one has alluded to the method proposed by Dr. Furnell Jordan. Where there is sufficient tissue free from disease, this seems to present many advantages. This operation is performed by making a circular cut through the muscles low down, making a flap and then turning back the flap. The bone is next divided. An exci-

ion of the head is next made. In this way you cut the vessels low down and the control of bleeding is absolute.

DR. PALMER, of Jonesville, Wis. I have used a method similar to that of Dr. Reyher. Instead of sticks, I have passed pins of sharpened steel wire through the limb in front and behind the bone and then securing them to other pieces in front of and behind the limb.

DR. CHAVASSE, of Birmingham, England. In amputating for malignant disease, the less tissue left the better. Therefore the operation of Mr. Funnell Jordan is not a good one for this particular disease. The best method is that known as Brodie's operation by anterior and posterior skin flap. In children the best plan for controlling hæmorrhage is by digital compressor. This is also applicable in thin subjects. I have also used Dary's rectal staff with satisfaction.

IODOL,

by DR. ASSAKY, of Bucharest, Roumania. The conclusions of this paper were as follows:

(1) Wounds unite under iodol by first intention. This union, however, being the result of various and complex conditions attending operation, it is not possible to attribute to iodol alone the absence of supuration and inflammatory conditions. In wounds which gape and suppurate iodol is an excellent antiseptic. It rapidly retards supuration, renders it inodorous, reduces the frequency of dressing, and hastens considerably cicatrization. In ulcerating or gangrenous wounds iodol aids to resist the destructive process and changes the wound, after a variable time, to a healthy granulating condition. This action of Iodol extends itself to hard chancres. In case of soft chancres the result is variable. Sometimes it transforms them into a simple wound with brief delay; at others it is insufficient for this purpose, and it becomes necessary to employ in addition, locally, antiseptic lotions. The same is true with reference to open venereal bubos of the groin. The powdered iodol has this advantage over iodoform, that it is free from odor and is not toxic in its effects.

(2) Doses of iodol of from 0.40 centigrammes to 2. grammes daily, produce no functional trouble, even if continued a long time. These doses give marvelous results in tertiary syphilis, and in scrofulous affections. In the secondary stage of syphilis, taken internally, it rapidly destroys the syphilitic manifestations. Iodol seems to aid the general nutrition and increase strength and flesh. It is indicated in all cases of specific malnutrition.

Iodol is an antipyretic. In acute infectious diseases, such as erysipelas, etc., it causes a rapid fall of temperature.

PARACENTESIS OF THE ARTICULATION IN THE EARLY STAGES OF DISEASES OF THE HIP-JOINT.

by MR. EDMUND OWEN, F.R.C.S., of London, England.

It is generally admitted that the sero-synovial effusion, associated with early acute disease of the hip-joint has an influence on the stiffening and faulty position of the limb. In these cases examination will usually show a deep-seated fulness below the middle of Poupert's ligament, which advances the femoral vessels towards the surface. There is also swelling behind and between the great trochanter and the

tuberosity of the ischium. An illustrative case was given. A boy, nine years of age, was admitted to St. Mary's Hospital, London, on account of extreme pain in the right hip and knee. The limb was semi-flexed, and the foot slightly everted. The attempt to bring the limb down, caused tilting of the pelvis and arching of the loins. There were all the signs usually regarded as indicating the first stage of hip-joint disease. There was slight fulness in the positions indicated. The pain had come on suddenly two weeks previous in a child apparently healthy. Chloroform was administered, but the leg remained stiff. A trocar and canula were passed through the back of the capsule, and a teaspoonful of sero-purulent fluid, containing flakes of lymph was withdrawn. The femur could then be extended and the joint was loosened. An extension apparatus was applied, and the patient was perfectly at rest. On the fourth day he was free from pain. The convalescence ran a perfect course, terminating in recovery in two weeks.

It may be said that this was not a case of hip-joint disease, but one of simple synovitis. This was admitted, but if the capsule had not been tapped, there might have developed suppurative arthritis. If this is admitted, the author claimed that potential hip-joint disease might be cured by paracentesis.

We should always be on the lookout for this condition. Where we cannot be absolutely certain that there is distension, we should give the patient the benefit of the doubt, and perform exploratory puncture. This, if done with clean instruments and ordinary care, is devoid of risk.

DISCUSSION.

DR. L. H. SAYRE, of New York. I believe that the case which he relates, if allowed to go on, would probably have ended in rupture of the capsule and perhaps destruction of the head of the bone. In the early stage of the disease when the limb is flexed, everted and abducted, as a result of over-distension of the capsular ligament, if the fluid is not absorbed by rest and counter-irritation, it is proper to puncture the joint, thus treating the hip-joint the same as any other joint.

DR. G. W. BOONE, of Shanghai, China. I think that it is well to report what we can in this connection. Two years ago my attention was called to the injection of joints with glycerine and iodoform. This I used in a number of joints. I used it in two cases where there were evidences of the first stage of hip-joint disease. In one case the symptoms disappeared, while in the other, the case ran the ordinary course of a case of hip-joint disease.

DR. LANGE, of New York. In the case reported, the child probably had tubercular disease near the hip-joint which ruptured into the joint causing effusion. In such cases the painful symptoms can be relieved by tapping the joint. To regard this as an effective treatment for hip-joint disease which must be regarded in children as essentially a tubercular affection, seems hardly proper. This case is not concluded, and we do not know what the final result will be.

DR. OWEN. This was not a case of tubercular process in the joint. The attack began two weeks before admission, was an acute effusion, and recovered within two weeks after operation. Tuberculosis does not run this course.

Next in order was the discussion on the paper of DR. GARMANY,

ON TREPHINING FOR EPILEPSY,

read on Wednesday.

DR. BURNET, of St. Louis. I have had one case of epilepsy and mania, for which I trephined. There was a clear history of injury to the head. The skull had been trephined without good effect. I also performed trephining. When the bone was removed, the dura mater came up into the opening. This I incised and at once there was an enormous flow of cerebro-spinal fluid. I introduced four catgut sutures to close the opening in the dura mater. The patient recovered, but there was no immediate improvement, although since then there has been some lessening of the number of the seizures.

(To be continued.)

AMERICAN GYNÆCOLOGICAL SOCIETY.

TWELFTH ANNUAL MEETING.

THE Twelfth Annual Meeting of the American Gynecological Society was held in the hall of the Academy of Medicine, New York, September 13, 14 and 15, 1887.

FIRST DAY—TUESDAY, SEPTEMBER 13TH.

MORNING SESSION.

The Society was called to order by the President, DR. A. J. C. SKENE, of Brooklyn. After the calling of the roll the

ADDRESS OF WELCOME.

was delivered by DR. FORDYCE BARKER, of New York.

MR. PRESIDENT, Fellows of the American Gynecological Society, and friends who honor us with their presence: The pleasing duty has been assigned me to welcome you in behalf of the Resident Fellows of New York and Brooklyn, and in behalf of the Academy of Medicine.

Our Society is organized for mutual edification and not for mutual admiration. I therefore resist the temptation to congratulate ourselves on the good work that we have accomplished in these eleven years. It is concealed that in no department of medicine has there been a more rapid growth. It may be asserted that both talent and genius have been developed and consecrated to these departments. I remember to have met this terse distinction between talent and genius: "To do easily what others do with difficulty, that is talent, to do what talent cannot do, that is genius."

Talent and genius are both original endowments and are, therefore, not qualities of which to boast, but I feel warranted in referring to the success of our Society in one of its aspects.

Our discussions have not been wanting in sharp criticism, but not in a single instance has there been in our discussions anything bearing the semblance of personal rancour. Neither has the time of our meetings been wasted in listening to profitless and wearisome discussions of personal claim to priority.

Many of you, our distinguished foreign guests, are known to many of us personally. All of you are well known to all of us by the good work that you have

done. We give you a warm welcome with the anticipation that the interests of this meeting will be largely enhanced by your participation in its work.

In accepting the honorable duty assigned to me, I have felt it incumbent on me to bear two things in mind: First, that the duty is specific, simply to welcome the Society and its guests; second, that this welcome should be as short as possible, so that no time be lost for our scientific work.

It therefore only remains for me to congratulate you, Mr. President, that you have the honor to preside over such a body, and to congratulate the Society that it has you as its presiding officer.

A STUDY OF THE CAUSES AND TREATMENT OF UTERINE DISPLACEMENTS,

by DR. THOMAS ADDIS EMMET, of New York.

The mere version cannot be regarded as the disease in those cases in which it is found. It is but a symptom. The degree of prolapse or elevation of the uterus below or above a certain line causes the symptoms. If we examine a woman suffering with prolapse, the pulsation of some branch of the cervical artery can be readily detected. When the uterus is raised to the health line a sense of relief is felt, and if it be held there for a few minutes the pulsation ceases. If, however, the uterus is raised beyond this point distress is again experienced. Anteversion is certainly not an abnormal position. Retroversion to a marked degree is frequently detected through accident where it has not given rise to the least inconvenience. Many years ago the author had shown that the most reliable means of relieving the symptoms due to anteversion, where the displacement was not due to inflammation, was a retroversion pessary with a long posterior curve. This acts by raising the neck and the body, more or less.

With reference to the causes, the speaker remarked that he would not take time to speak of the more common causes with which all were familiar, but he wished to refer to the influence of pelvic inflammation in inducing displacement. The only fixed point is in front of the neck of the bladder, where the subpubic ligament binds down the urethra. Any traction on this point leads to irritation and a desire to empty the bladder. This often results from inflammatory adhesions. The uterus may be retroflexed or anteverted, but the traction will be upon the urethra. Prolapse is the more usual consequence of pelvic inflammation, resulting from the increased weight due to the obstructed circulation. The degree of displacement is usually in proportion to the extent of the cellulitis. The effect of peritonitis involving Douglas's cul-de-sac is to raise the uterus, while versions always result from pelvic cellulitis. In cases where the inflammation is confined to the utero-sacral ligaments there will be anteversion.

In a case of backward displacement, the uterus is usually comparatively free so that the displacement can be corrected with the finger. If the organ be held in what is supposed to be its correct position, pulsation will soon be detected in some of the neighboring vessels. If a pessary be introduced under these circumstances, it will soon be necessary to remove it. In extreme anteversion the displacement cannot be corrected by means of any instrument without making traction upon the utero-sacral ligaments, and if this is done inflammation will be the result. In the treatment

of cases of displacement the result of inflammation, the general practitioner should not resort to pessaries, but should, if treatment is necessary, apply iodine, use cotton and glycerine pads, and order hot water injections.

The pelvic circulation presents certain peculiarities. In no other part of the body can so much blood be received in cases of disease. The veins are without valves and their course must be tortuous in order to overcome the force of gravity. The author had observed that if the uterus be drawn down to the floor of the pelvis and held there, the cervix and vaginal tissue become congested as the result of obstruction of the venous circulation. If, however, the traction be increased until complete procidentia is induced, the tissues become blanched as a result of the narrowing of the arteries from the traction. The relations between the pelvic tissue and the circulation were then referred to.

The whole skill in the use of the pessary consists in constructing it of such size and shape that while it relieves the prolapse it will just dispose of the overstretching. The relief is not dependent entirely upon relief of the version. Its effect is indirect, consisting in the relief of congestion. The speaker had also used cotton saturated with glycerine to lift the uterus. The quantity used was never more than sufficient to correct the prolapse. If a large quantity is employed, it is liable to cause irritation. The profitable range for the use of pessaries is not extensive. If not employed with great caution and judgment, the effects to the patient may be very serious. He believed that nothing can take the place of pessaries when properly fitted and used in the proper class of cases. He thought that their field of usefulness was more limited than is generally supposed. The displacement should not be corrected on its own account until the history of the case has been ascertained. No attempt should be made to correct the displacement so long as any evidences of recent inflammation are present. In tracing the histories of a large number of women, no instance of permanent cure has been found from the use of pessaries, in cases where there was reason to believe that previous inflammation had complicated the case.

DISCUSSION.

DR. GRAILY HEWITT, of London. The subject of displacements of the uterus has occupied my attention for a considerable period. The conclusions advanced are such as in a general way I should agree to. There seems to be a difference between American and English women with reference to the frequency of cellulitis. I have not found this complication in a large number of cases of uterine displacements. In regard to the causes of uterine displacement, it seems to me that Dr. Emmet has limited himself almost entirely to the effects of inflammation. I think that the question of the general causes of displacement are very important. The speaker has attributed the sufferings of the patient to pressure by exudation. He has not alluded to a point which I consider important, and that is, that the flexure in the uterus interferes with the circulation and causes pressure upon the nerves. To this cause I would attribute a large part of the pain. Simple straightening of the uterus relieves the discomfort. In cases of acute flexion when the sound has been used in the treatment, I have observed that when the instrument reaches the internal

os, this part is found excessively sensitive. By completing the introduction and straightening the uterus, the tenderness disappears within twenty-four hours and does not return.

There is something more to be said with reference to the use of pessaries when there is pelvic cellulitis. I agree that pessaries should not be used if there is acute congestion present. I think that there may be cases in which there is contraction and hardness associated with displacement in which pessaries may be very valuable in leading to absorption of the exudation. The pessary must of course be fitted carefully and properly applied.

PROF. A. R. SIMPSON, of Edinburgh. The last speaker has suggested that there must be a difference between the females of America and of England with reference to pelvic cellulitis. I think, however, that the difference is more with the mind of the individual who examines these cases. The same woman going to several different observers might get a different opinion from each. One, looking at the general aspects of the case, might consider it a neurosis, while another, looking at the local conditions would regard it as a case of uterine displacement.

I agree with Dr. Hewitt that the author has not taken a very large view of uterine displacements. He seemed to confine himself to the results of inflammation and to displacements occurring in women who have had children. We also have displacements in women who have been married two or three years and have not conceived. In some of these cases we have inflammation, and this is not to be overlooked. Even after we have done all that we could in the way of relieving the inflammation, it is necessary to put the uterus in proper position to fit it for impregnation.

DR. G. BANTOCK, of London. I am unable to agree with the author with reference to the frequency of pelvic inflammation. I think that perhaps the best explanation is the one given by the last speaker. I believe that experience is teaching us that pelvic inflammation is less common than we have generally supposed. Many of the cases regarded as pelvic cellulitis have been instances where the inflammation was confined to the Fallopian tube or the peritoneum lining Douglas's cul-de-sac, and especially the peritoneum covering the Fallopian tube.

I have not seen the utility of paying so much attention to the causes of displacement. In a case of a broken arm we do not inquire particularly as to the exact manner in which the injury was received, so in cases of displacement of the uterus, I do not trouble myself with regard to the cause of the trouble. The patient comes to be relieved and I proceed to relieve her as best I can. My experience is, that in the majority of cases perfect and permanent relief can be afforded by the proper use of the pessary. The proper adjustment of the instrument is the whole secret. After confinement where there is retroversion, I recommend, where the uterus is not adherent, replacement by the sound and a pessary properly applied. Where there is much tenderness it is not desirable to at once apply the pessary, but the congestion should first be relieved. Where adhesions have formed the use of the pessary must be set aside altogether.

I recall one case which I saw with Dr. J. Marion Sims, where there was well-marked retroversion. There was also supposed to be disease of the appen-

dages, and the patient was sent to me for operation. While it was possible to replace the uterus with the sound, it at once resumed its former position, when the sound was withdrawn. The abdomen was opened and it was found that there were adhesions between the fundus of the uterus and the lower portion of the pelvis. These adhesions were divided, and the result was a perfect cure.

DR. T. A. EMMET, of New York. The causes of displacement of the uterus are many, and most of them are well known. My object was to call particular attention to one class of cases which are overlooked, and which are complicated with inflammatory troubles, which will not be discovered unless an examination by the rectum is made. This is the reason there is such a diversity of opinion.

There is no one who uses pessaries more than I do, and in the majority of cases pessaries should be used and nothing else can be used, but there is a class of cases in which the use of pessaries is improper.

As regards the frequency of pelvic inflammation, I believe that it is less common abroad than in America. Our young women go into society earlier, and they contract pelvic inflammation as a result of imprudence in dress. I have found the effects of pelvic inflammation more commonly among the unmarried than among the married. The sterility which follows may perhaps be attributed to displacement of the fimbriated extremity of the Fallopian tube, and not so much to occlusion of the tube.

CYSTOCOLPOCELE COMPLICATING LABOR AND PREGNANCY,

by DR. SAMUEL C. BUSEY, of Washington.

This term is applied to the prolapse of the bladder into the vaginal passage. The prolapse may be partial or complete. It may occur anteriorly or laterally. It is well known that distension of the bladder frequently complicates labor, but the subject of cystocolpocele has not received much attention. It is a rare accident, and, when present, often overlooked. The author had been able to find six reported cases of cystocolpocele complicating pregnancy. Where the distended bladder can be detected externally, there is no difficulty, but where the prolapse is into the vagina, many of the cases are doubtless regarded as cases of threatened abortion. The speaker reported the following case occurring in his practice:

November 24, 1886, he was called to see a woman in the ninth month of pregnancy. It was thought that labor had commenced. The pains occurred at short intervals. The finger in the vagina at once came in contact with a distended pouch. The os could not be felt, and no presenting part could be discovered. It was learned that no urine had been passed since the previous day. With the fingers of one hand in the vagina, while percussion was made above the pubes, distinct pulsation was observed. It was then concluded that the case was one of distended bladder, prolapsed into the vagina. The patient was then assisted by the nurse to the commode, and passed a large quantity of urine. The tumor at once disappeared, the cervix could be reached, and labor had not begun. In this case, vesical tenesmus was not present.

The histories of the other five recorded cases were given in abstract.

Cases of cystocolpocele complicating labor, although rare, are more numerous than cases of the same

condition complicating pregnancy. The author had found thirty-seven such cases recorded. Mistakes in diagnosis have often been made, and on several occasions, the bladder has been punctured, under the impression that it was the amniotic sac.

The cause of this affection is not known. It occurs in multiparous women who have to work hard. In most of the cases there has been presentation of the head. The condition is usually accompanied with pains somewhat like those of labor, but unaccompanied with any progress towards expulsion of the fetus. In some cases there is complete retention of urine, with frequent desire to empty the bladder. More frequently, there is a scanty discharge of urine, with vesical tenesmus. If the prolapse is partial and the organ empty, a firm, hard mass, marked with rigor, will be found. If the bladder is completely prolapsed, or partially or incompletely filled with urine, there is an absence of internal serum above the pubes, and a tumor will be felt in the vagina, completely closing the vaginal canal. The finger can be swept over the lateral and anterior portions of the tumor, but not in front. Where the prolapse is anterior, labor cannot be completed until the urine is removed. The only certain sign of this affection is the discharge of urine through the urethra, and the subsidence of the swelling.

DISCUSSION.

DR. WILLIAM GOODELL, of Philadelphia. I have met with two cases of this condition: one a few days before labor, and the other during labor. In the first case, the nurse sent for me on account of peculiar symptoms. I found a body as large as the child's head, and as hard. There was severe vesical tenesmus. I could not pass the finger behind the tumor, and there was no evidence of an os uteri. Further examination showed the swelling to be due to the distended bladder. A catheter was readily introduced, and relieved the swelling. There was no return of the trouble. The other example of this condition occurred in a case of antero-posterior contraction of the pelvis. The pain was very great, but the cause of the difficulty was soon recognized. I found it impossible to introduce either the soft or the metallic catheter. I put on the forceps, and raised the head so that the catheter could be passed in. The labor was then completed with the forceps.

This condition is more apt to occur when the conjugate diameter is narrowed. In this case, the head plays on the brim of the pelvis before it enters, and any sudden contraction of the abdominal walls may cause a portion of the bladder to come down between the head and the pubes. After fixation of the head occurs, its onward movement tends to carry the bladder with it.

Adjourned.

(To be continued.)

— By the will of the late B. F. Caldwell, the Concord (N. H.) Hospital will receive \$5,000.

— A Western lay contemporary suggests an important therapeutico-commercial truth in the following colloquy: "To what do you attribute the curative properties of your springs?" asked a visitor at a health resort. — "Well," answered the proprietor thoughtfully, "I guess the advertising I've done has had something to do with it."

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ANTIFEBRINE AS AN ANALGESIC.

In a lecture recently delivered in Cochin Hospital,¹ Dujardin-Beaumetz set forth a property of antifebrine — more correctly called acetanilide — which it possesses in common with antifebrine; namely, that of antagonizing pain. He calls attention to the fact that such of the new antithermics as cause a fall of temperature by a direct and special action on the thermic centres of the spinal cord would, *à priori*, seem likely to be beneficial in affections of the nervous system that are unattended with fever, and their theoretical prevision has been substantiated by recent clinical experimentation. Thus salicylic acid has become an analgesic, and has been employed with success in neuralgias, and even in tabes dorsalis, and antipyrine has proved itself to be an anodyne of the first order; and, according to Professor Germain Sée, likely to supersede morphia as a remedy for subcutaneous injections in painful affections. Professor Sée injects seven-and-one-half grains, dissolved in a hypodermic syringe of water, and repeats the injection three or four times in the twenty-four hours. He finds antipyrine thus administered to be unirritating, and no less efficacious in subduing the pain than morphia.²

Acetanilide was discovered by Gerhardt, in 1835, by acting on a phenylamine with chloride of acetyl. It was, however, only a year ago that it began to come into use as a medicine, when, in consequence of its manifest antithermic property, it was named antifebrine by Drs. Cohn and Hepp, of Strasbourg. Shortly afterward, Lépine, of Lyons, experimenting with acetanilide in pyretic maladies, found out its analgesic properties; and Dujardin-Beaumetz, taking a hint from the results obtained by Lépine, tried it, with signal success, in nervous disorders in Cochin Hospital.

This clinical experimenter has employed acetanilide in combatting three orders of phenomena: the element of pain in general, then the special pains of locomotor ataxia, and lastly, epilepsy.

Under the first head, he remarks that acetanilide

has proved itself inferior to aconitia in the treatment of facial neuralgia; but when the cephalic pains are linked to nerve alterations, as, for instance, in certain cases of neuritis of the nerves of the orbit, acetanilide has been found to be superior to any other remedy. He cites the case of a patient who had suffered long and intensely from cephalic and periorbital pains, which, for months, had resisted aconite, bromide, and iodide of potassium, and which completely disappeared under twenty-grain doses of acetanilide. He has also obtained good results from acetanilide in the pains of acute rheumatism, myalgia, and various pains of neuralgia.

These results have been confirmed by Demieville, of Lausanne, who has shown that relief begins to be experienced very soon — often in a quarter-of-an-hour, though generally not till one or two hours, after the administration of the acetanilide. Demieville also ascribes to the new remedy marked somniferous qualities. In sciatica and in intercostal neuralgia, its analgesic effects have been most marked.³

In the lightning pains of locomotor ataxia, Dujardin-Beaumetz has obtained great benefit from acetanilide, complete relief following full doses; and like success in the treatment of these formidable pains by the same remedy has been claimed by Dr. Signé, of Montpellier. Beaumetz, however, records the fact that the relief obtained is not lasting, that the anodyne effect of the remedy in tabes dorsalis, though administered every day, is soon exhausted, lasting only about a fortnight. Fischer, moreover, has reported ten cases of ataxia in which the *douleurs fulgurantes* were treated by acetanilide. Nine were markedly benefited.

In several cases of epilepsy in which the Cochin Hospital chief made trials of acetanilide, amelioration was experienced, the convulsive crisis being lessened. In one case, that of a child twelve years of age, the improvement was most striking. Bromide of potassium had been given without any decisive results, and was finally suspended, on account of bromism. Acetanilide was then given in doses of seven-and-one-half grains, three times a day. Three months had elapsed since this treatment was instituted, and during that time the child has been quite free from epileptic attacks. Other clinical authorities, however, have tried acetanilide in epilepsy without success (Faure, Jolly, Salm).

Acetanilide is insoluble in water, but soluble in wine, in which it may be conveniently administered. As an analgesic, it should be given in doses of seven or eight grains, two, three, or four times a day.

The tests of the purity of this drug are given by Yvon as follows: "It should be odorless; it should be perfectly white. Heated on a platinum-foil, it should give a colorless liquid. Thus heated, it should be completely volatilized, and should leave no residue. Treated with hypobromite of soda, it should not give an orange-yellow precipitate."

³ Demieville. On Antifebrine as a Nervine (Revue Med. de la Suisse romande, June 15, 1887). (Cited in the Bulletin de Thérapeutique, August 15th.)

¹ Bull. Gen. de Thé., August 15, 1887.

² Bull. et Mem. de la Soc. de Thé., June 15, 1887.

JOHN HUNTER AS A SYPHILOGRAPHER.

At the time when John Hunter's work on Venereal appeared, he was at the height of his fame, and the book upon which he was known to have spent so much labor, attracted universal attention. Appearing in 1786 it was followed the next year by a French and a German translation. In 1788, the second English edition was published, and 1791 the first American. Other editions in English, French and German followed at various intervals up to 1859, with prefaces and notes by distinguished syphilographers, until it can be said that no work on Venereal before or since Hunter has ever met so distinguished a reception.

A new era began with Hunter and he is regarded even yet, as one of the most noted syphilographers in medical history.

One error he is universally known to have taught, that of the identity of gonorrhœa and syphilis, but it is a little startling to see the era inaugurated by Hunter characterized as one of deterioration and most fearful mistakes. Such is the characterization of his teaching as expressed in an article in the *Vierteljahrsschrift für Dermatologie und Syphilis*, by Proksch, of Vienna. The description is intended to apply only to his work on syphilis and not at all to his labors in other fields. Hunter's treatise on Venereal is the result of his own observation, and is written with but little acquaintance with the then existing literature, and one of the interesting points in the article to which we refer, is found in the reference to errors of Hunter's which he might have avoided by a knowledge of previous writers.

In Hunter's time the distinction between gonorrhœa and syphilis was already recognized, but in 1767 Hunter undertook his well-known but unfortunate experiment of inoculating pus from a urethral discharge upon healthy skin, a chancre, followed by constitutional syphilis, was the result, and Hunter accordingly taught that the contagium of gonorrhœa and syphilis were identical. This doctrine, in spite of many attacks based upon many negative experiments was held by the majority of physicians for a half century, or until it was overthrown by Ricord.

Previous to Hunter's publication there was much debate as to the possibility of inoculating the disease by kisses, the use of drinking-cups and instruments, and by the hands of physicians and midwives, and it was held that the secretions of secondary affections and the blood must carry the contagium. Hunter attempted to throw light upon the subject by experiment; and he inoculated various syphilitic individuals with the secretions of their own sores with negative results, while from inoculation from chancres on syphilitics he claimed to have produced chancres, and he drew the inference that the secretions of secondary affections are not inoculable even upon the healthy, and consequently he doubted or denied all the cases in which infection takes place through the blood or normal and pathological secretions. The transmission of syphilis to offspring, Hunter seems also to have

doubted, though he describes clearly a most interesting family history in the chapter on "Diseases resembling the Lues Venerea."

In regard to syphilitic disease of interior organs, Hunter said, "we have not seen the brain affected, nor the heart, stomach, liver, kidneys, nor other visera; although such cases are described by authors," an expression of opinion which served to banish all reference to internal syphilis from the text-books and from men's minds, for a half-century, until the advance in pathological anatomy again brought it to light.

Syphilitic ophthalmias were also denied by Hunter, although recognized by older syphilographers, because the so-called syphilitic symptoms in the eye were more painful than other syphilitic manifestations, and because the ophthalmic lesions never resulted in supuration.

Even the honor of first describing the induration of the initial lesion is not rightfully ascribed to Hunter. In 1779, John Andree described the indurated chancre in language quite as striking as Hunter's and the induration is plainly, though not so fully, mentioned by previous writers from Fallopius down.

A GRATEFUL PATIENT'S ESTIMATE OF THE PROFESSION.

WE have all been taught from our early years that it would be greatly to our advantage to see ourselves as others see us, but the advantage was supposed to consist in the better view of our own faults which might enable us to free ourselves from follies which are very prominent to the eyes of our neighbors. Whether equal advantage arises from a similar outside view of our virtues may be doubtful, but it is very certainly a pleasure to feel that we are seen as we would like to be seen, especially if the one who sees us and tells what he sees, has in other matters shown himself to be a person of sound judgment. Robert Louis Stevenson, the clever writer who is known to us as the author of the "New Arabian Nights," "Dr. Jekyll and Mr. Hyde," "Kidnapped," and lately as the graceful critic and essayist in "Men and Books," as well as a charming and original maker of verses, has undertaken in the preface to his latest volume "Underwoods," to answer the question, who are "the men and classes of men who, either as a rule or under some more or less exceptional circumstances, may be said to stand above the common herd." Stevenson enumerates the soldier, the sailor, the shepherd not infrequently; the artist rarely; more rarely still the clergyman; the physician, almost as a rule.

"He," the writer claims, "is the flower (such as it is) of our civilization—the possessor of generosity such as is possible to those who practice an art, never to those who drive a trade; of discretion tested by a hundred secrets; tact tried in a thousand embarrassments, and what are more important, Heracleian cheerfulness and courage. So it is that he brings air and

cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

Mr. Stevenson, it will be remembered, has not led the life of a recluse, but has been an extensive traveler, is apparently well acquainted with men and things, and has "enjoyed" much of many physicians within a range from San Francisco to Montpelier, and Bournemouth to Davos Platz. He considers himself under special obligation to eleven physicians, but states they are only a few out of many who have brought him "comfort and help."

It might be thought that we of the guild, on reading this high praise, might be in danger of making "broad our phalacteries" to an alarming extent, and thanking God we are not as other men are. We do not, however, suppose that Mr. Stevenson meant to imply that every practitioner of the healing art was a flower such as it is of civilization. Perhaps he may not be justified in drawing his conclusions from even his unusually large experience.

If any man feels himself in danger of being puffed up by such praise, he need only look up the articles published, about six years ago, in England, to feel that some, at least, there are who see another side to the profession. But surely, the profession has had a training which must make its members, to a certain extent, indifferent alike to praise and blame, for, indeed, no class of men are praised and blamed so indiscriminately.

There are, we are glad to know, in the ranks of the profession not a few who deserve all the praise contained in the sentences quoted; if others are conscious that Mr. Stevenson's estimate, as applied to them, is exaggerated, it may prove, at least, a stimulus to cultivate the qualities with the possession of which his active imagination has too gratefully endowed them.

SMALL PARKS AS BREATHING SPACES.

By a wise act of the New York Legislature at its last session, provision was made for establishing new small parks, from time to time, in various parts of the city below One Hundred and Fifty-Fifth Street, and last week, at the Mayor's office, there was held a meeting of the Committee of the Board of Street Opening, to whom the matter had been referred, for the purpose of discussing suitable sites for the parks in the tenement-house districts, where they are most needed, as well as in the upper wards, which are not as yet closely built up. Dr. John T. Nagle, of the Health Department, presented a report showing the number of residents to the acre, in the different wards of the city, which range from two in the 24th Ward, to 433 in the 10th. In eight of the down-town Wards, the population is over two hundred to the acre, and these were the ones which he believed to be most urgently in need of the small parks. According to the provisions of the new law, not more than \$1,000,000 can be expended for the purpose in any one year, and it is, therefore, estimated that about one park a year can be laid out.

MEDICAL NOTES.

— Despatches from Rome, under date of September 19th, say that the cholera afflicting the inhabitants of Messina is of the most violent character, death frequently ensuing an hour after the attack. The mortality is not confined to the lower classes. There is great misery among the people. The grave-diggers refuse to pursue their calling until compelled to by the troops. The epidemic has appeared in the prisons.

— A correspondent writes to *Science* that in the Texas grazing region, from which has sprung, within the last two decades, the entire stock of range cattle of the western states and territories, the beef tape-worm is a most common occurrence. In fact, he asserts that at least every fifth person is afflicted. The cause of this is that on open ranges the eggs of tape-worm are most easily and widely distributed, and hence the cattle more frequently become infested with cysts. Stall fed cattle, on the other hand, where the water is usually less subject to contamination, and the food cleaner, are only seldom infected, and hence tape-worm was not so prevalent in regions where the latter were used.

In the last few years, however, the shipment of range-cattle, by means of refrigerator cars, has become the chief beef supply of the East, and the danger and frequency of tape-worm greatly increased. Of course, no one should stop the use of well-cooked meat on this account, but rare and half-cooked meats can easily be avoided.

NEW YORK.

— At a meeting of the Board of Health held August 31st, ten of the summer corps of visiting physicians were transferred to the vaccinating corps.

— At a meeting of the Board of Health, held September 7th, Dr. W. de Forest Gay was relieved of the duties of Registrar of Vital Statistics. He remains Sanitary Superintendent (a position which he has filled in a most satisfactory manner for many years), at a salary of \$4,800 per annum. Dr. Roger S. Tracy, Chief Sanitary Inspector, was appointed Registrar of Vital Statistics, his salary being advanced from \$2,600 to \$3,000, and Major Willard Bullard was made Chief Sanitary Inspector. Dr. Taylor, Chief of the Bureau of Contagious Diseases, was directed to prepare and present a plan for the instruction of medical and sanitary inspectors, having in view the more satisfactory control of all preventable diseases. On and after January 1, 1888, there is to be a first grade of medical inspectors, who, for the first three years, shall receive a salary of \$1,200 per annum. They may then be promoted, for merit and satisfactory service, to a second grade, at \$1,500 a year for two years; then to a third grade, at \$1,800 a year for three years; and finally, to a fourth grade, at \$2,000 a year.

— On September 14th, Archbishop Corrigan, of the Roman Catholic Church, laid the corner-stone of the new St. Joseph's Hospital for Incurables with appro-

prate ceremonies. This institution will occupy a block in the annexed district beyond the Harlem, on the eastern side of the city. The site is a fine one, directly opposite the new St. Mary's Park, and the main building, which fronts on 143d Street, is to be two hundred and forty by one hundred feet. Back of this and fronting on 144th Street, will be the residence of the Sisters of the Poor of St. Francis, who are to have charge of the hospital, and between the two buildings, and connecting them, will be a chapel. The cost of the whole is estimated at \$250,000, and there will be accommodation for two hundred and fifty incurable patients.

—The College of Physicians and Surgeons, which is about to occupy its magnificent new buildings opposite the Roosevelt Hospital, announces that, after the session of 1887-88, preliminary examinations will be required in the cases of all applicants for matriculation who profess to enter for the degree of M.D., except from those who have been graduated at recognized colleges or can present certificates to the effect that they are proficient in the branches included in the preliminary examination prescribed by the College. The examinations are to be in writing, and will be held semi-annually.

—It is said that Dr. Charles E. Simmons, who is at present one of the Commissioners of Charities and Correction, has presented a bill of \$143,000 to the trustees of the estate of the late Samuel J. Tilden, for services rendered during the life of the deceased. Dr. Simmons was on terms of intimacy with Mr. Tilden, and visited him almost every day for about eight years. If the amount named is correct, its large size is probably due to the fact that during a very considerable portion of this time his patient resided at his country-seat on the Hudson, above Yonkers.

—During the recent annual meeting of the American Gynecological Society, which was held at the Hall of the New York Academy of Medicine, there were present a number of distinguished foreigners who had been in attendance at the meeting of the International Medical Congress, in Washington, and among these were Drs. Graily Hewitt and George Granville Bantock, of London, A. R. Simon, of Edinburgh, G. Apostoli and A. Doléris, of Paris, August Martin, of Berlin, and A. Cowles, of Geneva. On the evening of September 13th, Dr. P. F. Mundé entertained these gentlemen, with a number of American guests, at a dinner at the Union League Club, and on the 15th, the annual dinner of the Society was held at Delmonico's; while on the 14th, Dr. Fordyce Barker gave a large reception at his house to the American Gynecological Society, its distinguished foreign guests, the Obstetrical Society of New York, and the members of the Obstetric Section of the New York Academy of Medicine.

—The fourth annual meeting of the New York State Medical Association, will be held at the Hotel Brunswick, September 27, 28 and 29.

Miscellany.

A NEW MEANS OF DETECTING ALCOHOLIC AND SIMULATED STATES OF COMA.

DR. VON WEDEKIND, writing in the *Medical Record*, claims a sure method of detecting malingering hysterics and alcoholic patients, which he has practised successfully in the Ambulance Service of the Chambers Street Hospital, New York. He says that by simply pressing on the supraorbital notches with a steadily increasing force, one may, with a certainty of success, detect a malingerer; bring an unconscious alcoholic to his senses, and thus differentiate on the spot between alcoholic and other comas; cause cessation of hysterical convulsions, and in many instances quiet violent alcoholic delirium. The best way of applying this test is: When the patient is in the recumbent position, the physician, standing at the head of the cot, or kneeling when the patient is on the ground, fixes the tips of the thumbs over the supraorbital notches, as above described, never minding the occasional yell or struggle, press steadily, gradually increasing the force, and in half a minute or a minute the result is accomplished.

The success of this method he illustrates from the fact that of the 213 alcoholic patients to which the ambulance was called, 137 were comatose, the police and friends being utterly unable to arouse them, and this treatment brought 128 of the 137 to consciousness. Of the cases where no result was obtained, 5 were, besides alcoholism, suffering from cerebral concussion, two fracture of the base of the skull, one uræmic coma, and one from syncope from valvular heart trouble.

In the 18 cases of hysteria there was absolute success; no one case failed to respond, and the same with malingeringers. Nine of twenty-eight cases of delirium tremens quieted down and spoke rationally; in the remainder there were varying degrees of success; some becoming more quiet, while in others but little change was noticed.

OBITUARY.—CHARLES ELIOT WARE, M.D.

A shining light was extinguished in the death of Dr. Charles Eliot Ware, which took place suddenly, on Saturday, September 3d. It is surely appropriate that a surviving friend and contemporary should bear testimony to his worth and his excellence, and should try to hold up to the younger members of the profession, who have not known him in his days of strength and activity, a model of the faithful, honest, skilful practitioner of medicine. The path of a medical practitioner has its special trials and temptations. The patients and attendants can not always judge of the skill and honesty of his work. The fear of God and an enlightened conscience are greatly needed for faithful work. With all the helps and restraints of medical colleges, associations and societies, greed, ambition and selfishness do claim their victims. He, who in a long life as a practitioner of medicine, has always been honest, honorable and unselfish, commands our admiration.

Dr. Ware's chief inheritance was a good name. His father, for many years the Professor of Divinity in Harvard University, known and respected of all men, two brothers, ministers of the gospel, highly esteemed in the community where they labored, a brother in great repute as practitioner of medicine and a valuable and honored professor of the theory and practice of physic in Harvard University were among his forbears. He took up their mantle and maintained his integrity during a life of

more than three score and ten years. We can safely point to his character as worthy of admiration and imitation.

He had a good education, graduating at Harvard College in the class of 1834 and from the Harvard Medical School in 1837. He neglected no opportunities of self-improvement. Fidelity to duty was the aim of his life. His numerous patients recognized in him a counsellor to whom their interests and welfare were the paramount object. He trained his intellect, he stored his mind with knowledge for their benefit. He had naturally a sound judgment, a dignified deportment, unflinching courtesy. He was emphatically a just man. His brethren of the profession felt they were always safe in his hands. Of no one did he ever take advantage. He never sought honor or public office. He accepted and faithfully discharged all duties assigned to him. He was a Visiting Physician at the Massachusetts General Hospital from 1857 to 1867, when he resigned and was appointed upon the Consulting Staff. He was a trustee, a member of the executive committee

and vice-president of the Board of the Boston Lying-in-Hospital, and this useful institution owed much to the active and intelligent interest which he always manifested in its welfare.

He served the Massachusetts Medical Society for six years as Secretary. For three years he was the Secretary of the Boston Society for Medical Improvement. He sought emolument only in the faithful performance of work.

The duties of a son, brother, husband and father were discharged with love and fidelity. He was always considerate of the poor and needy. His professional skill was always at their disposal, and he was foremost in all charitable work.

Such men are an honor and credit to the profession. Dr. Ware's example is a legacy. He has gone where brilliant talents, great riches and honors are of avail only as they have been used for others. His friends may fondly anticipate for him that verdict which we all must covet, "Well, done, good and faithful servant."

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 10, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	781	360	27.29	13.00	15.86	1.69	.97
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	139	61	23.76	8.96	11.52	2.16	5.14
Boston	400,000	204	90	19.60	18.13	11.76	2.45	1.96
New Orleans	242,750	119	39	25.20	13.44	10.08	—	5.04
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	104	42	22.08	14.40	9.61	5.76	3.84
Pittsburgh	210,000	80	32	40.00	12.50	7.50	11.25	17.50
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	65	48	35.42	1.54	32.34	1.54	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	21	4	38.08	33.33	23.80	9.52	—
Charleston	60,145	32	16	15.65	3.13	6.26	—	—
Portland	40,000	9	4	33.33	11.11	22.22	—	11.11
Worcester	68,383	29	9	31.05	3.45	20.70	3.45	3.45
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	12	22.10	7.70	7.70	3.85	—
Fall River	56,863	34	15	32.34	14.70	20.58	5.88	2.94
Lynn	45,861	18	8	22.22	16.66	11.11	5.55	—
Lawrence	38,825	16	7	25.00	18.75	6.25	12.50	—
Springfield	37,577	13	6	30.76	7.69	15.38	—	15.38
New Bedford	33,393	19	10	42.08	5.26	21.04	—	15.78
Somerville	29,992	6	2	16.66	—	—	—	—
Salem	28,084	16	5	12.50	12.50	—	6.25	6.25
Holyoke	27,894	12	2	16.66	33.33	16.66	—	—
Chelsea	25,709	10	3	10.00	30.00	10.00	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	10	5	30.00	20.00	20.00	10.00	—
Gloucester	21,713	9	4	66.66	—	44.44	22.22	—
Brockton	20,783	10	3	20.00	20.00	10.00	—	—
Newton	19,759	11	4	27.27	9.09	5.09	9.09	—
Malden	16,407	6	5	—	—	—	—	—
Fitchburg	15,375	5	2	20.00	20.00	20.00	—	—
Waltham	14,609	5	3	20.00	20.00	20.00	—	—
Newburyport	13,716	12	3	16.66	—	16.66	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,821: under five years of age 804; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 481, consumption 222, lung diseases 120, diarrhœal diseases 259, diphtheria and croup 96, typhoid fever 51, malarial fevers 27, scarlet fever 16, whooping-cough 14, cerebro-spinal meningitis eight, erysipelas six, puerperal fever three, small-pox (New York) one. From malarial fevers, New Orleans 12, New York nine, Charleston three, Baltimore two, Nashville one. From scarlet fever, New York 10, Baltimore and Cambridge two each, Boston and Pittsburgh one each. From whooping-cough, Boston five, New York four, Baltimore, Pittsburgh, Milwaukee, Cambridge and Lawrence one each. From cerebro-spinal meningitis, New York three, Washington, Fall River, Lynn, Somerville and Brockton one each. From erysipelas, Balti-

more, New York, Boston, Pittsburgh and Worcester one each. From puerperal fever, Washington two, New Bedford one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 27th, the death-rate was 20.8. Deaths reported 3,692: infants under one year of age 1,391; acute diseases of the respiratory organs (London) 160; diarrhœa 615, whooping-cough 98, scarlet fever 68, measles 58, fever 45, diphtheria 36, small-pox (Sheffield) five.

The death-rates ranged from 17.7 in Sunderland to 38.8 in Preston; Birmingham 22.4; Hull 21.2; Leeds 19.2; Leicester 19.0; Liverpool 22.9; London 18.5; Manchester 29.2; Newcastle-on-Tyne 22.9; Nottingham 19.5; Sheffield 24.7.

In Edinburgh 18.4; Glasgow 18.2; Dublin 29.3.

The meteorological record for the week ending September 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																				
Saturday, Sept. 10, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, . . . 4	30.21	63.0	69.0	58.0	50.0	68.0	79.0	66.0	N.	E.	S.W.	14	12	8	F.	C.	C.			
Monday, . . . 5	30.17	68.0	79.0	52.0	83.0	58.0	75.0	72.0	N.W.	W.	S.W.	4	1	9	C.	C.	C.			
Tuesday, . . . 6	29.91	68.0	80.0	59.0	84.0	50.0	80.0	71.0	W.	S.W.	S.W.	10	18	12	C.	F.	O.			
Wednesday, . . . 7	29.57	72.0	80.0	66.0	90.0	68.0	93.0	84.0	S.W.	S.W.	W.	11	24	8	C.	F.	O.			
Thursday, . . . 8	29.85	62.0	69.0	59.0	68.0	53.0	68.0	63.0	W.	N.W.	N.	19	12	5	C.	F.	C.			
Friday, . . . 9	30.05	63.0	72.0	52.0	72.0	56.0	84.0	71.0	N.W.	S.W.	S.W.	1	12	12	C.	O.	C.			
Saturday, . . . 10	30.11	64.0	75.0	55.0	95.0	58.0	70.0	74.0	N.W.	N.W.	N.	12	10	12	C.	F.	C.			
Mean, the Week.																		6	.67	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 3, 1887, TO SEPTEMBER 16, 1887.

PERLEY, H. O., captain and assistant surgeon. Ordered to accompany battalion of the 23d Infantry from Fort Wayne, Mich., to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

SCUTER, WM. N., first lieutenant and assistant surgeon. Ordered to accompany battery "E," 3d artillery, from Washington Barracks, D. C., to Philadelphia, on the 14th inst., to participate in the military parade, during the celebration of the Centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

BYRNE, C. C., major and surgeon. Detailed as a member of the Army Retiring Board in Washington City, vice-Captain Washington Matthews, assistant surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

O'REILLY, R. M., major and surgeon. Ordered to proceed to Fort Niagara, New York, on public business, and upon completion thereof to return to his proper station, Washington, D. C. Par. 10, S. O., 203, A. G. O., September 3, 1887.

BANISTER, W. B., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell, of Assistant Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters, Department of Arizona, August 29, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 17, 1887.

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from "Constellation," and to the Naval Academy, Annapolis, Md.

AYERS, JOSEPH G., surgeon. Detached from Torpedo Station, and wait orders.

WISE, JOHN C., surgeon. Ordered to relieve Surgeon Ayers at Torpedo Station.

CONES, SAMUEL T., medical director. Detached from Hospital, Chelsea, Mass., and placed on retired list September 17th.

BRADLEY, GEORGE P., surgeon. Leave of absence extended six months with permission to remain abroad.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING SEPTEMBER 10, 1887.

SAWTELLE, H. W., surgeon. Granted leave of absence for fifteen days, August 31, 1887.

CARMICHAEL, D. A., passed assistant surgeon. Granted leave of absence for thirty days, September 5, 1887.

FATTIE, J. B., assistant surgeon. Ordered to Cairo, Ill., for temporary duty, September 6, 1887.

DEATH.

Dr. James P. Webb, of Bridgton, Me., an eminent physician, died recently, aged sixty-four.

SOCIETY NOTICES.

NEW YORK STATE MEDICAL ASSOCIATION.—The Fourth Annual Meeting of the New York State Medical Association will be held September 27, 28 and 29, 1887, at the Hotel Brunswick, Fifth Avenue and 27th Street, New York City.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—The regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, October 3d, at eight o'clock. Readers: Dr. R. A. Kingman, "Anæsthesia in Normal Labor," (second paper). Dr. E. N. Whittier, "A Dissecting Mesenteric Aneurism."

CHARLES P. STRONG, M.D., Secretary.

OBITUARY.

ALONZO CLARK, M.D., LL.D.

Dr. Alonzo Clark, the distinguished professor, clinical teacher, and consultant, died September 13th, in his eighty-first year. He had been in feeble health for some years past, and during the last three or four years his mental powers had become more and more impaired. For three days preceding his death he was in a comatose condition. Dr. Clark was graduated from Williams College in 1828, but it was not till 1835 that he completed his medical studies at the College of Physicians and Surgeons of New York. He early took high rank as a teacher and lecturer, and the first professorship which he held was that of pathology and materia medica in the University of Vermont Medical School at Burlington. In 1848 he was called to the Chair of Physiology and Pathology in the New York College of Physicians and Surgeons, and seven years later he was made Professor of Physiology and Practical Medicine in his Alma Mater. While Dr. Clark wrote comparatively little, his career as a medical teacher and consultant was a most brilliant and successful one, and few men have reflected more honor on the American profession. He was for many years visiting physician to Bellevue, St. Luke's and other hospitals, where his clinical lectures were always largely attended, and in 1853 he was President of the Medical Society of the State of New York. He was also President of the New York Academy of Medicine and other societies. Dr. Clark never married. His funeral was held in the Madison Square Presbyterian Church on September 17th, and was attended by the Fellows of the Academy of Medicine, the Faculty of the College of Physicians and Surgeons, and many other medical men.

BOOKS AND PAMPHLETS RECEIVED.

The Pathology and Physiology of Diabetes. Prosper Bender, M.D. Boston, 1887.

Transactions of the Colorado State Medical Society. Seventeenth Annual Convention, Denver, June, 1887.

Annual Announcement of the Louisville College of Dentistry. Dental Department of Central University. Louisville, Ky.

Vaso-Renal Change *versus* Bright's Disease. By J. Milner Fothergill, M.D., Edin. New York: G. P. Putnam's Sons, 1887.

Report of the Trustees of the Newport Hospital, presented to the Corporation at their Fourteenth Annual Meeting, July 12, 1887.

Intubation of the Larynx. Papers read before the New York Academy of Medicine, in the stated Meeting of June 2, 1887. A. Jacobi, M.D., President, in the Chair. By A. Jacobi, Joseph O'Dwyer, Francis Huber, Dillon Brown, W. P. Northrup, I. H. Hance, and A. Caillé. New York, 1887. (Reprint.)

Original Articles.

FOUR MONTHS EXPERIENCE IN MINOR SURGERY AT THE BOSTON CITY HOSPITAL.

BY HERBERT L. BURRELL, M.D.,
Surgeon to the Out-Patients at the Boston City Hospital.

DURING the last four months I have seen 1,685 new cases of minor surgery, many of them common and a few unique in character. On collating this mass of material the idea suggested itself that an instructive interchange of opinions might take place if a few personal experiences were presented to this Section.

The everyday technique of the practical surgeon is, I fear, in danger of being lost in the bold ventures of modern surgery, and if this paper leads to the development of a few practical points in the art of surgery, the writer's purpose will have been accomplished.

I shall try to select a few interesting details in the work, from the mass with which I have to deal, and will present those cases which may be of value for discussion.

ABSCESES.

Sixty abscesses in various locations have been treated; the majority have been rendered externally aseptic by the free use of corrosive sublimate 1-2000, freely incised, and their contents evacuated; in a few cases they have been curetted, and all have had an antiseptic dressing applied. This method has been quite satisfactory, but occasionally it has been found necessary to omit the use of iodoform, owing to its irritating action producing an erythema. I feel quite sure that many abscesses have been hastened in their healing by removing the antiseptic dressing after the fifth or seventh day, and substituting an "open dressing," like carbolic or phenyle poultices, balsam Peru or chlorinated soda wash.

Of ten abscesses of the neck, four chronic abscesses that had small clearly-defined cavities with liquid contents, were treated by the use of a silver wire seton; the method employed is as follows: the surface is rendered aseptic, a needle doubly threaded transfixes the abscess from brawny edge to brawny edge, the looped thread draws through a small piece of silver wire, whose ends are caught together: this is covered with iodoform, antiseptic absorbent cotton and a firm bandage. In three days the dressing is removed, when it has been found that in all but one case that the contents of the cavity had been evacuated at the side of the wire. Contractile collodion is then painted on over the surface between the points of entrance of the silver wire; again absorbent cotton and bandage are applied, and in the course of a week the dressing and wire are removed. There results only two minute punctate cicatrices, which soon become almost imperceptible.

BITES.

One cat, one human, two horse and seven dog bites have been treated, none of which have been followed by any serious symptoms. In two of the dog bites, which were severely lacerated, the punctured wounds of the teeth were united by a free incision, that the wound might be thoroughly cleansed; in all of these cases the reparative process was very slow.

CONTUSIONS.

Forty-five contusions of various parts of the body

have been treated, principally by immobilization, oakum pad compression and firm bandaging. Wet dressings were rarely used.

CRUSHING OF FINGERS, HANDS AND TOES.

Twenty-seven crushes of these members have been treated; this excludes all cases where amputations were performed. They all did well under antiseptic dressings; in fact, I can recall only three cases in which suppuration of any importance occurred, and all of these were cases in which the nail was split down to the matrix, and acted as a foreign body in the healing wound. I feel quite sure that it is better to primarily remove nails that have been split or crushed at the matrix.

FELONS.

Twenty felons have been freely incised, antiseptically dressed, and the digit returned to usefulness in a little over a month's time.

This period has been extended to ten or twelve weeks in five cases, owing to prolonged suppuration from the separation of a phalanx; in none of these cases has there been any extension in the form of lymphangitis or suppurative teno-synovitis. All hands with wounds of any description have been placed upon splints.

FROST-BITES.

Ten of these cases have been treated in a very unsatisfactory fashion, possibly owing to the intrinsic difficulties attending the treatment of these cases. Carbolic acid, and balsam of Peru have been the applications used, but have had apparently no effect in hastening the reparative process.

GANGLIONS.

Eighteen cases of ganglion of the extensor and flexors of the hands have been treated. One by subcutaneous puncture, and sixteen by rupture of the sac, by pressure of the super-imposed thumbs; one I failed to rupture, and the patient disappeared. Two of the sixteen ganglia refilled and were re-ruptured. The after-treatment was compression by pad and bandage.

SPASMODIC HAMMER-TOE.

By which is meant a spasmodic paroxysmal flexion of a toe. I have met three cases of this affection; they have all occurred in young girls, who wore ill-fitting boots and were of a nervous temperament.

The affection is spasmodic, extremely painful during a paroxysm, and apparently perfectly well in the intervals. It is subjectively described as a cramp. In two of the cases it was worse at the menstrual period. A broad-soled boot and the fixation of the toe to a plantar pad of a roller bandage sufficiently large to fill out the concavity of the flexor surface of the affected toe, was found quite efficient.

HYDROCELE.

Nineteen cases have been treated by evacuation of the fluid by means of a small trocar; ten or twelve mm. in circumference. All of the sacs have refilled in from two days to three months; once the testicle was wounded, which was followed by an attack of orchitis. The opening in many cases was sealed with compound tincture of benzoin; adhesive plaster rarely remains in position over a few minutes.

PES PLANUM.

There have been six cases in young adults, which incapacitated them from labor. The affection usually manifests itself when the patient is obliged to stand or walk a great deal; the pain is very severe in character and has been referred in these cases to three points: to the inner middle surface of the sole of the foot and to the interspaces that exist between the malleoli and the os calcis.

Complete relief has been afforded most of these cases by the application of a properly fitted valgus plate. It has been sometimes necessary to carry the plate well up to the inner malleolus in order that a proper support for the arch of the foot might be gained.

SPRAINS.

Sixty-two sprains in various locations have been treated by immobilization, firm pressure by pasteboard and bandages, and in a few cases the collodion treatment has been satisfactorily used.

In a few cases where there has been but little tenderness over the joint, and a non-inflammatory œdema had existed; systematic massage from the beginning was used with satisfactory results.

In a large number of cases of sprains, as soon as the tenderness of the tissues about the joint diminished and wrinkling of the skin occurred, the foot was systematically douché with hot water, massaged and a firm bandage applied.

TENOSYNOVITIS, OR SUPPURATION IN THE SHEATHS OF THE FLEXOR TENDONS OF THE FINGERS.

Five cases have been checked by free surgical incisions over the palmar surface of the affected digit, the incision being made in the median line of every tender joint, the flexure of the joint being carefully avoided.

Under antiseptic precautions, and with thorough immobilization, this treatment has been eminently satisfactory. In only one case did permanent contraction of the finger occur.

TENOSYNOVITIS, OR CREAKING TENDON.

Four cases have been treated, and in all it was apparently due to prolonged use of the flexors or extensors of the arm. The treatment has been absolute rest by a splint, and in two of the cases, by the application of blisters. The arm has been returned to usefulness in from three to four weeks.

CHRONIC ULCERS OF THE LEG.

One of the most useful dressings in the treatment of ulcers is the so-called antiseptic tin dressing, for which I am indebted to my colleague, Dr. Watson. It is applicable in all cases where even compression and bandaging would be useful. The method of its application is as follows: The ulcer and its surrounding surface is rendered as nearly aseptic as possible, then iodoform is dusted upon the surface of the ulcer, a piece of antiseptic paper or silk is smoothly applied, then a piece of tin, which should overlap the margin of the ulcer at least one-half inch. Over this is applied a piece of boracic gauze, with a fenestra in the centre, and covering all; more gauze and a well-applied bandage. The dressing should not be disturbed until leaking occurs.

FROG-SKIN GRAFTING.

Seven attempts have been made to graft the skin from a frog's abdomen on to a granulating surface. One has been completely successful, two have been partial successes, while the rest have been failures. That success is possible is, I feel assured, and the failures have been errors in technique or from other untoward circumstances.

VARICOCELE.

Twelve cases have been fitted with suspensory bandages, with complete relief to the dragging, sickening pain so constantly complained of.

In one case the patient had a very large varicocele, which he declined to have treated, as there was not the slightest inconvenience from it. It illustrates what excursions can be taken from the normal standard of parts without especial discomfort, and also shows how hard it is to define the point where the normal ends and the pathological begins.

DEEP VARICOSE VEINS.

Seven cases have come under my care of adults between thirty and fifty years of age, who were obliged to stand in their occupations, complaining that, as the day advanced, localized and gradually extending areas on the surface of the thighs and legs became painful. In five cases, the sensation was described as that of the tearing of tissues; in the two others, as if the part had been burnt. These areas varied in size from a ten-cent piece to the size of the palm of the hand. No perceptible external varicosities, except small, dilated venules, were noticed in these cases, and the diagnosis of deep varicose veins was made from the history of the onset, and from the fact that a well-fitting bandage or elastic stocking completely relieved the symptoms.

Doubtless many of the obscure aches and pains in the lower limbs that patients complain of could be relieved by a recognition of this condition.

SCALP-WOUNDS.

The surface about the wound for, at least, two inches is shaved, and the surface rendered aseptic, the hemorrhage checked by pressure-forceps, or simple pressure, and in no case has it been found necessary to ligate a bleeding vessel. In contused or badly lacerated scalp-wounds, it has been the custom to freely lay them open, to trim off the shreddy tissue, and to unite the resulting clean-cut edges. A continuous catgut suture (small) is used, and a small drainage-tube is always inserted into any existing pocket. Primary union has been the rule under antiseptic dressings. A jersey cap, drawn well over the head, keeps the dressings in position.

In truth, I think it may be said that of the one hundred and eighty wounds incised, lacerated, neglected, punctured, poisoned, and contused, that at least ninety per cent. of them have, after having been rendered thoroughly antiseptic, healed in a satisfactory manner under the iodoform and boracic acid gauze dressing. I believe that the primary rendering of the wound surgically clean, and the application of a dry, firm, compressing dressing, will give the most satisfactory results in wound-dressing. These dressings have been found almost invariably painless; in fact, were a wound painful, I should strongly suspect the presence

of some foreign body or decomposing clot beneath the surface.

FOREIGN BODIES IN THE HAND.

Needles, fish-bones, splinters, etc., have always been allowed to rest quietly in the tissues, unless distinct indications of their presence could be made out from physical examination of the part, and the experience which I have had has never led me to regret the treatment of cases on this basis.

LYMPHANGITIS.

Nine cases have been treated by the use of pads applied in the manner advocated by the late Mr. Gamgee, with very satisfactory results. Within twenty-four hours the redness has begun to fade, and in forty-eight hours, wrinkling of the skin, showing a subsidence of the swelling, has occurred.

In addition to the use of these pads in the treatment of lymphangitis, I have used a ten per cent. solution of resorcin in lanolin, with results that were quite satisfactory. It is, of course, very difficult to decide as to the efficiency of two remedial measures, when used together in the same case. Enlarged glands in the groin, axilla, and neck have apparently decreased in size under the use of lanolin and resorcin.

FRACTURES.

Naturally in an out-patient service the fractures are principally of the upper extremity. One hundred and fifteen have occurred, and I shall only speak of a few classes of cases.

All splints have been carefully covered with sheet wadding, protected by a carefully adjusted piece of compress cloth which retains the wadding in position throughout the treatment of the fracture, and second coverings of splints have rarely been necessary. The covering of the splint with cloth would seem from my experience to be more comfortable for the patient and more economical, in — that in gross — less materials are used in the continuous treatment of the fracture.

FRACTURES OF THE NOSE.

Four cases have been treated in a satisfactory manner by rectifying the deformity by manipulating and fixing the fragments in position by means of a tin splint devised by Dr. Post.

FRACTURES OF THE CLAVICLE.

Twelve cases have been treated by various methods. By the application of the "many-tail" bandage, "the Sayre," or "the Kelly" bandage. Velpeau's bandage has been rarely used, owing to its instability; this, however, may be easily overcome by stitching the bandage in position and coating it over with silicate of potash, starch or dextrine. The amount of deformity in many cases had been considerable from callus formation, but this has melted away as time passed, in a surprising fashion.

RETENTION BANDAGES AS APPLIED TO THE SHOULDER.

One of the most useful bandages is one devised by Mr. C. M. Whitney; it securely holds the arm at the side, with a minimum amount of material.

The many-tail bandage has been largely used, but is open to the objection that it frequently cramps the arm and hand so that the patient has not infre-

quently complained more of the bandage for the first forty-eight hours than of the injury for which the bandage is applied. This, of course, is true of all retention bandages in which the arm is flexed upon the chest, but has been especially marked in the "many-tail" bandage.

FRACTURES ABOUT AND INTO THE ELBOW-JOINT.

Six have occurred. Two of the olecranon, one of the internal epicondyle, one of the internal condyle, and two fractures into the joint.

One of the fractures of the olecranon illustrated the importance of carefully examining injuries over the point of the elbow associated with great swelling. On the first day the patient was supposed to have simply a severe contusion over the olecranon, but on the second day the diagnosis was made clear by a distinct sulcus appearing between the fragments of the bone. Both cases were treated in the following manner: A roller bandage was applied from the finger-tips, up the arm to the seat of fracture. A well-padded straight splint was then secured to the palmar surface of the arm. Then a small roller of compress cloth was placed against the superior fragment of the olecranon, the ends of this roller being tied down firmly, in an oblique direction, downwards and forwards, to bring the triceps fragment in contact with the ulna fragment of the olecranon.

This certainly brought the fragments into apposition, but both of the cases were narrowly watched, and the bandages were daily readjusted. I am sure that carelessness in the adjustment of this device might lead to gangrene or local sloughs. The splints were removed at the end of two weeks and gentle passive motion encouraged. The results have been fairly satisfactory in that the arms can be flexed to at least a right angle, but supination is somewhat limited.

The T fractures were let free from the splints on the fourteenth day, but passive motion was not made until the expiration of twenty-one days.

It is too early in these cases to speak of the results.

Early passive motion is still a mooted question in this class of cases, but an expression of opinion regarding its advisability by the gentlemen present might be a matter of interest.

FRACTURES OF THE METACARPUS.

Fifteen cases have occurred, and I regret to say that the results have not been satisfactory. Thirteen have been caused by blows with a clenched fist. Some have been placed upon straight palmar splints with pads suitably adjusted to correct the deformity; others have been treated by the hand being flexed over a suitable sized roller bandage, but in only two cases has the treatment been concluded without a certain amount of dorsal angularity: this deformity, although quite marked in a few cases has not impaired the usefulness of the hand. I shall hope to in the future use dorsal splints and extension. In one case extension was secured by means of a splint, which served to correct a marked deformity in a fracture of the first metacarpal bone, in a child.

It was simply a tin palmar splint with the projection for the thumb extending well out beyond the end of this member, to secure a fixed point to extend towards. In addition there was a spur or leaf of tin, which was so adjusted that it would fold over from

the radial edge of the splint on to the deformity and retains it in its corrected position.

COLLES' FRACTURE.

There have been forty-five cases of Colles' fracture, and from these I have been taught a few facts.

At least one-half of the patients supposed that they had simple sprains of the wrist, which opinion had been confirmed in many cases by friends and physicians that they had consulted. At the risk of being tedious I will give a few details, which I have been led to adopt in the treatment of this injury.

Both arms of the patient have been usually bared to the elbow, that an accurate comparison might be made of the wrists, forearms and hands. In my notes I find that 62 per cent. of the cases had the characteristic silver-fork deformity; 92 per cent. had localized tenderness at the seat of fracture in the radius, and by this is meant the point of extreme tenderness, for frequently the whole wrist and arm were tender.

The general contour of the arm having been observed, the bony land-marks located and their relative position determined, especially the relative planes of the tips of the styloid processes.

The fracture has been reduced by manipulation. Various methods have been tried, but the grip figured below has been found to give the operator the most complete control of the fracture.



Gentle traction is first made, and then the hand is successively extended, abducted and strongly flexed. During abduction the impaction, (if it exists), will be felt to give away, and on the completion of flexion the deformity will usually be found to have been completely reduced.

I have rarely been obliged to repeat this manipulation, but I never consider the fracture "set," until the deformity is completely reduced and will remain so without traction or pressure. This latter point is, I believe, a very important measure, for I cannot help thinking that it makes but little difference what kind of splint is used so long as the fracture is primarily completely reduced.

I have used all kinds of splints, but for my own part I prefer the palmar splint of Dr. Bolles, with a piece of mill-board accurately moulded to the dorsum of the fore-arm and hand.

These splints are secured by lightly applied broad adhesive plaster straps; the principal retention being secured by a snugly applied roller bandage. The pain for the first twenty-four hours is considerable,—an analysis of the cases shows that it has persisted from three to five days; usually the readjustment of the bandage at the end of twenty-four hours has relieved the greater part of the pain.

Tenderness has persisted at varying time in these cases, but has averaged seventeen days.

The dorsal splint has been omitted in about three weeks and the palmar at the expiration of four weeks; in a few cases the splints have been retained five or six weeks, and in one case, owing to delayed union, eight weeks. The arm has been removed from the sling in many cases, before the splint has been omitted; this I have been led to do from an apparent relapse of the deformity where the arm without splints was kept in a sling that adducted the hand on the fore-arm.

This recurrence of deformity from the too early removal of splints, would seem to be a matter of some importance, and certainly no "hard and fast rule" can be made, assigning a definite time for the removal of splints. Other things being equal, the older the patient the longer the fracture should be protected, and further, one might say that the older the patient the earlier passive motion should be begun; so that between these indications we must shape our course. In a few cases I have applied straight dorsal and palmar splints, these splints being shortened as soon as practicable, that the fingers might be set free.

Although careful records have been kept of these cases, I cannot speak statistically regarding the return of the hand to usefulness, but only from my impressions. When the hand is released from the splints there is rarely any ability to flex or extend the wrist joint, and it is only after patient and frequently painful efforts that complete restoration of mobility is obtained, and that in two, three or more months.

Perhaps one of the commonest and most troublesome causes of disability that has occurred, has been the persistence of the effusion that takes place into and about the sheaths of the flexor tendons forming a distinct elastic pad over the palmar surface of the wrist. These cases have been greatly benefited by massage, and it would seem that this measure should hold an important place in the convalescent treatment of fractures.

The most troublesome class of Colles' that have been met with are those occurring in women past the middle period of life, of a rheumatic diathesis; in these cases the early release of the fingers is a very important procedure, and the administration of the iodide of potassium and wine of colchicum has apparently been of benefit.

The subject of the treatment of fractures has been of great interest to me, and I am convinced that we do not always elicit all the information from the examination of a fracture that is obtainable, and which may be of importance.

Unless the patient is under the influence of an anæsthetic, the examination is necessarily painful, and I have made it a rule which I have rarely broken, to always explain to the patient that it is necessary to inflict a certain amount of pain; the maximum pain should be reserved until the last, for if inflicted at the start a barrier is erected by the patient which may prevent the examiner from eliciting important information regarding the details of the fracture.

— Dr. von Nussbaum, of Munich, has recently performed his five-hundredth ovariectomy. The occasion was celebrated by his students with a banquet to the distinguished surgeon.

THE MORBID CHANGES AND SURGERY OF THE NAIL.¹

BY J. LESLIE FOLEY, M.D., L.R.C.P., OF LONDON.

MR. PRESIDENT and Gentlemen: I read this paper more for my own instruction than for yours, hoping that it may provoke discussion, and that I may thereby learn the views of members of riper experience and maturer judgment than my own. The nail seems a somewhat trivial and ordinary subject to occupy the minds of learned members of this Society, but it is only by contemplating the smaller objects that we are fully able to appreciate the larger; and in practice, as in life, the careful attention to little things often tends greatly to one's success. In order properly to understand the morbid changes of the nail, it is necessary to be familiar with its normal structure. Pardon me, therefore, if I refresh your memories by briefly referring to its anatomy. A nail is a peculiar arrangement of epidermal cells: the undermost of which are rounded or elongated; the superficial are flattened, and of a more hairy consistence. That modified portion of the corium by which the nail is secreted forms the matrix, and extends beneath its root and body. The back edge of the nail or root is received into a shallow, crescentic groove in the matrix. The front part is free, and projects beyond the extremity of the digit. The intermediate portion of the nail rests, by its broad under surface, on the front part of the matrix, which here forms its bed. The part between the root and free extremity of the nail makes up its body. The matrix beneath the body is not uniformly smooth on the surface, but is raised in the form of longitudinal and nearly parallel ridges, on which are moulded the epidermal cells of which the nail is made up. The growth of the nail is effected by a constant production of cells from beneath and behind.

Excessive growth of nail substance occurs either by multiplication of the nails or increase in bulk. This anomaly includes the occurrence of nails in unusual places, such as on scapular region, on last phalanx of supernumerary fingers or toes, double nails on fingers or toes, etc.

Both go by the name of onychia or hypertrophy. These vary. In the first it appears spherically curved, glossy on surface; a grayish-white color, unshapely, thick, opaque, has a massive feel, and is very hard. When the whole nail is affected, its free border has a tendency to curve downwards. It may occur in various directions, according as it is disturbed in the vertical or transverse way (onychogryphosis). In its simplest form, it becomes clam-like. In other cases, it may curve spirally.

Symptoms. Loses its elasticity; becomes thickened. Loss of tactile sense. It is very much diminished, and reduced to a minimum. Patient unable to execute fine work, and, when enlargement considerable, incapacitated for work. When toe-nails affected, walking interfered with; and, at the same time, most unpleasant effects (inflammation and suppuration) are produced by nails enlarged laterally. If uncared for, they penetrate toward the lateral groove and grow in. In the second form they are slightly lustrous, dirty, yellowish-brown, or yellowish grayish-white. Externally, have well-marked longitudinal ribs: at intervals, transverse, more or less elevated ridges, and here and there, horny plates.

Etiology. Onychia may be congenital or acquired. In the former case, it dates from the embryonal period, and the anomaly appears in the course of life; in the great majority of cases, acquired.

Defective or altogether neglected care of nail may cause it. Uncleanliness, accumulation of all sorts of substances on the nail-bed act as irritants. This sometimes occurs in old people and bed-ridden patients.

Traumatic influences. Any considerable pressure for some time from in front or sideways on the extremities, as too short or narrow shoe, increases nutrition of nail-bed by augmented afflux of blood, and gives rise to hypertrophy.

Extension of morbid inflammatory processes of the corium and the connective tissue of the cutis to the matrix of the nail, as psoriasis, eczema, etc.

Defective formation of the nail, atrophy, etc., absence of the nails (anonychia), or their retarded growth, may also be congenital or acquired — causes much the same as in hypertrophy. Thermic and chemical irritations, traumatic influences, knock, blow, or pinch, inflammations associated with suppurative and ulcerative processes, febrile diseases, and all chronic wasting diseases, may be ranked as etiological factors. The cutaneous and nervous affections causing hyperplasia may also give rise to aplasia.

Characteristics of an imperfectly developed nail. Lustrous, delicate, a whitish-gray color, giving the impression of a thickened membrane, possessing but a slight hardness, readily broken and flexible. Dr. Ashurst observes, in a foot-note in his "Principles and Practice of Surgery," that Guenthre, a Danish surgeon, and Nillien, of Illinois, have noticed that the growth of nail is retarded during the early stages of fractures, to be resumed as repair goes on. They suggest this as a means of testing the progress of the cure, without disturbing the dressings in cases of delayed union or false joint. The growth of nail, however, may be checked by any cause which interferes with the nutrition of the part. Hence the test might not be universally applicable. Mitchell has noticed an arrest of growth in cases of cerebral paralysis. Gay the same, as a result of compression of the subclavian artery.

Nails may be deformed, degenerated, or discolored. They may be abnormally long or short, broad or narrow, flat or curved. A cut of a pen-knife will cause a bending of the nail. These deformities are not generally amenable to treatment. Too much stress is laid in works on clinical medicine as to the value of the color of the nail in various diseases. These are due to processes of nail-formation.

Animal and vegetable parasites affect the nail. The sarcoptes scabiei attacks the nail. In tropical regions, there are a number of flies which lay their eggs under the nails. Sand-fleas will cause, first, violent pain, and subsequently, paronychia, associated with loss of nail.

Vegetable parasite, onychomycosis. In only two mycoses of the skin, favus and herpes tonsurans, has it been clearly demonstrated that transference of their fungi will cause changes in the nail, that is, onychomycosis. Tinea favosa is rarer than trichophyton or tonsurans. The clinical features are similar. Nails brittle, frayed out, intersected, are lifted up according to the quantity of epidermis under them, become gryphotic, thickened, flake off, faded, dirty yellow color, and often become greatly disfiguring. Both the achion schonleinii and trichophyton tonsurans produce the

¹ Read before the Surgical Section of the Suffolk District Medical Society, April 6, 1887.

above alterations. In a few cases, the nail presents a yellow-sulphur color, due to favus.

Horny growths sometimes spring from beneath the nail.

Ungual exostosis frequently appears. Both require excision.

The nail is closely related to the hair. I might mention, in passing, an instance known to me, which will serve to bear out this remark. A gentleman was camping out, some summers ago, in the Hudson Bay region. One night, a dreadful lightning-storm took place. The following morning, not only every hair on his body fell out, but he was also bereft of every nail, and remains hairless and nailless to this day, notwithstanding the use of the whole armamentarium of the pharmacopœia. The matrix of the nail is sometimes the seat of inflammation, etc. In its simpler form, we have onychia simplex; in the more severe, onychia maligna. This last occurs almost entirely in children under ten years. It is not very frequent. In Holmes's "System of Surgery," Mr. Thomas Smith states that out of seven thousand surgical out-patients of children under ten, he found the disease in nine instances only, and these cases occurred between the ages of one and seven years. May commence from a pinch or crust of finger-end, or result from explosion of fire-crackers. The swollen, bulbous-looking finger-end, the fluid effused beneath the nail; the thickened, flattened, or curled-up, unnatural-looking nail; the foul and painful ulcer exposed beneath it, with its peculiar, characteristic color, and the hardened, shiny, and livid-red integument around it, are, no doubt, familiar to you all. The disease may go on until the joint is lost, or the phalanx necrosed.

I take a paronychia to be an acute inflammation of tissues underlying the nail. The ancients define a paronychia as an inflammatory tumor near the nail, involving its pulp or matrix. But in most modern works on surgery you will find described under the head paronychia, whitlow, felons, and even inflammation extending up to the hand or arm. The middle or side of the subungual tissues may be affected. Puncture, contusion, contusion, laceration, etc., may give rise to a paronychia. If the nail enlarges in width, it will press on the lateral furrow, and this, coupled with compression from a shoe, will cause a paronychia lateralis. At first, there will be great irritability of the parts, later, inflammation, suppuration, great proliferation of granulations, destruction of the cutis, of the tendon, opening of the phalangeal joint, caries and necrosis of bones. Usually the internal angle of the great toe is affected, rarely the outside of the little toe, seldom any other toe. It may assume a mild form or become chronic, with now and then an exacerbatory character, may be covered with irregular, spongy, easily-bleeding granulations. It may last for years.

Ingrowing toe-nail almost invariably occurs on the outer side of the nail of the great toe. Psoriasis may effect the nail. It may be, although not necessarily so, an evidence of syphilis. Central part of nail diseased; scabrous thickened, rough, convex, splits, deep fissure between the skin and finger. Nail resembles the concave shell of an oyster. Affection chronic and difficult to cure.

Syphilis may attack the nail. Jonathan Hutchinson² was one of the first to draw attention, not only to the

state of the nail in syphilitic psoriasis but in congenital syphilis. Nails, symmetrically affected, dry, brittle, fissured and broken at their edges, superficial layers alone diseased. There is, however, a more remarkable affection in the form of a chronic general onychitis. The nails decay and fall off; they first become opaque and much thickened, their substance is soft. The disease is due to inflammation of the matrix which is swollen and readily bleeds. Syphilitic onychia usually attacks the toe-nails and is often associated with ulcerative fissures between the toes. The inflammation is not so severe as in the non-syphilitic form. Perionyxis is a syphilitic inflammation surrounding the nail, exists in a dry and moist form. It also has a simple and ulcerative variety. Deep ulcerations forming in the latter. Mucus patches are sometimes seen under the free border of the nail.

The surgery of the nail resolves itself into operative and general treatment. If it be troublesome on account of its longitudinal growth, this must be removed with the scissors in simple cases; when the thickness is increased at the same time, use cutting pliers or saw. Paronychia lateralis in its early stage may be treated by removing that part of the nail which threatens to grow in, besides putting into the groove fine threads of charpie and ordering wide shoes. When the inflammation is extensive it is well to use the method of complicated pressure, as devised by Kaposi of Vienna. This consists in first removing that portion of the nail projecting into the inflamed surface, then the swollen edge of skin is carefully pressed downward and the widened space thus gained at the furrow, is filled with accurately inserted threads of charpie cotton. In doing this, care should be taken that the sharp edge of the nail does not come in contact with the irritated part of the skin. This done, strips of adhesive plaster (emplas diachylon) are wound round the ungual phalanx, commencing at the affected part from above downwards, each turn being moderately stretched, so as to remove the border of the skin as much as possible from the edge of the nail, to crowd it downwards. If this is done skilfully, it will cause no pain to the patient, and eases his condition at once. He can not only walk, but wear his shoes. After twelve or twenty-four hours, the dressing is taken off, foot bathed and bandaged anew. Kaposi claims that this will cure the patient in from two to four weeks. Some add medicated solution to the charpie, carbolic acid, etc. If greatly developed fungous granulations are present, they should be cut with the scissors down to the base and the bleeding points touched with nitrate of silver. In rare cases will be obliged to resort to Dupuytren's radical operation, that is, inserting pointed end of scissors beneath the nail, divide it into two parts, firmly seizing the diseased side of the nail with pliers, and pulling it out. The nail usually reappears. A great object in ingrowing toe-nail is to give the feet all necessary room. In the early stage, when there is no considerable mass of overhanging integument or fungous granulations, pressure of the nail on the soft parts may be relieved by packing into the groove on the affected side, oiled cotton wool with the flat end of a probe or penknife. This may be done without pain. The quantity of wool may be increased at each application, until the soft parts are raised and pushed aside. The free edge of the nail is exposed, beneath which wool should be inserted until the natural state is restored. Nails

² British Medical Journal, 1865, p. 45.

should be allowed to grow so as to form a right angle at the outer corner. If much inflammation, the toe may be kept in water dressing during treatment. Overlapping integument kept in natural relation to the nail by strips of adhesive plaster. Dr. Tilbury Fox says, "In-growing toe-nail is easily cured by softening it and then scraping off as much as possible, so as to thin it in the middle." A similar plan may be adopted to remove splinters imbedded in the nail. Nail scraped thin over the splinter and then cut through. It can in this way be painlessly removed. When the nail cuts deeply into the flesh, causing ulceration and fungous granulations, remove it at once, using ether spray or cocaine. Dupuytren's method, as described above, is the one usually employed by surgeons. Nails may be cut by knife instead of dividing by scissors. Some surgeons prefer to remove the whole nail.

Dr. Monks has kindly called my attention to Dr. Cotting's, of Boston, method of treating in-growing toe-nail. Anything emanating from Boston is sure to bear the impress of sterling worth. It seems to me to be the most feasible of all methods. He removes the fleshy part of the toe at the side of the nail so that it will have nothing in which to imbed itself. It is no doubt well known to you all. In treating onychia, remove the nail by evulsion, then dress the ulcerative surface with Black wash, or the old standby, Abernethy's solution, ii $\bar{5}$ liq. potass. arsenitis ad aq. i $\bar{5}$. Arsenic has a beneficial effect on onychia. Dr. Morelouse, of Ghent, was the first to recommend the powdered nitrate of lead in onychia maligna. It has afterwards been used with great success by Prof. Vauzetti, of Padua, and Sir William MacCormac, of London. It causes considerable pain when applied, but its results are excellent. In severe cases a great portion of the disease with nail may be sliced off. In syphilitic onychia Black wash is the remedy "par excellence." Amputation has occasionally been performed for the cure of onychia maligna. Tonics should always be given. Dr. Living recommends very highly the giving of arsenic in non-syphilitic psoriasis; a tonic will add to the effect. In the syphilitic, mercury is of course the remedy. Appearance of nail improved by filing down with sand-paper. Skin near the margin dressed with white precipitate ointment. We must trace and treat the etiological factors. If an eczema exists this must be treated on dermatological principles, diachylon ointment, etc. In stubborn cases, Prof. Geben recommended using vulcanized rubber stockings and gloves. With all these diseases associated with connective tissue and papillary hypertrophy at the terminal phalanges, pachyderma, ichthyosis, verucca, etc., little can be done except keeping the affected part clean, and removing injurious influences. When syphilis attacks the matrix, anti-syphilitics required; when animal and vegetable parasites are present, anti-parasitics indicated. Ulcerative perionyxis is one of the bugbears of surgical therapeutics. Iodoform and nitrate of silver might be tried. In defective nail-formation, endeavor to find out the causes and treat them. Build up the system with tonics. Pressure by means of the wax nail is useful here. In all cases we should see that the shoe is not at fault, that it fits well, not too loose nor too tight. If the patient is a baker, carpenter, etc., and liable to irritation of the fingers, it is well to surround the end of the phalanx with soft wax.

RECENT PROGRESS IN DISEASES OF THE NERVOUS SYSTEM.

BY PHILIP COOMBS KNAPP, M.D.

ARSENICAL PARALYSIS.

DANA¹ reports two cases of pseudo-tabes from arsenic: one, where the arsenic was given in large doses medicinally; the other, where a single large dose was taken with suicidal intent. Both patients had burning feelings and formication, and sharp pains in the legs. There was pronounced ataxia and loss of muscular sense. In one case there was some cutaneous anæsthesia; in the other, cutaneous sensibility was normal, but there was hyperalgesia. There was some muscular weakness, and static and locomotor ataxia. In one case there was optic neuritis, and in the other the fundus was normal. The cutaneous reflexes were normal, the patellar reflex absent or greatly diminished, and there was a partial reaction of degeneration.

The writer compares these cases with the pseudo-tabes of alcoholic subjects, and the pseudo-tabes that follows diphtheria, and thinks it very probable that the lesion in arsenical pseudo-tabes is also a multiple neuritis, and not a diffuse myelitis, as has been held by Seguin and others. The lesion in post-diphtheritic and alcoholic paralysis is known to be a neuritis, and arsenical paralysis resembles the other forms so closely as to render it probable that it, also, is due to a similar lesion. The writer gives a very full bibliography of the subject, and draws the following conclusions:

(1) A disease resembling tabes dorsalis may be caused by arsenic, either given medicinally, absorbed from wall-paper, or given in a single dose.

(2) Arsenical paralyses of this type, and arsenical paralyses of other types, are not due, at least as a rule — to a diffuse myelitis, as has been taught, but to a multiple neuritis.

(3) Arsenical paralyses, like those from diphtheria, alcohol, lead, and probably other infections and poisons, are of two types:

a. The ordinary mixed motor and sensory paralysis, the motor troubles and atrophy being more marked.

b. The pseudo-tabetic form, in which there is no pronounced motor paralysis, but marked sensory troubles, and especially ataxia.

EXOPTHALMIC GOITRE.

In a case of exophthalmic goitre recently reported by Jendrassik,² beside the cardinal symptoms of exophthalmos, goitre, and tachycardia, together with tremor and restlessness, there were also noted paralysis of the ocular muscles, of the facial and masticatory muscles, and, to a lesser degree, of the muscles of the pharynx and of the upper extremity. The writer satisfied himself that this paralysis was nuclear, and not peripheral — an external ophthalmoplegia, due to disease of the nuclei in the medulla, a poliomyelitis superior (Wernicke), or, as he prefers to call it, poliomyelencephalitis superior. He questions whether the presence of the symptoms of exophthalmic goitre and of ophthalmoplegia are due to a mere coincidence. He cites other cases like the one reported, and suggests that exophthalmic goitre may be due to disease of the medulla or mesencephalon. Since three distinct and

¹ Brain, January, 1887.

² Arch. f. Psychiatrie, xvii, 301, 1886.

distant parts of the body are involved, the lesion must be located in some place where the different efferent nerves lie near one another. He contests the theories that exophthalmic goitre is a general neurosis, or a lesion of the cervical sympathetic, and claims that it is due to a central lesion, located in the medulla or mesencephalon. The fact that only one or two of the three cardinal symptoms may be present is explained by supposing that only one or two nuclei are involved. Various cases of exophthalmic goitre show, moreover, that there are not infrequently symptoms present which point to a bulbar lesion—ophthalmoplegia, diabetes mellitus, etc.—and, in other cases, the existence of muscular atrophy shows that the nuclei in the cord are also affected. The writer, therefore, believes that in this disease there is a constant and circumscribed lesion of the gray matter in the medulla, about at the level of the nucleus of the facial. This theory is further corroborated by the experiments of Filehne, who found that injury of the anterior fourth of the restiform body was followed by the three cardinal symptoms of exophthalmic goitre.

TABES AND SYPHILIS.

Strümpell has recently published³ a valuable study of the relation between syphilis and tabes and parietic dementia. The very large percentage of syphilis in patients with tabes has long been recognized, although the relation between the two diseases has not been determined. Tabes is not, however, a true tertiary manifestation of syphilis, for the anatomical process is unlike the syphilitic gumma, there being no new growth of cells, but only a degenerative atrophy. Tabes, moreover, is not amenable to anti-syphilitic treatment. The connection is not direct. In other infectious diseases, however, we see a similar phenomenon—nervous after-symptoms, undoubtedly connected with the previous disease, as, for instance, the simple degeneration of nerves after diphtheria, which has nothing to do, anatomically, with the croupous-diphtheritic disease of the mucous membrane. This does not depend upon the organized agents of diphtheria; the bacilli do not attack the nerve, but a chemical poison is formed, of which we know nothing. The same holds true of typhoid, dysentery, etc. Tabes is also a nervous after-disease. The lesion is distinct from syphilis, and is not due to the action of the syphilitic cocci. The period of time between syphilis and tabes, however, is very variable, and tabes never recovers, as diphtheritic paralysis does. Syphilis, however, unlike diphtheria, is a chronic, infectious disease, which has a long latent period; the tertiary manifestations appear five or ten years after health has apparently been restored, and so the chemical agents may long lie hidden. This is also true of the other chronic infectious diseases, tuberculosis and lepra, where neuritis may develop late. Tabes does not always advance; it may stand still. In its treatment, although anti-syphilitic remedies are of no more effect on the tabes than painting the fauces on diphtheritic paralysis, they do have a favorable influence in that they check the advance of the disease by counteracting the agencies which keep the poison going. The same arguments hold true for parietic dementia, which Möbins calls "tabes of the brain." The localization of the action of the poison differs, just as in pharyngeal diphtheritic paralysis and diphtheritic ataxia. All cases of tabes, however,

are not due to syphilis. Different poisons may act in the same way, just as we see multiple neuritis following alcohol, tuberculosis, typhoid, or some special infectious agent.

AMYOTROPHIC LATERAL SCLEROSIS.

Charcot and Marie have reported⁴ two cases of amyotrophic lateral sclerosis in which careful autopsies were made. They were both typical cases with spastic phenomena in the lower limbs, muscular atrophy beginning with the thenar muscles, and bulbar symptoms. At the autopsy they found a total disappearance or a diminution in the number of the large pyramidal cells in the cortex, in the central convolutions and the paracentral lobule, and also a certain number of granular bodies. These granular bodies were found in the white substance throughout the pyramidal tracts, from the cortex to the anterior cornua, and their presence is thought to be an earlier and more trustworthy sign of disease than the presence of sclerosis, even as revealed by the best and latest methods of staining. The disappearance or atrophy of the motor cells of the anterior cornua in the cord was of course also confirmed. The morbid process in the pyramidal tracts in the cord was found to extend beyond the limits of the tract as defined by secondary degeneration, which was thought to be due to an extension of the inflammatory process to the adjacent fibres. A slight degree of sclerosis was also noted in the columns of Goll.

Koschewnikoff⁵ reports an autopsy on a case with atrophy of the muscles of the neck, shoulder, and upper arm, increased tendon reflexes, and bulbar symptoms. He found degeneration of the peripheral nerves, atrophy of the motor cells in the anterior cornua, and many granular cells in the anterior and lateral columns. Granular cells were also found in the pyramidal tract up to the gray matter of the cortex. On hardening the cord a degeneration was noted which extended beyond the limits of the pyramidal tract into the anterior columns. The nuclei in the medulla were also degenerated. In the gray matter of the central convolutions and paracentral lobule, he noted a great diminution of the giant pyramidal cells in the inner half of the cortex, and those that remained were distorted and atrophied. The small pyramidal cells in the upper half of the cortex had suffered no changes, and the lower portion of the ascending convolutions was nearly normal.

Charcot and Marie maintain that the morbid process may begin anywhere in the motor tract, from the cortex to the anterior horns, and may affect any region, either the medulla or the cord. This is in accord with the views of Strümpell, who holds⁶ that labio-glossolaryngeal paralysis, amyotrophic lateral sclerosis, and progressive muscular atrophy are merely clinical terms for different localizations of one and the same morbid process. Gowers⁷ goes a step farther in claiming that a degeneration of the pyramidal tract exists in every case of progressive muscular atrophy that he has seen, or read a report of, since Charcot's original investigations on amyotrophic lateral sclerosis. This assertion is rather too sweeping, for Strümpell cites a case of progressive muscular atrophy where the pyramidal tracts were intact.

³ Archives de Neurologie, July, Sept., 1885.

⁴ Centralblatt f. Nervenhelkunde, 15 Sept., 1886.

⁵ Text-book of Medicine, p. 617, 1886.

⁷ Diseases of the Nervous System, Vol. 1, p. 373, 1886.

² Neurolog. Centralblatt, October 1, 1886.

CEREBRAL INFANTILE PARALYSIS.

Kast⁸ reports two cases of this affection with autopsies which were made at an earlier stage than any yet reported — one of them being made only fourteen months after the onset of the symptoms. In both cases there was a wasting of the convolutions of the brain on the side opposite to the paralysis, and the microscope revealed a degenerative process, a disappearance or diminution in the number of the ganglion cells, especially the small pyramidal cells in the second and third layers. There was also a decided increase in the neuroglia, together with an accumulation of spider and granular cells, which extended down into the white substance. The hemisphere on the affected side showed a decided arrest of growth. The writer, on the strength of these autopsies, considers that Strümpell's hypothesis of a poli-encephalitis incomplete, as there is also a leuco-encephalitis. He also failed to find the peri-vascular changes regarded by Jendrassik and Marie as the initial process, or any traces of the venous thrombosis, which Gowen has long considered to be the morbid change giving rise to these atrophic conditions of the brain.

HYSTERICAL HEMIPLEGIA.

Oserezkowski, in a recent thesis,⁹ has called attention to the following diagnostic points in the distinction between hysterical and organic hemiplegia:

(1) Hysterical hemiplegia develops most frequently after some psychological irritation.

(2) It often comes on as a monoplegia, and may be distinguished from the organic form by severe disturbances of sensibility, contractures, etc.

(3) In hysterical hemiplegia the peripheral parts are less paralyzed than the central parts, and the small joints are less affected than the large.

(4) Mobility returns soonest in the peripheral and small joints. The opposite is the rule in organic hemiplegia.

(5) The face and tongue are rarely paralyzed. (Charcot says that facial paralysis may be simulated by spasm of the opposite side of the face, and Roth, in the discussion on Oserezkowski's paper, thinks there is a real hysterical facial paralysis.)

(6) Anæsthesia is parallel with the paralysis.

(7) The distribution of the anæsthesia is peculiar. In full hemianæsthesia the hand and foot may be free.

(8) Aphasia is rare, and is replaced by dumbness.

(9) Hemianopsia is very rare.

(10) The diagnosis of hysteria is based on anæsthesia of the fauces, polyopia, transfer phenomena, hysterogenous zones, etc.

MUSCULAR ATROPHY IN HYSTERIA.

Babinski has recently reported¹⁰ a series of cases which, in his opinion, seem to show that, contrary to the current belief, trophic troubles may be present in hysteria. The cases all had paralysis, and hemianæsthesia, most pronounced in the paralyzed limb. In most of the cases there was also contracture, and in one there was loss of smell and taste on the affected side with peripheral limitation of the field of vision. In all the cases there was a simple muscular atrophy of the paralyzed limb, with a diminution of two or three centimetres in circumference. In one case a magnet

produced transfer and return of sensibility. The atrophy diminished as the arm regained its power. From the anæsthesia, the variations in the amount of contracture, the transfer phenomena, and other manifestations of hysteria, the writer decides that the atrophy also was of hysterical origin, due to a functional neurosis, a purely dynamic alteration in the trophic centres.

"DIFFUSION" ELECTRODE.

Adamkiewicz has recently devised¹¹ a new form of electrode to be used in the treatment of neuralgias for the purpose of obtaining local anæsthesia. It was his object to aid the action of the constant current by adding some medicament whose absorption might be furthered by the kataphoric action of the current itself. For this purpose he tried chloroform, but found that with the ordinary electrode he could not keep enough chloroform constantly applied to the skin to get any anæsthesia, owing to the rapid evaporation. He, therefore, has contrived a hollow, metallic electrode, closed by a carbon plate. The hollow chamber is filled with chloroform, the electrode itself is covered with flannel as usual, and the covered carbon surface is applied to the skin. This electrode is made the anode, and a mild current, gradually increased to 5-7 ma., is passed through the patient for five minutes. The local anæsthesia thus produced is well-marked, and affords great relief, especially in trigeminal neuralgia. Paschke and Wagner have criticised Adamkiewicz's work.¹² They claim that chloroform is an absolute non-conductor, and that a similar anæsthesia can be produced by the application of chloroform alone to the skin, that electricity adds nothing, and causes no kataphoric action whatever. Adamkiewicz, however, by subsequent experiments, has proven¹³ that there is a much greater degree of anæsthesia produced by the combined application of chloroform and galvanism than by chloroform alone, while galvanism alone produces a slight increase of sensibility. There is, therefore, he claims, a true kataphoric action, and the new instrument is of value as an agent in producing local anæsthesia in neuralgia.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

JUNE 11, 1887, the President, DR. WILLIAM L. RICHARDSON, in the Chair.

DR. ROTCH gave an abstract of a paper on

THE ARTIFICIAL FEEDING OF INFANTS,

which he had read before the Society at the last preceding meeting. Further investigation, he thought, was called for in regard to this subject, for a number of reasons.

First: The great proportionate mortality of the artificially fed over the breast fed.

Second: The difficulty experienced by physicians, in certain cases, in regulating the digestion, resulting notably in a diversity of methods employed, and hence

⁸ Archiv. f. Psychiatrie xviii, 437, 1887.

⁹ Abstract in Centralblatt f. Nervenheilkunde, March 15, 1887.

¹⁰ Archives de Neurologie, July, September, 1886.

¹¹ Neurolog. Centralblatt, May 15, 1886.

¹² Neurolog. Centralblatt, September 15, 1886.

¹³ Neurolog. Centralblatt, November 1, 1886.

showing that no one method has been markedly successful.

Third: Infantile dyspepsia induced by errors in feeding, occurs at certain periods during the first year of life to a greater extent than in the intervening periods, and of these periods, the first, or that which is embraced in the early weeks of life, is the most important, because it is the time when the function of digestion is being established, and is in a state of unstable equilibrium, and therefore following the rule of functional establishment, the stomach is in its most active period of growth: and hence the most careful regulation of the bulk of the food given is needed to correspond to this activity, both to make the stomach digest the food in this period, and also, which is just as important, to avoid weakening the digestive function by too great taxation either in quantity or quality, and yet provide the proper materials for functional nutrition, thus avoiding by prophylaxis, the dyspepsia of the later periods of infancy and childhood, the seeds of which are continually being sown in this early transitional period.

We, therefore, have the question not only of infantile digestion, but infantile development to deal with, and we must recognize at once that the quality of the artificial food is merely one of a number of factors which make up this problem.

Common sense and clinical experience teach us that nature must be our guide; but nature's method of feeding is a complex problem, of which the chemical analysis of human milk is only one factor, and hence it is a great mistake to simply try and copy this one factor in artificial feeding, as the other factors are equally important in making up the sum total of the problem, and we therefore can only, by endeavoring to copy the other factors also, expect to bring the mortality of artificial feeding anywhere near that of human feeding.

Although favorable results can be shown with almost every food, instances continually occurring where one food will fail and another, when substituted for it, succeed, yet these successes are merely temporary, the mortality always remaining far above that of human food. Cows' milk is the universal menstruum of infant foods all over the world, and, as will presently be shown, is the actual food which the infant is getting; hence it is irrational and unfair to speak of and give the credit to the various artificial foods, when we really should speak of our general and universal menstruum, cow's milk, with its modification to a greater or less degree by certain adjuvants under the name of infant foods, which all supply about the same variety of ingredients and in common, such small amounts of these ingredients as to be of little benefit in nourishing the infant, and would not nourish it unless aided by cow's milk.

What are the factors of this problem which nature freely offers to us for investigation?

First, we find a receptacle, the human breast, which mechanically provides a fresh supply of food at proper intervals, absolutely prevents fermentation of the food before it enters the infant's mouth, forms the mouth by the process of sucking, and by the same process incites to action the necessary digestive fluids; again, by collapsing as it is gradually emptied, it avoids a vacuum, thus allowing the food to flow continuously, and practically is self-regulating as to the amount of daily food, according to age of the infant.

Second, the food itself, adapted to the infant's needs of digestion and development by its temperature 98 to 100 Fahrenheit, its alkaline reaction and its chemical constituents. Given these factors, how nearly can we approach them artificially? First, the receptacle. Human ingenuity has not yet been able to devise anything which approaches nature's receptacle, and the best that we can do to offset this perfect receptacle, complex in its mechanism, is to adopt that which is exactly the reverse; namely, a receptacle of absolute simplicity, and thus combat the tendency to fermentation through perfect cleanliness, preventing the receptacle from becoming a source of fermentation.

After various experiments with the glass blower, with a view to fulfil this end, I have had made and fitted, for convenience, to a box, what are practically enlarged test-tubes blown into a glass standard, and the interiors of which are entirely free from angles. They also are intended, by holding the proper quantity, which at certain periods should be given to the infant during the nursing period, to enunciate the importance of giving definite amounts of food in accordance with the age. This receptacle, however, has to receive a food which is non-sterilized, and hence the food itself should be sterilized in the feeding-tube before giving it to the infant. The sucking process is practically identical in both problems.

The artificial receptacle cannot collapse, but a small hole at the end of the feeding-tube, by allowing air to enter, prevents a vacuum being formed, and regulates the rapidity of the flow, while it allows it to be continuous.

The artificial receptacle is not self-regulating; hence we must first determine anatomically the amount which nature provides for the average infant at different ages, and from these average figures deduce the proper amount for the especial infant according to its age and weight.

It is possible then, in artificial feeding to approach the standard human breast-milk much more nearly than is usually attempted, and there is no reason why clinical results should not be much improved if physicians will only take additional time and trouble to follow more uniformly nature's teaching. In all classes of life a much greater amount of time, expense and thought is given proportionately to the preparation of food for the adults of the family than for the infants, and this is a mistake, both from a humanitarian and an economical point of view, for the infant is much more susceptible to irregularities of diet, with their resulting suffering, than the adult, and when once the train of symptoms, usually called dyspeptic, is established, infinitely more trouble and expense is entailed, than if more exact methods of feeding were adopted before the digestion has been tampered with.

In the early weeks of lactation, after the mammary function has been fully established, it is well to have a number of analyses made of the mother's milk, and to keep the results as a control record to act as a guide for the preparation of an artificial food in case, as so frequently happens, something should occur to end the nursing at an early period, for it is highly probable that the digestive function of the individual infant may have certain idiosyncrasies which correspond to some idiosyncrasy in the percentages of its mother's milk, and in cases of difficult digestion where

the artificial food, which has been made to correspond to the analysis of average woman's milk, fails to agree, reference to this control-record may accomplish the solution of the problem sooner than if we had to ascertain experimentally by changing in turn the percentages of the different ingredients, in which ingredient the idiosyncrasy of this especial infant was to be found. The assistance of the skilled chemist is too little sought after in determining these questions of infantile digestion and nutrition, and in the future must necessarily be made use of, if there is to be any advance for the better in this subject of artificial feeding.

I have devised a simple apparatus for sterilization of artificial food among poor people; however, the sterilization can easily be accomplished by placing the nursing bottle containing the artificial food, and with a rubber cot fitted tightly over the neck of the bottle, in a covered colander on the tea-kettle. Sufficient sterilization is accomplished by the steam in from fifteen to twenty minutes, a longer time not being advisable, as, so far as my investigations have gone, certain chemical changes noticeable to the eye, take place, when the sterilization is prolonged beyond this time, while in twenty minutes, the food so far as can be ascertained by taste, sight and odor, is identical with the same mixture before it is exposed to the steam.

In the process of steaming in this way, ebullition does not take place, and chemical changes apparently do not occur in the food: this will, in all probability, in the future make sterilization of the food by steam preferable to that by boiling, especially as the former method is, if anything, rather more simple in its details than the latter, where the food is to be prepared from several ingredients, and simple cow's milk, which, as already explained, is not a proper food for young infants, does not represent the artificial food to be sterilized. Sterilization by steam has practically already been adopted in one of the Boston Dispensary districts, among a number of poor people, and in no instance which has been brought to my notice, have the mothers failed to understand the details or objected to it as being more troublesome than boiling.

Many interesting and instructive cases could be cited and must occur in the practice of every physician, illustrating the importance of not omitting the careful regulation of every factor of the problem, when we attempt to substitute an artificial food for the natural method of feeding, and proving that no one factor can be given undue prominence at the expense of the others, without in some way causing disturbance to the digestion and general nutrition. Making the food alkaline will at times rectify an otherwise intractable digestion; again, sterilization is the only change that is needed.

I have a number of cases showing the importance of a precise regulation of the fat percentage, and also of the sugar and the casein, while the food, although chemically correct, has often proved a failure because it was given in improper quantities or at irregular intervals.

Where an infant, then, is to be fed with artificial food, give precise directions as to the times of feeding, the amount at each feeding, and the apparatus which is to be used. See that the analysis of the food corresponds as closely as possible to that of human milk; give instructions as to the proper temperature of the food;

see that the reaction is alkaline, and then if there is any difficulty with the digestion, sterilize the food. If this is not successful, refer to the control-record and adapt the food to any maternal idiosyncrasy shown by this record. If no control-record has been kept, experimentally try to discover the especial idiosyncrasy of the individual infant by changing the percentage of the fat, sugar, casein, or ash.

DR. ABBOT said that while he believed it was best for the stomach to do its own work when it was able, he had had very good results from peptonizing the milk when infants were unable to digest it without artificial assistance. He had found, however, that the peptogenic powder would do its work just as well in the stomach as when added to the milk some time before it was administered. His present method, therefore, was to add the powder to the warmed milk just before using it, and in this way no bad taste was developed in the milk, which to some infants is so objectionable. He believed it was unnecessary to use bicarbonate of soda where the peptogenic powder is employed; in fact, the milk was sometimes made thereby too alkaline, and in one case, to which he alluded, in which the prepared milk disagreed with the infant, the excessive alkalinity was obvious in the fecal discharges. He believed the amount of lime-water usually added made the milk sufficiently alkaline.

DR. J. STEDMAN said that it was very difficult to get good cow's milk; most of it was deficient in fat. He had found a considerable degree of idiosyncrasy in infants in regard to their food: sometimes twins will not do well on the same milk. He had lately used Robinson's barley with success; but the barley should be boiled for thirty minutes. He believed that the sterilization was very important, and inquired what was the effect on milk of boiling.

DR. C. W. TOWNSEND, present by invitation, said: Sterilization of milk by the process suggested by Dr. Rotch is most exact and scientific, but in that class of people where it is most needed even the more simple method spoken of by Dr. Rotch might be beyond their power to carry out properly. Boiling is, of course, the simplest method of sterilization, and one which the poorest and most stupid could carry out, but the question naturally arises as to what effect this process has on the character of the milk. Boiling kills not only the disease germs and putrefactive bacteria, but, according to Newton and Wallace,¹ changes and drives off tyrotoxin, one of the poisonous ptomaines produced by these bacteria. This takes place at a temperature of 180° F.

What are the chemical changes that take place in the process of boiling milk? The odor and taste are decidedly changed, and this to some adults and older children may make boiled milk unpleasant, but infants, in my experience, rarely object to it. This peculiar taste is due, according to Schreiner,² to the sulphuretted hydrogen which is evolved; there is also a diminution in the gaseous constituents of the fluid, and a change in the amount of ozone present. As the boiled milk cools in contact with the air, a scum forms, which is the albumen coagulable by heat entangling in its meshes a certain amount of fat. This coagulable albumen, according to Winter-Blythe, equals one-fifth of the casein in amount.

As to the effect of boiling on the digestibility of

¹ Philadelphia Medical News, September 25, 1886.

² Chem. Centralbl., iii, Folge ix.

milk there is a difference of opinion. A general idea is that boiled milk is more constipating than raw milk, but the accuracy of this statement is open to doubt. According to Skreiner and to Randolph,³ boiled milk is more quickly coagulated by acids than raw milk, while the reverse is the case with regard to the action of rennet. Randolph found that raw milk was more readily digested artificially than boiled milk. He came to the same conclusion by experiments on natural digestion. This he did by syphoning out the contents of the stomach of healthy men at various intervals after the ingestion of weighed amounts of raw or boiled milk. Reichman,⁴ however, in a series of similar experiments on living subjects, arrived at a directly opposite conclusion; namely, that boiled milk was more easily digested than raw, and that this difference was due to the fact that in the stomach boiled milk forms smaller and softer curds than does raw milk. Dujardin-Beaumetz⁵ disagrees with both of the above investigators, in that he finds no difference between raw and boiled milk from the point of view of digestibility. He refers to Pinard, however, as saying that prolonged boiling peptonizes a part of the albuminoid substances contained in milk.

DR. BUCKINGHAM, present by invitation, said that he had supposed that boiled milk was partly predigested by fire; and that there was to this extent the same objection to its habitual use that Dr. Rotch had urged against the use of predigested foods in general. For this reason, as well as on account of its taste, he had never made use of it.

The case referred to by Dr. Abbot is an example of the bad effect of making the milk too alkaline, which is as great a departure from the normal percentage as is making it too slightly so. He had himself had the same experience. It is, however, well recognized that the human milk is more alkaline than cow's milk, a fact which he had verified for his own satisfaction the preceding summer, by testing with litmus the milk of every woman who brought a nursing child to the Children's Hospital Medical Clinic, during a period of several weeks. With the exception of three women whose children were very sick, the milk was uniformly strongly alkaline. Cow's milk, as we get it in the city, is not uncommonly neutral, or but slightly alkaline, sometimes acid.

The speaker continued, that the paper of the evening had been of great use to him personally, by its demonstration of the reason for the undeniable success of some of the patent foods, foods of which the construction appears at a superficial glance to be entirely irrational. The correctness of the reader's position that the child is not fed with this, that, or the other so-called food; but with milk more or less modified by the addition made to it, is shown conclusively by the reasoning of the paper. It is also shown by clinical experience in cases where, misled by names, a so-called food has been given to the child without milk. He had, himself, seen a bad case of rickets, apparently caused by the continued use of Mellen's Food, with little milk, in a patient whose surroundings were good, and cases of starvation from the similar use of that of Ridge's Food, appear every now and then at the children's clinics. These cases generally improve on the addition of milk.

Another point of great interest in the paper, is the

sterilization of milk. We are hardly in a position to say that milk should always be sterilized, as it is probable that most babies can eat a considerable number of bacteria, at least of certain kinds of bacteria, without appreciable harm; but, on the other hand, within the past two years a number of papers have appeared, whose authors believe that they have succeeded in checking the diarrhoea of babies by the use of disinfectants. If these observations are correct, as it is likely that they are, sterilization by heat seems preferable to the use of drugs.

The Russian statistics, quoted by Dr. Rotch, are certainly very striking, and equally so whether we consider that the child adapts itself to the breast, or the breast to the child. It is not unreasonable to hope that their study has increased our power of treating the indigestion, and promoting the development of artificially-fed infants. If this be so, then the tubes shown this evening must prove convenient by their graded sizes, as well as by their form, which enables them to be easily cleaned.

DR. ROTCH, in conclusion, remarked that the mortality of the artificially fed is so much greater than that of breast-fed infants, that we cannot be too exact in our preparation of artificial foods, and that even if cow's milk alone was a fit food for the infant, which he had endeavored to show in his paper, was not the case, he should deem it unwise to interfere with the percentage of the ingredients for the purpose of sterilization as is done in boiling, for sterilization is only one of the factors of the general problem, and no one factor must assume undue prominence at the expense of the others, as he had already stated. Moreover, where a mixture of several ingredients is made to correspond to the analysis of human milk, we destroy the intention of this analysis by either steaming too long or by boiling, and we do not ever know to what extent we have tampered with the analysis, so many chemical changes at once arise.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING, Wednesday evening, April 6th. DR. J. C. WARREN in the Chair.

DR. J. LESLIE FOLEY read a paper on

MORBID CHANGES AND SURGERY OF THE NAIL,¹

and exhibited diagrams representing the various diseases. The discussion, which followed the reading of the paper, was chiefly confined to the treatment of in-growing toe-nail.

DR. G. W. GAY believed that no operation for radical cure could give greater satisfaction than Cotting's operation. He also spoke of the value of the nitrate of lead in all fungous granulations, malignant or otherwise, and said that it would frequently remove them efficiently, quickly and painlessly.

DR. MIXTER emphasized the importance in Cotting's operation of removing enough tissue. He considered that there was more likelihood of too little rather than too much being removed.

DR. CHARLES PUTNAM spoke of a little device, which was occasionally of use in holding up the in-growing side of the nail.

¹ See page 301 of the Journal.

³ Philadelphia Medical News, June 21, 1884.

⁴ Zeltsch. für Klin. Med. ix, 1885, p. 665.

⁵ Boston Medical and Surgical Journal, August 5, 1886.

DR. J. C. WARREN called attention to the sort of shoe which a patient with in-growing toe-nail should wear; and stated that the great point was to have the heel held well back in place by a good steel shank and a tight lacing, so that the toes might be free from pressure from all sides. His experience had been that women are more subject to in-growing nail, than are men, and he was inclined to attribute this greater frequency in women to the use of high-heeled boots.

Dr. Warren then showed a patient upon whom he had performed three months previously the operation of

GASTROTOMY FOR THE RELIEF OF OESOPHAGEAL OBSTRUCTION DUE TO MALIGNANT GROWTH.

DR. H. L. BURRELL then gave a *résumé* of

FOUR MONTHS' EXPERIENCE IN MINOR SURGERY AT THE BOSTON CITY HOSPITAL.²

DR. GAY had expected that Dr. Burrell would speak of the radical cure of *hydrocele* by the injection of the compound tincture of iodine. He, himself, had had excellent results from its use. The *hydrocele* should be tapped and after the fluid had escaped the tincture of iodine should be injected, and that in turn allowed to flow off, after which the patient could with no especial danger keep about as usual.

He also spoke of the probable frequency of *deep varices of the leg* and of the rarity with which they are diagnosticated in the so-called "painful legs."

Dr. Gay agreed with Dr. Burrell that cotton-batting was good for *padding splints*, but said that for the correction of deformity, something firmer should be used, and that perhaps old linen was the best thing to be had.

In regard to a diagnosis between a doubtful case of *Colles' fracture* and a *sprain of the wrist-joint*, he stated that he had frequently found that in fracture lateral pressure over the ends of the bones caused most pain, while with antero-posterior pressure the pain was more marked in sprains.

He thought that if the diagnosis was doubtful, and the patient was an adult, it was better to treat the case as though a fracture existed.

DR. A. T. CABOT, speaking of the diagnosis between a *Colles' fracture* and a *sprain*, stated that his custom had been to determine whether the greatest tenderness existed over the joint or over the radius above the joint; and that if it was most marked over the joint the case was probably one of sprain, if over the bone one of fracture.

In the treatment of fracture he laid stress on the importance of letting the fingers free as early as possible, so as to avoid subsequent stiffness.

In the treatment of *chronic ulcers*, he spoke of the value of elastic pressure over an absorbent dressing. The pressure would squeeze out the fluid from the granulations, and this would be absorbed into the dressing.

DR. M. H. RICHARDSON said that the prominence on the palmar surface of the wrist, so frequently noticed after *Colles' fracture* was generally considered due to bony callus principally from the lower end of the upper fragment, rather than to any inflammatory exudation around the flexor tendons.

He considered that whatever splint was used, care should be taken not to compress the superficial veins

more than necessary; and he did not doubt that much of the oedema so frequently seen was due to improperly distributed pressure.

He could not remember to have seen a case of *tenosynovitis* in the flexor tendons. In his experience with this disease it had been confined to the sheaths of the first two extensor tendons of the thumb.

DR. E. H. BRADFORD called attention to a steel sole for the palliative treatment of *flat-foot*. This sole, having been carefully made to fit the bottom of the foot and to press up the arch slightly, should be covered with leather a little larger than the steel sole, so that the sharp edges of the latter should be covered by the projecting edges of the former, so as to protect the foot. The whole should then be put inside the shoe.

DR. INCHES said that at his clinic at the Boston Dispensary the maximum length of treatment for a *Colles' fracture* was eight weeks. The mobility, however, was not in any case restored as soon as the splints were removed, as the inflammatory stiffness existed for a very long time.

DR. S. J. MIXTER, in the treatment of *ulcers*, preferred a dry dressing to a wet one, but he was cautious about using iodoform in chronic ulcers, on account of the danger of dermatitis.

DR. WATSON said that there was one principle in the treatment of *chronic ulcers of the leg*, which he thought hastened the healing process materially. The analogy was seen in the freezing of a sheet of water. If the water were smooth the skimming of its surface with ice went on more rapidly than if it were thrown into an uneven surface by the wind. In the same way if the surface of the ulcer were made flat and smooth, the epithelium would extend across it more rapidly than if, like the rough water, its surface were occupied by granulations, and the open surface were above or below the level of the surrounding skin, as in the exuberant or indolent ulcer respectively. It had, therefore, been his practice in such cases as required it to secure this condition by the application of a shield of sheet-tin on top of the ulcer to bring the surface even with the surrounding tissues. The dressing was known at the City Hospital as the "Tin dressing," and its method of application was as follows: The ulcer and surrounding surface were soaked in corrosive sublimate, 1 part to 4000, and thoroughly cleaned, a bit of protective was then placed upon the surface of the ulcer, covering a little more surface than the ulcer actually occupied, protective or some substance having a perfectly smooth surface was used in order that the new epithelium, which shot in from the edges over night, so to speak, should not be pulled off by adhering, as it did to cheesecloth or compress or anything having a meshwork woven surface. The tin made to fit the surface on which it was to lie is then placed on the protective, and the whole, as well as the surrounding tissues covered with a dry corrosive sublimate gauze dressing, which was held in place by an evenly-applied bandage extending from toes to knee.

Ulcers which had been lagging for days beforehand would often take a rapid start under this dressing.

In regard to the location of *teno-synovitis*, Dr. Watson said that he had seen it occur in connection with the tendons of the *tibialis anticus*, and with the *tendo achillis*.

DR. H. W. CUSHING, referring to the differential

² See page 297 of the Journal.

diagnosis between *Colles' fracture* and a sprain, stated that he relied principally on the relative positions of the styloid processes of the radius and ulna, and called attention to the fact that in fracture the styloid process of the radius is apt to be displaced somewhat upwards so as to be oftentimes on a level transversely with that of the ulna.

DR. CONANT spoke of the tendency of a dorsal deformity to occur as a result of this fracture, even after the splints have been removed.

As to the danger of dermatitis from the use of *iodoform*, he had found that it could be avoided by confining the iodoform within the limits of the raw surface.

DR. WARREN had also found an altered relation in the position of the styloid processes of the radius and ulna of use in making a diagnosis of a *Colles' fracture*.

He considered the breaking up of the impaction, a step of great value in the treatment. He used a grip which he had learned from Dr. R. M. Hodges. While the hand of the patient was firmly grasped by the same hand of the surgeon, the surgeon's other hand grasped the lower part of the forearm, just above the wrist, and the thumb exerted pressure over the lower end of the radius, and thus, by manipulating with the hand in this position, the impaction were broken up. His experience had led him to believe that the after deformity was rather apt to be lateral than antero-posterior, and that this deformity was best avoided by the early and careful placing of pads. He also referred to the excellent results following the judicious use of massage in the after-treatment of the stiffness following fractures near the joint.

As for *chronic ulcers*, he thought rest the most reliable curative agent, and referred to the practice of Malgaigne, who prescribed such enormous poultices that the patient could not get about, and was, therefore, obliged to rest. He would, however, not understate the value of pressure.

DR. O. K. NEWELL demonstrated the facility with which short instruments could be introduced into the bladder, and in connection showed a

MODIFIED URETHRAL DIVULSOR.

Remarks were made by Drs. CABOT, WATSON and TILDEN.

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.¹

SECTION ON GENERAL SURGERY.

GUN-SHOT WOUNDS OF THE ABDOMEN,

by DR. T. H. MANLEY, of New York.

The case was reported of J. C., brought into the Hospital with a pistol-shot wound of the abdomen, in the left epigastric region. The patient was seen two hours after the injury. The abdomen was greatly distended, and evidently contained fluid. The wound was probed with great care, but the place of entrance into the abdomen could not be found. An incision was then made in the linea alba. When the peritoneum was punctured, a large amount of blood escaped, estimated to be half a gallon. The hæmorrhage was found to come from a branch of the inferior mesenteric artery. This was secured with a ligature. A

double perforation was found in the descending colon. This was closed with the Lembert suture, including only the serous and muscular layers. The bullet was not found. The abdominal incision was closed and dressed antiseptically. It, however, failed to unite. In other respects the patient did well. The incision was again closed, the peritoneum being united with a separate row of sutures and the other layers with silver wire. On the third day it was found that the central portion of the wound had opened, but that the peritoneum had united. The patient eventually recovered completely.

The speaker then made some general remarks with reference to operations upon the abdomen. Severe shock should be a contraindication. Nothing will justify laparotomy when shock exists, except positive evidence of hæmorrhage. Opening of the abdominal cavity in man is a much more serious operation than in women. Man habitually uses the abdominal muscles in breathing, while in woman, the type of breathing is thoracic. This interferes with the union, and thus tends to make ventral hernia more common in man. In man, the abdominal incision should be no longer than necessary. For exploratory purposes, the incision through the linea alba is the best. The drainage-tube can serve no useful purpose in the healthy peritoneum free from septic contamination, and does interfere with union. Antiseptics should be always used until it is shown that cleanliness will render septic poisoning impossible.

THE USE OF THE GALVANO-CAUTERY SOUND, PARTICULARLY IN HYPERTROPHY OF THE PROSTATE. WITH REPORT OF CASES,

by DR. ROBERT NEWMAN, of New York.

The instrument consists of a smooth sound, with a fenestrum at its lower extremity. At this opening is a piece of platinum wire, in connection with a galvanocautery battery. By pressing a key in the handle of the sound, the platinum wire is heated to a bright red color. This does not destroy tissue. The instrument is introduced until the lower extremity reaches the prostate gland, when the current is passed through the platinum wire. These applications are repeated at intervals of three to five days. The author has employed this method of treatment in fifteen cases, seven of these being cases of hypertrophy of the prostate gland. In all these instances there was improvement in the symptoms presented, and a decrease in the size of the prostate.

The next paper was entitled

ENDO-CRANIAL SURGERY,

by PROFESSOR DURANTE, of Rome, Italy.

(The paper was read in French.)

BONY UNION AFTER INTRA-CAPSULAR FRACTURE OF THE NECK OF THE FEMUR,

by DR. CARNOCHAN.

The reader presented the specimen from a case of fracture of the neck of the thigh bone, occurring in an old lady seventy years of age, in which bony union followed rest in bed for a period of nine months.

DR. MORRIS, of New York. The treatment by rest in bed is not to be recommended as a general practice in cases of intra-capsular fracture of the femur. Unless the fracture is an impacted one, there is no hope of union, and the sooner these patients are gotten out of bed the better.

¹ Concluded from page 288.

UNUNITED FRACTURE OF THE FEMUR SUCCESSFULLY
TREATED BY DOUBLE SPLICE AND WIRED CLAMP,

by DR. F. LEMOYNE, of Pittsburg.

The method of treatment described had been employed in three cases. In two cases the humerus was the seat of operation, and in the third, the case to be described, the femur was the bone operated upon. The patient, a man aged thirty-seven years, was struck by a bucket of ore, receiving a fracture of the left femur, about its middle. This was treated in the usual manner, but union failed to take place. The various procedures employed in cases of ununited fracture, such as drilling, cutting off the ends and wiring, were tried, but no union followed. Eight months after the accident, the mobility at the seat of fracture was very distinct. The seat of fracture was then exposed by two incisions, one on the anterior, and the other on the external aspect of the limb. The fragments were found attached by firm bands of fibrous tissue, and the bone-tissues were softened. The fragments were completely separated, and the intervening tissue cut away. The lower extremity of the upper fragment was then sawed off, so as to form a wedge-shaped piece. The upper end of the lower fragment was sawed, so as to have a corresponding V-shaped depression. The extremities were then brought into apposition. A hole was made in each fragment so that the two openings were two and one half inches apart. A steel clamp, its extremities being bent at right angles, was laid upon the anterior surface of the femur, the ends being inserted into the holes already prepared. This was secured to the bone by three bands of wire encircling the limb at the seat of fracture. The limb was placed upon a posterior-inclined plane, the foot being elevated about eight inches. Sole-leather splints were applied on the external, anterior, and internal surfaces, and the patient was kept as quiet as possible. High inflammatory action, with free suppuration, occurred. In five weeks there seemed to be some union, and the clamp and wire were removed. The wound was still kept in leather splints. One year after the operation, there was good union. The patient could bear his entire weight on the limb. There was, however, shortening to the extent of two and one-half inches.

DISCUSSION.

DR. T. H. MANLEY, of New York. I have had considerable experience in wiring the shafts of bones, particularly in fractures of the thigh. If there is much shortening, I think that we should wire the bone at once. We do no harm by making a free incision down to the bone, and the silver wire causes no irritation. I leave them in permanently, and the results have been satisfactory.

WIRE EXTENSION SPLINTS IN THE TREATMENT OF
FRACTURES NEAR THE JOINTS,

by DR. GIBSON.

Several wire splints, intended to be used in the treatment of fractures of the thigh, fractures near the head of the humerus, and Colles' fracture, were exhibited. The author claimed for these, efficiency and comfort. He recommended their use more particularly in cases of fracture near the joints.

DR. MYERS, of Fort Wayne. I think that the best dressing for fractures that we now have is plaster-of-Paris and crinoline. When properly applied immedi-

ately after the reception of the fractures, it answers every purpose. It is less inconvenient than other dressings, and the results obtained are satisfactory.

SPLINT FOR FRACTURE OF THE LOWER JAW,

by DR. S. S. KOSER, of Williamsport.

The speaker reported a case in which the lower jaw was fractured through the symphysis and one inch left to the symphysis, with separation of both processes on the left side. Various forms of splints were tried without satisfactory results. An intra-dental splint was then made to which was attached steel arms projecting from the sides. An external rubber splint was then made and the two splints secured together. This held the fragments in position, and good union was obtained.

DR. ALBERT B. STRONG, of Chicago, exhibited drawings taken from the photographs of

FROZEN SECTIONS OF THE MALE PELVIS,

showing the relations of the peritoneum to the bladder, the rectum and the median line of the abdominal wall with special reference to supra-pubic cystotomy.

The Section then adjourned.

FRIDAY — MORNING SESSION.

The first paper was entitled,

A NEW METHOD OF OPERATIONS ON BONE,

by MILTON J. ROBERTS, of New York.

The author demonstrated his electric osteotome which consists of an electric motor to which may be attached trephines and circular saws of various sizes. By means of an attachment a saw is used having a to-and-fro movement. The motor is run by a storage battery. There is also an electric light with a mirror attached to the motor by which light is thrown on the part operated upon. In addition, there is also a spray apparatus operated by compressed air by which a constant spray is thrown upon the saw while in operation. This is found to facilitate the cutting. All the various attachments are under the control of one hand.

CALCULUS, IN SYRIA.

by DR. GEORGE E. POST, of Beirut, Syria.

Stone is a common affection in almost every part of Syria and Palestine, but more frequent in certain villages than in others. The proportion of large stones is greater than it is either in Europe or America. This is to be explained by a number of causes; among others, the prejudice against surgical operations, the want of skill on the part of the surgeons, the ignorance with reference to the use of the sound, and the poverty and ignorance of the people, leading them to postpone operation as long as possible. To these is to be added the traditional faith in the solvent power of certain substances. The native surgeons, in operating, practice median lithotomy; the patient is placed on his back in the lithotomy position, without anæsthetics, and one or two fingers are introduced into the rectum. The stone is pushed forward with the fingers until it impinges on the perineum. The operator then cuts with a razor or a scalpel directly on the stone, the cut extending from a little behind the scrotum to within the anus, laying open not only the perineum, but also the lower portion of the rectum, and the stone pops out. This method of operation is of course productive of many cases of fistula of various kinds. There is also considerable risk from hæmorrhage. In one

case operated on in this way in infancy, the author found three stones in the scrotum and two in the perineum.

The largest stone removed by the speaker weighed about twelve ounces. It was four inches in length, three and one-half in breadth, and nearly two inches in thickness. This stone was removed by perineal lithotomy, and it was necessary to cut the prostate on both sides and also in the middle. The patient from whom this stone was removed did well for fifteen days, when as a result of imprudence in diet he was attacked with a colliquative diarrhoea and died seven weeks later from exhaustion. There was no unfavorable symptoms connected with the wound. The greatest number of stones removed from one patient was two hundred, but many of these were merely granules. In one case there were eleven stones of nearly equal size, and weighing in the aggregate about six ounces.

The author had operated on 250 cases. Less than one-half of the stones were composed of phosphates; over one-third consisted of uric acid and urates, and of the remainder the most consisted of oxalate-of-lime with a few carbonate-of-lime stones. One hundred and seventy-six of these cases were operated on by perineal lithotomy. Of this number ten cases proved fatal, 106 of the 176 were in children less than ten years of age. Two of these children died. One of erysipelas and the other of shock. The remaining 70 cases were between eleven and seventy-five years of age, and of this number eight died; four of the fatal cases were between sixty-five and seventy-five years of age. In 44 cases lithotripsy was employed with a fatal result in four instances. Of the 250 cases eleven of the patients were females.

Two cases of urethral stone were reported. The first was that of a man of seventy, with phimosis. A stone was found at the meatus and removed. A second was found four inches from the meatus. This was also removed; a third stone was detected in the membranous portion of the urethra, but during the manipulations it passed into the bladder. Two or three days later it was caught with a lithotrite and removed. The second case occurred in a child two years of age, who was brought to the speaker on account of total retention of urine. The distended bladder reached above the umbilicus. An obstruction was found at the neck of the bladder, but it was found possible to pass a catheter over the obstruction. The urine was drawn for several days. It was then decided to make an exploratory section, but when the time for operation arrived, it was found that the stone had been dislodged and was at the meatus. It was then removed without difficulty.

DISCUSSION.

DR. J. A. S. GRANT (Bey) of Cairo, Egypt. I have listened with much interest to the paper, and it may be of interest to say something with reference to stone in Egypt. This is a very common affection in Egypt, where we have another common disease, that is, bilharzia hæmatobia. Certain investigations seem to show that the germs of this disease have something to do with the causation of stone. Sections of calculi have revealed the presence of the germs of this affection. The following case recently presented himself to me. The patient, a railroad employé, came with considerable inflammation of the scrotum and with a fistulous

opening entering the scrotum. A large scrotal calculus could be readily seen. Six years previously the patient had suddenly had complete retention of urine. This continued ten days, and the trouble then suddenly disappeared. After this he noticed that the scrotum was gradually increasing in size. I made a large incision through the fistulous opening and removed from the scrotum a stone weighing fourteen ounces.

In Egypt we do not have the class of stone cutters referred to by Dr. Post. Egypt is divided into fourteen provinces, each of which has a hospital under the charge of a competent physician.

DR. OSCAR J. COSKERY, of Baltimore, reported a

CASE OF AN UNCOMMON FRACTURE WITH DISLOCATION OF THE TARSUS AND METATARSUS.

ELASTIC CONSTRICTION OF THE NECK WITH EXCLUSION OF THE TRACHEA AS A MEANS OF CONTROLLING HÆMORRHAGE IN OPERATIONS ON THE HEAD,

by DR. SENN, of Milwaukee.

The author referred to the many advantages derived from the use of the Esmarch bandage in operations on the extremities. In the case of the head where bloodless operations are most desirable we have, so far, not been able to attain that result. The principal objection to constriction of the neck appears to be the necessary compression of the trachea. It is also possible that the pressure on the pneumogastric and phrenic nerves may interfere with respiration. The author had taken dogs, and isolating the trachea, has passed an elastic bandage around the neck between the œsophagus and the trachea. This produced no immediate effects on respiration. In one case the dog was allowed to live two hours with the band around the neck and no blood going to the brain with the exception of that which reached it through the vertebral arteries. This animal was allowed to live and presented no subsequent symptoms. It was found that after the band was applied the lingual, the external, the internal and the common carotid could be divided without any escape of blood from the proximal extremity. The only arterial hæmorrhage was from the peripheral end through the collateral circulation. There is some venous engorgement, and as a consequence a certain amount of venous bleeding. By this method we can extirpate the tongue, excise the upper jaw, perform radical operations on aneurisms, especially on aneurisms by anastomosis, and do other operations that could not be done without it.

CONGENITAL DISLOCATION OF THE HEADS OF THE FEMORA.

by DR. CARNOCHAN, of New York.

Reference was made to the general lack of knowledge concerning this malady. The affection is, however, not an infrequent one. The author had seen seventy cases during the past twenty-five years. Drawings from several cases of this kind were exhibited, showing the peculiar deformity which this malady produced. The pelvis and femora taken from an individual sixty years of age, who was the subject of congenital dislocation at the hip-joint was shown. There were marked changes in the structure of the heads of the thigh bones and also in the acetabula, which were simply triangular cavities. As to the cause of this condition, it was uncertain whether it was due to rough handling or to want of nutrition.

DISCUSSION.

DR. MORRIS, of New York. It is evidently not due to rough handling, for it is quite frequent in the Northern part of Germany, where women receive skilful attention during confinement. The deformity is quite frequent where rachitic affections abound.

DR. GEORGE E. POST, of Beirut. I see this condition quite frequently. While one class of cases may depend on rachitis there is another class in which the condition is evidently the result of mechanical causes. In a recent case I found the head of the femur in the thyroid foramen; there was no history of injury. I can only explain these numerous cases disassociated from scrofulous and rachitic affections as due to some movement of the child in utero.

DR. SPANTON, of Hanly, England, exhibited a
PAD FOR RETAINING THE DISCHARGES IN CASES OF
FÆCAL FISTULA.

DR. ARTHUR H. WILSON, of Boston, illustrated with the stereopticon, certain

HISTOLOGICAL PATHOLOGICAL CHANGES IN THE
PROSTATE GLAND.

The last paper was entitled

ALCOHOL AS AN ANÆSTHETIC

by DR. JOHN E. LINK, of Terre Haute, Ind.

After an experience of twenty years, the author recommended the use of whiskey as an anæsthetic. He advised the use of full-proof whiskey at least two years old, giving from one to two ounces repeated every three to five minutes according to the rapidity of the absorption. The quantity given varies between sixteen and twenty-four ounces. The patient is then allowed half an hour to quiet down. If the desired effect is not produced a few inspirations of chloroform are given. The two agents combined give better results than either alone. A number of cases in which this method was employed were reported.

DR. KOSER, of Williamsport, offered a resolution to be forwarded to Professor Bilroth, congratulating him upon his recovery from his severe illness; adopted.

After extending a note of thanks to the President, the Section adjourned *sine die*.

AMERICAN GYNÆCOLOGICAL SOCIETY.¹

TWELFTH ANNUAL MEETING.

TUESDAY.—FIRST DAY.—AFTERNOON SESSION.

IS SALPINGITIS TO BE TREATED BY EXTIRPATION
OF THE TUBES AND OVARIES IN ALL CASES,

by DR. W. M. POLK, of New York.

By salpingitis the speaker meant that disorder whose most marked clinical expression is found in the presence of the peri-uterine masses so commonly met with in palpating the pelvic contents. The most common result of this condition is displacement of the tubes. The author had already made a report on one hundred cases of salpingitis. In fifty of these cases the abdomen was opened, and in fifty no section was made, but in these a comparison of the results of careful examination left no doubt that the whole series of one hundred cases represented the same disease. The majority of cases of salpingitis recover.

Even where a small quantity of pus is present this may be encapsuled by lymph and do no harm. Some of the cases remain as confirmed invalids, while a few die. Outside of the puerperal condition the death-rate is low, and including antiseptic midwifery the death-rate is still low. The main symptom observed was dysmenorrhœa.

An examination of the cases coming under the author's observation led him to believe that the chief cause of the symptoms in many cases was the presence of adhesions. He had operated, removing the adhesions, but allowing the tubes and ovaries to remain, on the ground that although pregnancy might not occur, yet as their removal was unnecessary, mutilation could be avoided and one of the objections to the operation removed. The question whether or not the adhesions will re-form, must be answered by experience. The author reported eight cases operated on in this way. In case I, there was shortened uterosacral ligaments, the posterior fossa of the uterus touching the rectum. The ligament was stretched, a drainage-tube inserted, and the patient did well. She had suffered for a long time from dysmenorrhœa and pain during coition, and other evidences of so-called cellulitis or chronic salpingitis. In the second case the uterus was retroverted and bound down by adhesions. These were torn, the tubes and ovaries loosened, and the uterus held forward by Alexander's operation, the object being to displace the uterus from its old position and prevent the formation of new adhesions. Within proper limits, the extirpation of the tubes and ovaries is a valuable operation. It is, however, desirable to confine it within its narrowest limits, and where it is possible to avoid mutilation, to do so.

DISCUSSION.

DR. A. MARTIN, of Berlin. We can only progress in this important matter by distinguishing between the different forms of disease of these organs. Ten years ago, I pointed out the anatomical forms of these different affections. In only a small number of cases is the tube the seat of a neoplasm. I have found only one case of carcinoma of the tube. The most frequent disease of the tubes is catarrhal inflammation, extending from the uterus. We frequently see it following the puerperal state. It has often been supposed that the salpingitis was of gonorrhœal origin, but only in a few instances have the gonococci been found in the tubes. In most cases the disease of the tubes is a simple benign affection; a catarrh which increases the size of the tube and may give rise to hæmorrhage, particularly at the time of menstruation, and occasionally to pyo-salpinx. Frequently, early occlusion of the tube is the result.

Only a small number of the two hundred and fifty cases coming under my observation have required operation. As in most cases the disease is a simple catarrh, we must first institute treatment adapted to the simple nature of the affection. If we do not succeed in relieving the symptoms and reducing the size of the tube, we are to operate. I have done eighteen operations for disease of the tube, but very seldom did the tube give me the occasion for the operation. Generally it was the spread of the disease to the other pelvic organs, particularly the ovaries. In many cases there was abscess of the ovaries. This severe complication is not observed with sufficient frequency as to warrant operation in all cases of salpingitis.

¹ Continued from page 290.

In operating in these cases, I puncture the tube before removing it. I do this because purulent matter often escapes into the peritoneal cavity from rupture of the tube. I cannot say that my statistics are as favorable as some. I have lost about twelve per cent. I never perform the operation except where there is a distinct tumor. In nearly all of the cases there was severe peritonitis. In the majority of cases, we can cure these patients by general treatment.

DR. T. A. EMMET, of New York. I hold much the same views as Dr. Martin. A large number of these cases can be cured by careful general treatment, and it is our duty to operate in no case until the woman has had an opportunity to see whether or not she can get well without operation. Where the disease of the tube is unquestionably of gonorrhœal origin, the operation may be resorted to at once. I am satisfied that two-thirds or more of the cases operated on to-day, will not be operated on five years from this time.

DR. WILLIAM GOODELL, of Philadelphia. I agree in a large part with what Dr. Martin has said. My rule is, to try in the majority of cases the effect of rest treatment, with general and local medication. It seemed to me that the author gives us an operation more dangerous than removal of the ovaries. What objection is there after the abdomen is opened, to the removal of the ovaries and tubes? This is not a mutilation. They are unable to perform their functions. Rather than resort to a second operation, such as Alexander's, I should favor the removal of the tubes and ovaries.

In cases of mal-position of the uterus, associated with disease of the tubes and ovaries, I have frequently righted the uterus, by introducing a pessary at the time the ovaries and tubes have been removed, and keeping it in during the process of recovery. The pessary may then be removed and the uterus keeps its position. I have had cases which improved temporarily under rest treatment, but in which I was finally compelled to resort to operation.

DR. G. BANTOCK, of London. The question which has been proposed, may be answered in the negative. My views have been well expressed by Dr. Martin. I never contemplate the removal of the ovaries without a great deal of anxiety. Ordinary cases of salpingitis, due to catarrh, can be cured by rest and constitutional treatment. When we come to pyo-salpinx and hæmato-salpinx, the conditions are different. A well-marked case of pyo-salpinx, whether due to catarrh or to gonorrhœal infection, will require operative treatment. I have, however, seen tubes which evidently had contained a large quantity of pus, but which when examined, contained only a small quantity of cheesy matter. It is rare to have death from the rupture of a pyo-salpinx. In hæmato-salpinx the condition is far more serious than in pyo-salpinx.

About one year ago, I had under treatment a case of fibroid tumor of the uterus. The patient suffered a great deal of pain, and I was induced to operate. I found numerous adhesions, and when I reached the brim of the pelvis, the adhesions were so numerous that I could not proceed. I therefore determined to remove the ovaries, and bring about the menopause. The left ovary was removed without difficulty, but when I came to remove the right ovary, it could not be found. Fluid was detected in the right side, and an incision showed that there was a fibroid tumor

which had undergone cystic degeneration. The edges of the cavity were stitched to the abdominal wall, a large opening being left to facilitate drainage. In three months the patient was quite well. She subsequently married, and, a short time ago, was delivered of a living child. It is, therefore, clear that when the mischief arises from the outside of the tube, sterility does not necessarily result. When, however, the inflammation begins inside, sterility will probably be induced.

DR. R. S. SUTTON, of Pittsburgh. I agree that all cases of salpingitis should not be operated on, but if pus exists in the Fallopian tube, it is our duty to evacuate that pus, just as it is our duty to evacuate a collection of pus in the arm. No one has a right to allow a woman to go around with a pus-sac, ready to burst into the peritoneum, when we can remove it. The condition of life of the patient must be considered. A poor woman may require operation, while a rich one might be able to get along without operative measures.

DR. GILL WYLIE, of New York. In one thousand of my earlier cases of peritonitis and cellulitis, I operated about once in every ten cases. In later years, the proportion has increased. Of my last sixty cases, sixty per cent. were for pyo-salpinx, and all these cases have recovered. I should not be willing to try the operation suggested by the author.

DR. WM. M. POLK, of New York. The question which I considered was in regard to mutilation. A woman has a right to the ovaries if they do her no harm. Dr. Bantock's case shows that the presence of adhesions is not a bar to pregnancy. I think that the removal of the tubes is a most important operation, but we must avoid extirpation of the tubes and ovaries unnecessarily.

DRAINAGE AFTER LAPAROTOMY,

by DR. PAUL F. MUNDÉ, of New York.

While drainage is an accepted procedure in general surgery, its position in abdominal surgery is not yet settled. The author then quoted the opinions of various operators, showing the great diversity of views. If antiseptics can prevent the decomposition of fluids left in the abdominal cavity, the use of the tube can be dispensed with. So long as there is any doubt as to this, so long, at least theoretically, will drainage be called for. Some of the disadvantages connected with the use of the tube are: that the abdominal wound cannot be completely closed; there is danger of septic contamination through the tube; the liability to ventral hernia is increased; and there may occur serious reflex gastric irritation. Whatever good is done by the drainage-tube is probably accomplished within the first twenty-four hours. As soon as the fluid which escapes is serous or sero-sanguinolent, the tube may be removed. It has recently been recommended that, in cases where it is found impossible to remove the whole tumor, and a large cavity is left, a sac of iodoform gauze be made, and packed into every crevice of the cavity. This is then filled with narrow strips of iodoform gauze. This the author had employed with satisfaction. At the end of ten days, the dressing was perfectly odorless.

It was thought that when drainage seemed necessary, that the tube might be omitted, and the removal of fluid accomplished by an antiseptic gauze strip passed through the vaginal roof into the vagina. This permits of the perfect closure of the abdominal incision.

DISCUSSION.

DR. A. MARTIN, of Berlin. I do not employ drainage after ovariectomy, for the absorbing power of the peritoneum is so great that it can dispose of a considerable quantity of fluid. I use drainage in only a few conditions. I use it when I remove the uterus by amputation through its neck. I use it in vaginal hysterectomy. I use it where there are large surfaces of a sloughing character, and large cavities left in the broad ligaments, as in extra-uterine pregnancy, in large fibroid tumors which have been enucleated, and in large cystic tumors, where all the surfaces cannot be brought in contact. In these cases I use the drainage-tube, passed through Douglas's cul-de-sac into the vagina, as I consider it important to close the abdominal wound.

DR. G. BANTOCK, of London. So confident am I of the value of drainage, that I use it on the slightest provocation. I use it where there has been abundant adhesions, and where it is found impossible to completely dry the peritoneal cavity. I use it where the tumor has been burst, and it is impossible to remove all the contents. In these cases, I use large quantities of clean, warm water. I have given up everything in the form of antiseptics. Since I have given up the antiseptic method, my results have correspondingly improved. In my last one hundred and four ovariectomies, I have lost three, and in the last seventy-eight I have lost one. While I value the use of the tube, I do not think that it is required in the majority of cases of ovariectomy.

The form of the tube is of importance. I employ the ordinary straight drainage-tube, to be introduced to the bottom of the wound. It should be emptied every two or three hours. This prevents any absorption of the effused fluids, and the patient recovers without any elevation of temperature, or any alteration in the pulse. When the fluid removed is nothing but plain serum, the tube may be taken away; but if it is removed before all blood has disappeared, great risk is run.

DR. GARDINER, of Montreal. In thirty-five abdominal sections, I have used the drainage-tube in about sixteen cases. In sixteen ovariectomies, I employed it in eight or nine cases. I shall continue to use it until further experience gives me some reason to lay it aside.

DR. GILL WYLIE, of New York. One of the advantages of the use of the tube has not been referred to, and that is that it gives us early information as to the occurrence of hæmorrhage.

DR. WILLIAM GOODELL, of Philadelphia. I am not a believer in the drainage-tube, although I do use it occasionally. In three or four cases, I have had colloid cysts rupture three or four weeks before operation, and when the abdomen has been opened, all the organs have been found covered with the colloid material. These cases recovered without the use of the drainage-tube. This was before the time of washing out of the abdomen. In a recent case of the same kind, I used the drainage-tube, and not more than three ounces of fluid escaped. I agree with reference to the great value of the tube as showing the presence of hæmorrhages. In one case a fæcal fistula occurred, and this I attributed to the presence of the tube.

Adjourned.

(To be continued.)

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THE POTATO IN ITS RELATION TO IRELAND'S MISERIES.

AN anonymous writer in the *Westminster Review*, speculates as to the causes of Ireland's wretchedness. It is not over-population, for Ireland supports fewer people per square mile than England and Wales, Switzerland, France, Belgium, Saxony, or the Netherlands. It cannot be the lack of fertility of the soil, for the land of Ireland is proverbially productive. Nor can it be said that the aggregation of people in the land is the cause, for whilst Belgium, with only three and a half million acres under cultivation, supports one million of people by agriculture, Ireland employs but one million one hundred thousand for the cultivation of fifteen and a quarter millions of acres. Various other unfavorable conditions are suggested as accounting for Ireland's distress, but the reviewer regards as of the first importance the matter of diet. The Irish, as a nation, are miserably fed. To great multitudes of the Irish, the potato is almost the only means of sustenance. Now it is easy to show on physiological principles the impossibility of a nation thriving on potatoes. The writer fortifies his argument by citing tables from recent dietary works, showing the meagreness of potatoes in nitrogen and comments on the unfortunate choice which the Irishman has made in adopting as his staple food one of the worst vegetables grown — "a vegetable which does not furnish either sufficient carbon or nitrogen, except it be eaten in such inordinate quantities as to produce a sense of fulness which is not compatible with labor." "To eat twenty-four pounds of food each day in order to produce the same amount of energy as can be obtained from a couple of pounds of other articles low in cost and equally appetizing, can scarcely be called economy.

A consideration of the dynamic value of foods leads to the same conclusion. Bread or oatmeal, to the value of three pence half-penny, would raise one hundred and forty pounds to the height of ten thousand feet, whereas five pence half-penny would have to be spent on potatoes for the same work. This, however,

takes no account of the nitrogen, of which element the potato is singularly deficient, and does not consequently give the true dietetic value of that root. In comparison with the cereals, it may be said roughly to be eight times as expensive to live upon potatoes as upon bread or meat. It must further be borne in mind that although the yield per acre of potatoes is of much greater value than that of wheat, the cost of growing the one (exclusive of rent rates, tithes and taxes) is within a fraction of double the cost of growing the other."

The reviewer refers to historical facts which show that far-sighted political economists predicted untold calamities for Ireland as the result of her too exclusive cultivation of the potato. William Cobbett foretold that the ruin of Ireland would be the cultivation of "that dirty root." "But before Cobbett, Adam Smith wrote on the adoption of the potato as the national food in a manner . . . which showed a complete grasp of the subject. He believed that the same extent of land which would grow food for one person in England would support four in Ireland . . . but *how* support? History furnishes the answer. While the people of England have been steadily progressing, living in increasing comfort as the years roll by, the people of Ireland have as steadily lost ground, the population decreasing, the number of paupers every year increasing, the housing of the masses becoming more wretched, their comforts fewer, famines more frequent; and as the natural result, popular discontent has long since reached a state which may be called chronic, and that which we call *agitation* is little more than the heart-rending cry of a generous people who live on the verge of starvation, with no prospect of immediate improvement, and absolutely no hope of the future."

Adam Smith deprecated the adoption of a potato diet for the following reasons: (1) Being incapable of storage, the cultivation produces dependence upon a single year's crop; (2) Scarcity and famine must therefore be of more frequent recurrence than would result from any other diet; (3) Its low value as a food must bring down the wages of the people to the standard of their diet; (4) Its bulk and weight render it unfit, in a large degree, for cultivation as an article of export.

A quotation from Smith (for which we are indebted to the reviewer), well illustrates these points. It is remarkable, by the way, how completely history has verified the theories of this great political economist; we need only to refer to the famines of 1846, 1854, and subsequently, with the wasting diseases which followed in their train, the enormous emigration draining the country of its very life-blood, and other national evils, physical and moral, making the evolution of the Irish people, during the greater part of this century, retrogressive rather than progressive.

"It is therefore of the utmost consequence to the well-being of every people and to their protection in years of scarcity, that they should not subsist principally on the potato. In Great Britain, the pressure of a scarcity is evaded by resorting to an

inferior species of food and a lower standard of comfort; but if our people were habitually fed on the potato, this would be impossible. The chances of famine would thus be vastly increased; while, owing to the low value of the potato as compared with most other things, the laborers would have far less chance of acquiring a taste for animal food or other necessities and luxuries, and consequently, of changing at any future period their actual condition for the better. For these reasons, it would seem that the rapid extension of the potato culture is by no means the unmixed benefit it is regarded by some."

Buckle, in 1859, wrote on the influence of climate and soil—the external environment generally—on the welfare of nations, and his work made a profound impression at the time, and many of his generalizations are regarded as just as true to-day as they were regarded bold and questionable when he wrote his "History of Civilization in England." Buckle, in showing that the spirit and character of a people are dependent on material circumstances did indeed touch upon diet but only incidentally and incompletely; it remains for some future philosophic historian, with a knowledge of physiological chemistry, from the same standpoint, to pursue the work of Buckle, and show the rôle of food in modern civilization. The material for such a survey is accumulating, and our countrymen, Atkinson and Atwater, are already making use of it.

TRANSFUSION AND INFUSION.

THE brilliant successes in saving life already reported have fully established the value of this method of relieving the alarming and dangerous condition of acute anæmia following excessive hæmorrhage, and have incited many experimenters to renewed investigations, which have added much important information to our previous knowledge of this subject.

The danger of direct transfusion, and the difficulty in obtaining a donor for this purpose, made it exceedingly desirable to discover some substitute equally efficient, and more easily controlled.

For this purpose Lauderer with Cohnheim in 1881,¹ made a series of experiments with the alkaline salt solution; but the conclusions arrived at were that its effects were transitory and unsatisfactory. Experiments with defibrinated blood were more successful; but the best results were obtained from a combination of defibrinated blood (1 vol.) with an alkaline salt solution (3 to 4 vols.) Animals which had suffered a blood loss of 5.3 per cent. of their bodily weight, and a case of severe nitro-benzole poisoning were successfully resuscitated. Schramm² has shown that a loss of blood equalling 5.4 per cent. of the bodily weight almost invariably results fatally, and fourteen experiments with infusion corroborated the above statement that the salt solution caused only a moderate and transitory cardiac irritation, and had no decided influence in preserving life after severe hæmorrhages. A summary of Schramm's work gives: Blood transfusion, 10 cases; blood loss, 5.3 per cent. 10 recoveries; infusion, non-defibrinated blood 1; salt so-

¹ Virchow's Arch., cv. 2, p. 351, 1886.

² Wien. Med. Jahrb., 1, s. 489, 1885.

lution 4; 10 cases, 5 deaths, 5 recoveries; infusion of serum or egg albumen and salt solution, 17 cases, 9 deaths, 8 recoveries, the albumen having apparently no effect in regenerating the blood.

He then concluded that the treatment of acute anæmia from hæmorrhage should be thus classified: (1) Analeptics; (2) salt solution infusion; (3) in cases of renewed collapse, blood transfusion.

Lauderer has, since his original report,³ continued his efforts to find a substitute for human blood, and his more recent experiments⁴ with an alkaline salt-sugar solution, show⁵ more favorable results than with the simple salt solution originally used. He treated successfully a case of acute anæmia in a human subject, and demonstrated that animals treated in this way would recover after a blood loss of 5.5 per cent. even, which is strong proof of its efficacy. Experiments on animals poisoned with nitro-benzole and chloral were also successful.⁶ The advantages claimed by Lauderer for this solution are: (1) That the fluid constituents of the tissues (Gewebssäfte) are energetically attracted to the blood. (2) That the blood tension is essentially increased: a very important factor in hæmorrhage. (3) The addition of an easily assimilated nutritive substance; namely, sugar, for which purpose the simple salt solution generally used, or even blood, has been shown valueless.⁷ At the discussion of Gaule's report Krönlein's remarks referring to his own experience with infusion⁸ confirmed Lauderer's views. Krönlein also classified the indications *ut. seq.*: (1) Altered vascular tension; (2) altered nutrition of tissues; (3) interference with the function of the hæmoglobin. In the two later he considers that infusion of simple salt solutions is valueless. In (3), for example, carbonic acid poisoning, blood transfusion would be required; but this view is somewhat at variance with Lauderer's ideas, who considers that even in this class of cases blood transfusion is not necessary. The fact that recoveries have followed infusion of the six per cent. salt solution, in cases of severe post partum hæmorrhage, Lauderer does not think invalidates his conclusions, since the best results with this solution have been obtained in this class of cases, a fact which he considers quite significant.

In regard to the details of the operation of infusion Cohnheim strongly recommended that the solution should be infused into the proximal end of a distal artery, preferably the radial. His reasons for advancing a method so entirely different from the usual operation⁹ are that the artery is more readily found, the blood current in the artery diminishes the danger of a sudden over-powering of the heart; the danger from air embolism is avoided, and the opportunity for gangrene induced by rupture of distal arterioles during spasm to resist a foreign fluid is absent. It is singu-

lar that these suggestions endorsed as they were by an investigator of Cohnheim's reputation should have received so little attention, for, as far as we know, there is no published case where this method has been employed. It would seem as if these advantages were not wholly theoretical.

The possibility of relieving dangerous collapse from other causes than excessive hæmorrhage, probably suggested by the above investigations, has led to the development of infusion, and its applications to other emergencies than those for which it was originally intended.

Among these is the work of C. Sanquirico,¹⁰ of Siena, who has attempted to show by experimentation that the elimination of fatal doses of poisons through the renal excretion can be so accelerated by the introduction into the vascular system of an "indifferent" solution equivalent in amount to eight per cent. of the animal's weight, that life can be saved. He succeeded only where chloral hydrate and aconite were the toxic agents employed. Also, the treatment of cholera by subcutaneous infusion, first mentioned by Cantari (1865), and again revived by S. Samuel,¹¹ of Königsberg, is another outgrowth of this method. It is used in the stage of asphyxia, and is continued as long as the attack lasts; that is, until the pulse regains its force, and renal excretion is re-established. It has been found that the neck and intra-clavicular region is most favorable for the infusion, since the circulation and power of absorption exist in these regions after they have ceased in localities more distant from the heart, especially the extremities, and the technique of the operation is described most fully by Keppler,¹² who has apparently done the most accurate work in this subject. For a full statement of his experience and its results, those interested are referred to his publication.¹³ Also, Samuel's article is a very valuable one to those wishing to gain a knowledge of the history and present value of this method.

From the above, it can be readily seen that we have at hand a means of saving life, where formerly the surgeon was compelled to sit with folded hands, and acknowledge himself powerless to aid his patients. Since then, the work of a few men has developed a means of treatment which has already proved effectual in many of these most trying cases. It surely behooves every practitioner to become thoroughly familiar with the treatment most valuable in these emergencies, and be ready to thus save many a victim who would otherwise perish.

CHOLERA AT THE PORT OF NEW YORK.

WHEN the steamship *Alesia*, of the Fabian line, bound to New York from Naples and Marseilles, arrived at quarantine on September 23d, it was found

³ Loc. cit.

⁴ Schmidt's Jahrb. der gesamm. Med. 1886, No. 9.

⁵ R. Natr. chlor., 7.0; Sacch. Alb. 30.0; Aq. destill. 1000.00 Gms. adde Natr. Hydr. q. s. ad react. alcal. ca. grt 2-4, that is, the ordinary salt solution with the addition of 3-5 per cent. cane sugar.

⁶ Gaule Corr. Bl. f. Schweizer Aerzte xvi, August, 1886.

⁷ Ott. v. Bergmann, et alii.

⁸ Simple salt solution used; one recovery, five deaths.

⁹ Infusion into a large vein, usually cephalica or basilica brachii.

¹⁰ Centbl. f. Med. Wissenschaft, 1886, No. 51.

¹¹ Deutsche Med. Wehnschr., 1887, XIII, 3.

¹² Deutsche Med. Wehnschr., 1883, No. 46.

¹³ Die Erfolge meiner Behandlung des asphyktischen Cholera-anfalles mit Continuirlichen subcutanen Infusionen acoholischer Kochsalzlösung. Fr. Keppler in Venedig. München, 1886.

that eight persons had died of Asiatic cholera on the voyage to that port, and that eight others were suffering from the disease. Ever since the cholera began its ravages in southern Europe, every precaution has been taken to prevent vessels from the infected ports slipping by the quarantine authorities with the disease on board, and no case of it has been discovered until the arrival of the *Alesia*. There were five hundred and sixty-one steerage, and three cabin passengers. The eight cholera patients were at once removed to the hospital on Swinburne Island, and the other passengers to Hoffman Island, where they will be carefully watched and will be retained until all danger of their bringing the pest into the city is over.

The *Alesia* sailed from Marseilles on August 28th, and afterwards touched at Naples where cases have occurred during the latter weeks, doubtless transmitted thither from the neighboring town of Messina. At Naples she took on some three hundred additional passengers, of whom two are said to have been ill at the time. It was not until the ship had passed Gibraltar that they were isolated, and on September 13th, a third passenger was taken down with the disease. Among the victims who died on the voyage were the two original cases and also two of the sailors.

The steamship *India*, which sailed from Mediterranean ports one day ahead of the *Alesia*, also arrived on the 23d. She was carefully examined, but no signs of cholera were found on board, and she was allowed to proceed to the city after being fumigated.

Later reports show that two more of the passengers, held in quarantine on Hoffman Island, died on the evening of the 24th, and one expired at five A.M., on the 25th, at which time it was reported that twenty-three of the passengers are very ill, and one is likely to die. The others are improving.

Those who contemplate a foreign tour this winter may find it of interest to remember that numerous cases of cholera have occurred for the last five or six weeks in the towns about Rome, notably Tivoli, as well as in other parts of Italy and Sicily.

MEDICAL NOTES.

— Dr. Férand, chief of a large Marine Hospital in France, considers tape-worm fifty times as frequent in the Marine Hospital patients of France as it was twenty-five years ago. Of 1,842 cases, he succeeded in obtaining the expulsion of the parasite, head and all, in only 425. He found little efficacy in turpentine, ether, pumpkin-seed, and male fern. Koussou is useful, if perfectly fresh, but it rapidly deteriorates. The rind of pomegranate root is the best emmenagogue, and pelletierine the best preparation. He gives, the patient being kept in bed, an infusion of senna at 6 A.M.; at 7 A.M., seven grains of tannate of pelletierine, dissolved in simple syrup. This is repeated in one-half an hour. At 8 o'clock, an ounce of castor oil. The patient to keep perfectly still, to avoid nausea.

BOSTON.

— Dr. Martin, the eminent gynecologist of Berlin, who has been in attendance at the International Medical Congress in Washington, and at the meeting of the American Gynecological Society in New York, was entertained at breakfast at the Brunswick, last week.

NEW YORK.

— Dr. Henri Nachtel, of Paris, whose efforts, eight years ago, resulted in the establishment in New York of a night medical service, by means of which any one can secure the prompt attendance of a physician at all hours of the night by calling upon the nearest police officer, is now in the city for the purpose of securing \$10,000, in addition to \$10,000 that he has already raised at home, to enable him to start an ambulance service in Paris similar to that now in use in all the larger cities of the United States. As long ago as 1880, Dr. Nachtel read a paper on the American ambulance system before the French Academy of Medicine, and, a committee of leading physicians having reported in favor of the project, an appeal was made from the Academy to the Minister of the Interior, asking that the system be established in Paris as soon as possible. For several years, however, the public authorities refused to take any active measures to organize an ambulance service, on account of the expense involved, and Dr. Nachtel then resolved to try to gain his end by private means. Accordingly, he started a society, composed of such men as Jules Simon, the former Prime Minister, who became its President, Alexander Dumas, General Boulanger, Louis Pasteur, the Duc de Broglie, Arsène Houssaye, Ernest Renan, Léon Say, and Albert Wolff, and during the last two years he has succeeded in raising \$10,000. He desires the money now to be subscribed to pass through the hands of a committee of prominent American citizens to the French committee in Paris, and states that if the additional \$10,000 can be secured in six weeks, he will have the American ambulance system at work in the most populous quarter of Paris before the end of the year. He has no doubt that it will demonstrate its superiority to any other method so quickly, that the authorities will very soon provide the 1,000,000 or more francs necessary to extend the system over the entire city.

— The Board of Health has appointed Drs. E. G. Janeway, A. Jacobi, C. R. Agnew, J. D. O'Dwyer, Stephen Smith, George F. Shrady, and D. M. Stimson, a Board of Consulting Physicians and Surgeons for the Willard Parker and other hospitals of the department. Drs. T. M. Prudden and H. M. Biggs have been appointed pathologists to the department. Dr. James B. Taylor, who, for many years, has been at the head of the vaccinating service, has resigned his position as Chief of the Vaccinating and Contagious Diseases Bureau of the Board of Health.

— Early on the morning of September 20th, Dr. Theodore Hornblower and his wife, of Jersey City, had a desperate conflict with burglars who had entered

their residence. Several shots were exchanged, and the Doctor was slightly wounded in the neck. The burglars succeeded in making good their escape, but one of them was apparently severely wounded, by the trail of blood which he left. On the same afternoon, a man applied to a Harlem druggist for assistance, on account of a bullet-wound of the thigh. He was sent to the Harlem Hospital, and the police notified; and he has now been identified by both Dr. and Mrs. Hornblower as the man who entered their room.

—Small-pox has broken out on Staten Island, and of four cases reported at Stapleton and Port Richmond, within forty-eight hours, two have proved fatal. The Board of Health of Edgewater has ordered the district school at Middletown to be closed, as this school-house is situated directly in the rear of the building where the disease originated.

Correspondence.

NINTH INTERNATIONAL MEDICAL CONGRESS, GYNÆCOLOGICAL SECTION.

Boston, September 21, 1887.

MR. EDITOR,—Permit me to correct an error in your review of the work done in Section V. of the late Inter-

national Medical Congress. You give credit to the Section work, but state a part of the interest was due to papers which should have been read in the Obstetrical Section.

This is the first time obstetrics and gynecology have been separated, and it was natural papers should be referred by authors to either Section which would have been more appropriate to the other. Dr. Miller and myself arranged our programme to our mutual satisfaction, only seeking the best interests of the Sections over which we had supervision.

A glance at the programmes will show that the chief difficulty under which we each labored, was the number of papers contributed — quite sufficient to have profitably engaged the Sections for another week.

Your correspondent, who found nothing to meet his approval, characterizes the papers before the Congress, “as a big wad of documents, which ambitious young men of inexperience combined with respectable practitioners to accumulate.”

Of over sixty papers contributed to the Section of Gynecology, twenty-five were by the distinguished gentlemen from abroad, attracted, as he thinks, to the Congress by a meeting of a Society which convened in another city a week later.

Were it worth the while, it would be easy to review in detail the criticisms of your correspondents, but fortunately too many of your readers were in attendance upon the Congress to be misled by such statements.

Permit me the honor of remaining, very respectfully,

HENRY O. MARCY, M.D.,
President of the Section of Gynecology.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 17, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	670	318	27.15	11.70	16.35	1.65	4.80
Philadelphia	993,801	392	159	16.64	11.96	5.98	5.98	3.02
Brooklyn	745,108	333	158	25.53	13.81	11.41	1.51	9.31
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	159	74	25.20	10.71	8.82	2.52	5.04
Boston	400,000	182	73	25.85	10.45	11.55	4.55	3.30
New Orleans	242,750	101	36	25.74	15.95	9.90	—	4.95
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	105	37	17.10	15.20	8.55	5.70	1.90
Pittsburgh	210,000	81	35	36.90	12.30	8.61	9.84	14.76
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	57	37	15.75	1.75	—	5.25	3.50
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	9	30.45	17.40	13.05	4.35	—
Charleston	60,145	38	15	36.96	15.84	13.20	10.56	—
Portland	40,000	8	2	37.50	12.50	37.50	—	—
Worcester	68,383	25	15	32.00	12.00	12.00	8.00	4.00
Lowell	64,051	24	9	41.90	16.76	20.95	8.38	8.38
Cambridge	59,660	18	8	33.33	16.66	27.77	—	—
Fall River	56,863	38	21	34.19	7.89	15.78	15.78	—
Lynn	45,861	11	2	9.09	27.27	9.09	—	—
Lawrence	38,825	9	2	22.22	11.11	22.22	—	—
Springfield	37,577	10	4	40.00	10.00	10.00	20.00	10.00
New Bedford	33,393	16	6	37.50	—	6.25	—	25.00
Somerville	29,992	7	0	14.28	14.28	—	—	14.28
Salem	28,084	17	8	23.52	5.88	5.88	5.88	11.76
Holyoke	27,894	18	12	22.22	—	16.66	—	—
Chelsea	25,709	5	3	20.00	—	20.00	—	—
Taunton	23,674	10	4	30.00	10.00	10.00	—	10.00
Haverhill	21,795	5	1	20.00	40.00	—	—	20.00
Gloucester	21,713	4	1	25.00	25.00	25.00	—	—
Brockton	20,783	6	1	16.66	33.33	—	16.66	—
Newton	19,759	5	1	40.00	20.00	40.00	—	—
Malden	16,407	5	0	20.00	40.00	—	20.00	—
Fitchburg	15,375	7	2	—	28.56	—	—	—
Waltham	14,609	9	0	—	11.11	—	—	—
Newburyport	13,716	3	1	—	33.33	—	—	—
Northampton	12,896	3	2	33.33	—	33.33	—	—

Deaths reported 2,404: under five years of age 1,056; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 595, consumption 281, lung diseases 169, diarrhoeal diseases 276, diphtheria and croup 122, typhoid fever 90, malarial fevers 41, whooping-cough 27, scarlet fever 23, cerebro-spinal meningitis seven, small-pox three, measles three, erysipelas one, puerperal fever one. From malarial fevers, New Orleans 11, Baltimore 10, New York seven, Brooklyn five, Charleston four, Nashville three, Philadelphia one. From whooping-cough, New York nine, Boston seven, Baltimore four, Philadelphia three, Milwaukee two, Brooklyn and Pittsburgh one each. From scarlet fever, New York seven, Brooklyn and Boston four each, Philadelphia and Milwaukee two each, Pittsburgh, Cambridge, Fall River and New Bedford one each. From cerebro-spinal meningitis, New York and Worcester two each, Lowell, Holyoke, and Taunton, one each. From small-pox, New York three. From measles, New York, District of Columbia and Charleston one each. From

erysipelas, Pittsburgh one. From puerperal fever, Brooklyn one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending September 3d, the death-rate was 18.9. Deaths reported 3,348: infants under one year of age 1,117; acute diseases of the respiratory organs (London) 169; diarrhoea 500, scarlet fever 84, whooping-cough 76, measles 49, fever 47, diphtheria 31, small-pox (Sheffield) five.

The death-rates ranged from 13.3 in Huddersfield to 29.1 in Preston; Birkenhead 21.4; Birmingham 18.3; Hull 18.3; Leeds 19.2; Leicester 23.0; Liverpool 20.4; London 16.6; Manchester 25.0; Nottingham 17.9; Sheffield 18.5; Sunderland 22.1.

In Edinburgh 17.6; Glasgow 19.2; Dublin 37.5.

The meteorological record for the week ending September 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Sept. 17, 1887.																			
Sunday, ... 11	30.40	54.0	58.0	48.0	74.0	68.0	70.0	71.0	N.	E.	S.E.	16	12	6	C.	C.	C.		
Monday, ... 12	30.25	56.0	59.0	50.0	82.0	100.0	97.0	93.0	N.	N.E.	E.	3	14	11	C.	C.	O.	12	.18
Tuesday, ... 13	30.11	61.0	65.0	57.0	97.0	92.0	100.0	96.0	N.E.	N.E.	N.E.	12	12	4	O.	O.	R.	3	.02
Wednesday, ... 14	30.04	67.0	76.0	59.0	97.0	75.0	95.0	90.0	O.	S.W.	W.	0	9	10	G.	O.	C.		
Thursday, ... 15	30.04	65.0	77.0	58.0	68.0	61.0	76.0	68.0	W.	W.	W.	10	12	9	C.	C.	C.		
Friday, ... 16	30.20	55.0	65.0	50.0	79.0	56.0	70.0	68.0	N.W.	S.W.	N.W.	12	22	7	C.	O.	C.		
Saturday, ... 17	30.37	54.0	65.0	45.0	66.0	51.0	75.0	64.0	N.W.	S.E.	W.	8	8	7	C.	O.	C.		
Mean, the Week.	30.201	58.9	66.0	52.0				78.6										15	.20

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 17, 1887, TO SEPTEMBER 23, 1887.

CABELL, JULIAN M., first lieutenant and assistant surgeon. Relieved from duty in connection with the Annual Department Rifle Competition at Bellevue Rifle Range, Neb., ordered from duty as medical officer at the "Rifle Camp for Team of Distinguished Marksman," Bellevue Rifle Range. S. O. 89, Department of Platte, September 10, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 24, 1887.

HARVEY, H. P., surgeon. Ordered to the United States Steamship "Mohican."

COOKE, G. A., surgeon. Detached from the "Mohican" and ordered home.

CLEBORNE, C. J., medical inspector. Promoted to medical director, September 18, 1887.

WALTON, T. C., surgeon. Promoted to medical inspector, September 18, 1887.

BOYD, J. C., passed assistant surgeon. Promoted to surgeon September 18, 1887.

TRYON, J. R., surgeon. Ordered to Marine Rendezvous, New York, October 1, 1887.

FIELD, J. G., assistant surgeon. Detached from Marine Rendezvous, New York, and ordered to the "Vermont."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING SEPTEMBER 24, 1887.

HUTTON, W. H. H., surgeon. Granted leave of absence for thirty days, September 15, 1887.

PERVIANCE, GEORGE, surgeon. Granted leave of absence for thirty days, September 13, 1887.

ARMSTRONG, S. T., passed assistant surgeon. Granted leave of absence for thirty days, September 13, 1887.

GLENNAN, A. H., passed assistant surgeon. To proceed to Charleston, S. C., for temporary duty, September 15, 1887.

WHITE, J. A., assistant surgeon. Granted leave of absence for twenty-seven days, September 13, 1887.

NORMAN, SEATON, assistant surgeon. Granted leave of absence for twenty days, September 16, 1887.

HEATH, F. C., assistant surgeon. To proceed to Mobile, Ala., for temporary duty, September 15, 1887.

WHITE, J. H., passed assistant surgeon. Promoted and appointed passed assistant surgeon from October 1, 1887. September 19, 1887.

PETTUS, W. J., assistant surgeon. To proceed to Savannah, Ga., for temporary duty, September 20, 1887.

GOODWIN, H. T., assistant surgeon. Appointed an assistant surgeon, September 22, 1887. Assigned to temporary duty at Norfolk, Va., September 23, 1887.

BOOKS AND PAMPHLETS RECEIVED.

A Simple Method of Testing for Color-Blindness. By Henry Sewall, Professor of Physiology in the University of Michigan. (Reprint.)

The Treatment of Melancholia. By A. R. Moulton, M.D., Assistant Physician of the Worcester Lunatic Hospital. 1887. (Reprint.)

Transactions of the Medical Association of the State of Missouri, at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Announcement of the Regular Session of 1888 of the Hospital College of Medicine, Medical Department of Central University. Louisville, Ky.

Experiments on the Preventive Inoculation of Rattlesnake Venom. By Henry Sewall, Ph.D., Professor of Physiology in the University of Michigan. (Reprint.)

When and How to use Mydriatics in the Eye. By Edward Jackson, A.M., M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic. (Reprint.)

De la Tuberculose Nasale. Par le Dr. A. Cartaz, Ancien interne des Hôpitaux de Lyon et de Paris, Secrétaire de la Rédaction de la Revue des Sciences Médicales. Paris, 1887.

The Earth in Space. A Manual of Astronomical Geography. By Edward P. Jackson, A.M., Instructor in Physical Science in the Boston Latin School. Boston: D. C. Heath & Co. 1887.

A Report on Orthopedic Surgery to the Colorado State Medical Society, also Remarks on Stricture of the Rectum. By W. R. Whitehead, M.D., of Denver, Colorado. 1887. (Reprints.)

The Specific Gravity of the Urine, and its Relations to Structural Diseases of the Kidneys. By Charles W. Purdy, M.D., Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston. 1887. (Reprint.)

Original Articles.

THE EXPERIMENTAL VALUE OF THE DOWSE SPLINT.¹

BY E. G. BRACKETT, M.D.

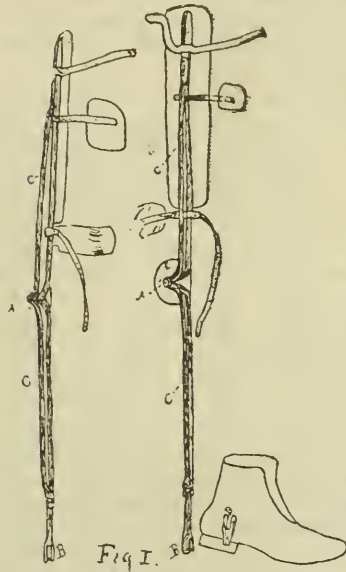


Fig. I.

mechanical Treatment of Diseases of the Hip-joint," in which he says: "A strong, upright bar of steel is jointed at the knee (Fig. I, A) in such a manner, that, when vertical, the rivet of the joint is behind the vertical line. It is evident that, with such a joint, vertical weight would not only be sustained, but would add firmness to the supporting power."²

The lower end is connected by means of a socket-joint (B), with a plate which is secured to the sole of the boot. At the upper, are the anterior and posterior arms for the attachment of the perineal bands, and in no way differ from the more commonly used Taylor splint. Greater strength is given by a smaller steel bar (C), parallel to the outer side of the original upright, being made a part of the joint at the knee, and extending some distance above and below, serving as a kind of buttress. The leg is kept in proper relative position to the splint by steel plates, which, in the original one, encircled both the thigh and calf, but these are now replaced, in part, at least, by simpler and less cumbersome means. The splint is so applied that the heel is raised from the ground a distance of from one to two inches, as desired, the toes being allowed to rest on the ground only after considerable flexion of the foot — a position decidedly at a disadvantage for any use. As the foot is brought to the ground, the weight of the body, resting on the perineal band, is sustained by the splint, which prevents the foot from receiving pressure. The leg serves to bring the brace into the different positions at the proper time.

When the perineal band is used to support the entire weight of the body, the parts are subjected to so much pressure, and especially, of course, with heavy subjects, that the ordinary round pad is frequently a

source of continual discomfort, from concentration of so much pressure over so small an area. The same is true with less pressure, but unusually tender skin. For use in these cases, I devised a perineal band, the plan of which was to utilize all bony surface possible for support, and since it has now been used with comfort for nearly three years by a number of persons who were unable to bear the round pad, I think it has proved a usefulness.

The parts available for support are the tuberosity and ramus of the ischium, and a portion of the ramus of the pubis. The tuberosity is, of course, both in position and structure, best calculated for this work, but the ramus is also capable of considerable use. The object of the pad was to get a bearing surface as large as these bony structures would allow, and with a means to adapt this pressure as uniformly as possible to this uneven portion of the pelvis, and to change the amount in different portions of the pad. To accomplish this, three straps (A, B, C, Fig. II) pass beneath the perineum, and are firmly secured, posteriorly, to a steel bar (D), and anteriorly, to three buckles, thus allowing their length to be changed. The posterior bar is connected

by a strap (E) at its centre to the posterior arm of the brace, thus allowing either end a certain amount of vertical oscillation. The three buckles are fastened to a similar bar (F), which has two straps to connect it with the anterior arm, little or no motion being allowed. Between these straps and the perineum is a piece of leather (G), its size regulating that of the pad, which is fastened to the bar behind. This serves to transmit the pressure of the straps, and also to keep them in position, which is accomplished by button-hole slits, through which the straps pass. The position of the straps is as follows: The outer one (A) passes along the outer border, and is secured to the outer buckle (H). It should pass beneath the tuberosity of the ischium. The second, or middle one posteriorly (B), crosses obliquely inward to the inner buckle, and by this, more nearly corresponds to the direction of the ramus to which it gives its support. The third, or inner (C), crosses the one just described, and is secured to the middle buckle, and gives its special support in the space formed by the divergence of the first and second. By this crossing, the inner edge of the pad is made concave, giving better adaptation to the parts. By this arrangement with buckles, the surface can be made to fit closely all the parts serving for support. Felting one-eighth of an inch in thickness may be used to cover the leather. More than this should not be used, as it interferes with the principle of the pad.

In order to determine points of guidance in applying the pad, that it should occupy this relative position to the bony parts, I took measurements of different pelves, with the following result: The rami diverge in a horizontal plane, at an angle which, in the average of

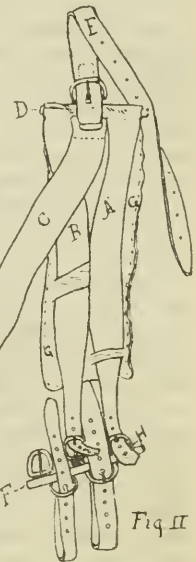


Fig. II.

¹ Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.

² Loc. cit., p. 54.

those measured, was fifty-one and one-half degrees, and this line of direction, carried backward and upward on the dorsal surface of the ilium to the level of the anterior superior spine is, at this point in the female, two-thirds, and in the male, a little more, the distance from the anterior superior spine to the middle of the sacrum. Therefore, a line drawn from this point to the symphysis pubis would pass over the tuberosity and ramus. That the pad should have perfect apposition to this surface, it must pass over this obliquely, and it must be so applied, that posteriorly, its outer border shall be within this line of direction, and anteriorly, the inner border shall be on the outer side. In this position, the straps will come beneath the respective parts, as described.

The time for which Taylor intended the use of the splint was "after all pain and sensitiveness in the joint have ceased, and when there is no longer a disposition of the muscles to take on abnormal contraction, and there is free motion in the joint," for, he says, "the motions of the joint may be kept up with only good, and no harm, so long as pressure is removed, till the joint is completely well."³

This stage is certainly a trying one. In the absence of the inflammatory condition, the patient no longer is impelled to keep the joint at rest, and there is yet to be a long period of time occupied in repair, during which the articular surfaces are not capable of withstanding the effect consequent on a return of the use of the leg, and an important problem which now presents itself is: how can the patient be given the greatest freedom, and, at the same time, the joint be protected from any influence which may retard the process of repair.

While motion at this time is, of itself, not injurious, and certainly of much value to the long disused muscles, the recently inflamed structures are in no way capable of withstanding the combined effect of motion and pressure. Therefore, we must, in some way, prevent the joint from receiving the pressure incident in ordinary walking. Crutches and a high shoe remove pressure and protect the joint from injury, provided no accidental one comes to the leg while allowed to freely swing; but there are many cases, especially in older subjects, with whom there is urgent demand for the release from all possible restraint during this period of repair. If motion alone is not harmful, then any means which permits the leg the freedom in the movements of walking, but, at the same time, relieves it of pressure, will allow the joint the condition necessary for its repair, while the convenience to the patient is of the greatest; and if the Dowse splint accomplishes this, its theoretical use is correct.

Of the value of any appliance, we have two kinds of evidence, clinical and experimental. Of clinical, experience has proved this splint to be a valuable means of treatment in this stage of the disease, and in illustration, I will briefly allude to a few cases in which this splint has been used, and for the opportunity of presenting two of these, I would acknowledge my indebtedness to Dr. E. H. Bradford.

As it is not my object to report the cases, but only to use them to exemplify this treatment, I shall not resort to details of the history, but state conditions.

CASE I. Girl, six years of age. Three years ago was seen early in the acute stage of hip-disease, and at once given a Taylor hip-splint and crutches, with

extension at night. When signs of inflammation had disappeared, the splint was connected with the shoe, in the same manner as is the Dowse, but no motion at the knee was given. By this difference doubtless the pressure on the toe is less than when motion at the knee is given. She has worn this about two years, and her improvement has been steady. There is now no difference in appearance of the two limbs; there is free motion in about 40°, and without the splint there is a scarcely perceptible limp.

CASE II. Girl, fifteen years of age. When eleven, came under treatment for acute hip-disease, and after rest in bed for two months, was given a Taylor hip-splint and crutches, which were used for two years. At this time there was free motion in about 35°, and there was no pain or tenderness. Pressure gave no pain, but the leg was able to give but little support when the attempt was made to walk. The Dowse was given, and with this she was able to walk. For three months she kept under observation and continued to do well, but was then not seen for fifteen months. At this time she was in excellent health. The two limbs were nearly equal in size and strength, the amount of shortening was the same as when measured for the Dowse. It was found that after wearing the splint for a year, she gradually gave up its use, and has since walked without mechanical aid.

CASE III. Male, twenty-six. At the age of fifteen there was disease about the hip, with abscess formation. When twenty-three he considered himself well, and was doing hard physical work under which, peri-articular disease appeared, but involved the joint enough to cause the usual symptoms of disease of the head of the bone, as pain, muscular spasm, inability to use the leg. The sinus re-opened and discharged for a while. Under rest, these symptoms subsided, and he was then put on the Dowse, and with the aid of a cane was able to go about with ease. He has now used this for a year, and the improvement in the condition of the limb has been constant and satisfactory.

CASE IV. Male, twenty-seven. Nearly six years ago had acute articular disease. After some months in bed, a Taylor splint and crutches were used for two years. After this treatment there were no longer signs of inflammation: there was free motion in about 30°. Pressure gave no pain, but it was only with considerable effort that the leg could be used to support the body. A Dowse splint was given, and has been worn from that time. There has been no interruption in the improvement of the limb, until at present it offers no restriction to the work which ordinarily would come to any one.

Although we have evidence of the clinical value of this apparatus, yet that it accomplishes the work which is claimed, has been doubted by some. In order to have an experimental estimate as well as clinical, of its value, I have endeavored to ascertain the actual work accomplished by it, and I am indebted to Dr. Bowditch, of the Medical School, for the opportunity of attempting these experiments, and also for his advice in the work.

As the Dowse splint is applicable only to those cases in which, as far as possible, the motions of natural locomotion are to be allowed, protecting the joint from pressure while admitting motion, its application must be to the mechanism of walking, and its adaptation such as to protect the joint, in the direction, and at

³ Loc. cit., p. 53.

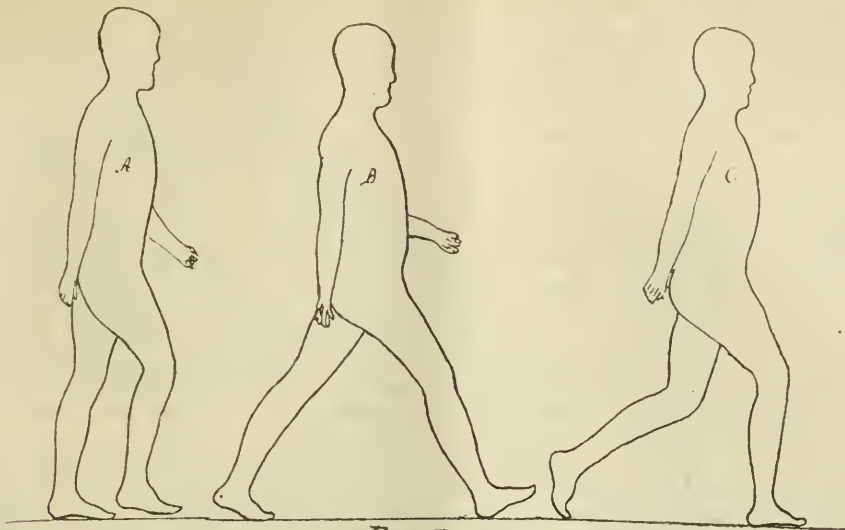


Fig. III.

the time of greatest shock and strain. Therefore the different motions of the step must be separated, in order to determine the time and direction of force from which by the apparatus we protect the joint. The division of the step into the different positions, is now accurately accomplished by instantaneous photography, and in the study of these I have used the series taken by Mr. Eadweard Muybridge, in 1881, and from which the figures in Plate III, are copied, by permission. Only such as have relation to the subject will be considered.

The chief element in the progression is the successively falling forward of the body, swinging on the ankle as a pivot, in each step being raised to allow it to fall again, or as Holmes has expressed it, "a perpetual falling, with a perpetual self-recovery." Therefore the body describes a series of regular curves, which correspond to the vertical oscillation, the amount of which is influenced by the length of the step. The body reaches its highest point in this vertical curve, at a time when it has just passed a point directly over the supporting foot. From this time it falls forward, until arrested by the foot which has been placed in advance and as the body passes on over this, it is raised by muscular effort to the summit of its curve. It is evident that the force exerted by the leg is by no means a uniformly distributed one, and it is the relative amount of strain, and the position in different parts of the step, that we have to study in dealing with this subject. When the body is in the summit of its vertical curve, the supporting, or active leg, is straight, (Fig. III, A), the other, or passive leg, is taking advantage of this moment of greatest altitude of the pelvis, to swing forward, with the knee flexed, to its position in advance. This leg remains flexed until the thigh is at that angle with the trunk, in which it is to receive the weight of the body. The foot continues to swing forward, until the leg becomes straight, and in this position the leg is held until it is brought to the ground by the falling forward of the body. (Fig. III, B). In this way the heel is the first to strike and receive the greater part of the shock, which comes to the foot at this time. The toe is soon brought to bear its share of the pressure in a time

equal to a little more than one-sixth of the whole impact. Should the leg remain thus extended, this position would represent the body in the lowest point in its vertical oscillation, and its entrance on the ascending portion of the next curve, would be sudden, changing its direction at an angle. But at this moment the knee is slightly flexed, and by the shortening of this support, allows a continuation of the downward motion; thus its gradual checking, and the lowest point in the vertical oscillation is after the moment the heel strikes the ground. This position at this moment is represented in Fig. III, C. The foot which is about to leave the ground rests on the toe, while the supporting foot is flat on the ground, the leg bent at the knee. Carlet found this lowest point to occur at the middle period of double impact.⁴

As the body passes onward, it is raised to the summit of its curve by the straightening of the leg, which is complete at the moment the body has passed a point above the foot. (Fig. III, A). The other foot has now left the ground, and is swinging forward to take its place in advance. The manner in which it leaves the ground is as follows: As the body passes onward, the heel is raised, at the same time the knee flexed, allowing the toes to rest alone, (Fig. III, B and C), until the distance becomes greater than the length of the leg, when it is raised from the ground, and with the knee flexed swings forward. The body is now ready to again fall forward, and the process is repeated. Thus we can divide a step, for our subject, into three phases:

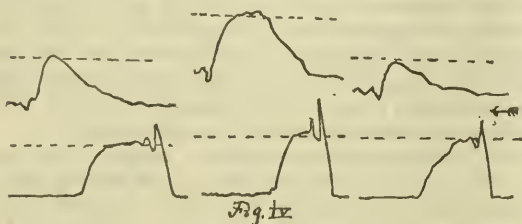
First, would extend from the highest point in the vertical oscillation, to the moment the heel strikes the ground, or the period of descent; Second, from the time the heel strikes the ground, until the lowest point in the vertical oscillation is reached, or the period occupied in checking the downward motion; and Third, from this last, to the time when the body reaches the highest point in the vertical oscillation, or the period of ascent. It must appear that the pressure is far from uniformly distributed over the two parts of the foot.

As the foot first strikes the ground, the centre of

⁴ *Annales des Sciences Naturelles*, xvi, vi, 54.

gravity is behind the ankle-joint, and the heel alone receives the shock, and sustains all weight for a time, when the toe is brought to the ground. Then, as the body passes to a point over, and then in front of the foot, the heel bears less, and the toe more, until the heel is raised, and the toe, for a moment, rests alone.

With a view of determining the estimate of this pressure, I performed a series of experiments. The apparatus used was, in principle, the same as used by Carlet, and consisted of thick rubber cylinders, with air-chambers connected with Marey drums. These rubbers were fastened to the shoe, one under the heel, and one under the toe, and the drums were so regulated that the amount of excursion of the needle which would be caused by the weight of the body was known in each. This difference is shown in the following tracings, which are of the heel and toe, taken in the same step (Fig. IV). As these are examples from the walk of different individuals, they naturally show some points of difference, such as characterize an individual gait, but all show the distinctive features for which they were taken. The amount of pressure is indicated by the elevation of the curve, while the dotted line represents the height which corresponds to the weight of the body. As is seen, the heel receives alone all the pressure which comes suddenly to the foot, and that it is only after a well-marked interval that the toe takes an active part. As the centre of gravity of the body passes in front of the ankle-joint, the pressure is gradually transferred to the toe, and for a moment, at the close of the impact, all pressure is sustained by this part of the foot.



There are two parts of each impact, where, theoretically, more pressure comes to the foot, that which represents the weight of the body. In the second phase, when the descent of the body is checked, there must be used the additional force necessary to check a weight equal to that of the body falling a distance of the vertical oscillation, which is, according to Carlet, about fourteen millimeters in an average step.⁵ Also in the third phase, when the body is raised to the highest point, there will be this corresponding additional force required. Carlet considered this additional force represented a weight not to exceed one-fifth that of the body.⁶

In combining the two parts of these tracings to represent the total pressure on the foot, I obtained a curve in the first part of the impact, above the line of body's weight, indicating an additional amount at this time. In the latter portion, the tracing remains at, or very near, the level of the dotted line, showing that at this time, when the body is falling forward, the force used is only that necessary to keep the body at a fixed distance from its pivot. Therefore, there is nothing in the pressure-curves of ordinary walking in-

dicating the push of the toe so often mentioned. A glance at the photographs will show that such force applied at this moment would not give a forward motion, but would only raise the body in a nearly vertical direction, while it is, at this time, scarcely at the lowest point in the downward direction.

In regard to position, we find that in the beginning of the impact, the leg is extended, and the heel receives alone the shock. The leg is immediately slightly flexed, and the toe is brought to the ground after an interval of about one-sixth of the time of entire impact. Then, with the foot flat on the ground, the leg is straightened, and the body raised. As it now falls forward, the heel leaves the ground, and, for a short interval, the toe rests alone. It is an important fact that, at this moment, there is no call for extra expenditure of force, and also, there is no motion in the hip-joint.

But, in substituting a mechanical means as a part of so complicated and well-balanced a mechanism as that of walking, necessarily there results a change in the detail of its performance, and such does occur in walking with the aid of the Dowse splint. In ordinary walking, all pressure sustained by the ankle-joint is distributed to the foot, influenced by the relative position of the body and the time of impact. As both parts of the shoe are securely connected with the upright portion of the splint, so it is the object that the pressure on the shoe should be transmitted to the splint, and the foot prevented from taking part in this by its elevation. The splint should not only receive the weight of the body in the beginning of impact, but retain it until the foot is about to leave the ground. To accomplish this, the splint must be held straight during this time, and as this occurs at that time when, in natural walking, the knee is flexed and then extended, a change from ordinary walking must take place. To prove the occurrence of this change from the normal walking, I photographed, while in motion, an adult wearing a Dowse. The positions in this part of the step may be seen in the accompanying photographs. As the foot swings forward, the splint becomes straight, as does the leg in natural walking, and in this position, receives the weight of the body (Fig. V, A), but at this moment does not bend, as does the knee, as has been described, but remains straight, supporting securely the weight of the body. Therefore, the body, instead of reaching the highest point in its next vertical oscillation by a direct lift, must swing upward through an arc of the circle, which has the splint for its radius. The positions during this movement are seen in Fig. V, B and C.

A jar to the body from this sudden change in direction is prevented by the elasticity of the brace. Passing this point, the body now falls forward, held by the splint, until, just before the termination of the impact, when the heel is raised, and the splint can no longer receive all pressure, as before.

Thus the foot is protected from pressure, except in the last moment, when it is in the act of leaving the ground, and this at a time when the least is required.

Since the toe is allowed a position in which it may momentarily bear pressure, necessarily the opportunity is taken, and a certain amount is sustained by this part of the foot. To determine this, I took a series of tracings in the same manner as with natural walking (Fig. VI). In these, the lower curve represents the

⁵ Animal Mechanism, Marey, p. 118.

⁶ Loc. cit., p. 25.

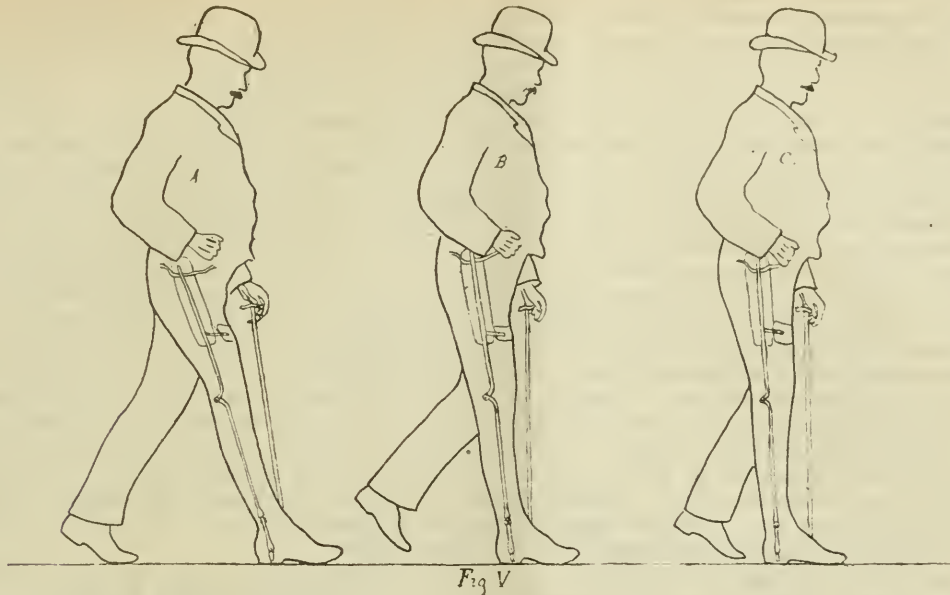


Fig V

pressure sustained by the splint, the upper, that by the toe. It is seen that the brace receives the weight alone for the greater part of the step, and in that part of most strain, while that of the toe is but of short duration, is gradually imposed, and, in amount, is never great.

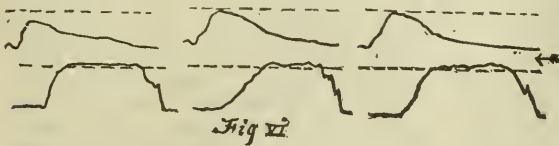


Fig VI

Therefore, of its work I think we can say that, in the first portions of the impact, it protects the leg from pressure, and this at a time when greatest strain is usually sustained by the leg. That slight pressure is allowed the toe for a moment at the close of the impact, but this comes at a time when motion is not occurring in the hip-joint. Knowing the actual protective value, in addition to the clinical evidence of its usefulness, we need no further explanation for its application, except the conditions under which we wish the joint to be while in its treatment. It must appear that, in the proper cases, it is a valuable means of treatment. Certainly, there is a time in the convalescence when the joint can bear this amount of pressure, as has been described; yet the weight during the whole step, and especially in the first of the impact, when there is considerable shock to the joint, could in no way be allowed with impunity. This being removed, but little actual work is left for the leg to do. However, more intelligent care on the part of the patient than with ordinary apparatus is necessary, for the opportunity is present to make more use of the limb than is intended. Unless the splint is straight, as has been described, it does not bear the entire weight.

There is no reason why its use should be restricted to hip-disease, but it may be employed in any case where the leg is to be relieved of its work, or a portion of its work; and Taylor recommended it for per-

manent use after exsection of the head of the femur, and in ununited fracture of the neck of the femur. there is certainly opportunity for experiment.

NOTES ON HÆMORRHAGIC INFARCTION.¹

BY WILLIAM OSLER, M.D., OF PHILADELPHIA.

REGARDED as an incident in the course of various affections, hæmorrhagic infarction has no special status as a morbid entity, and can scarcely be considered apart from those conditions which render its occurrence possible; namely, a certain anatomical arrangement of the arteries, with obstruction of a terminal branch by an embolus or a thrombus. Into anatomical details I do not propose to enter, but shall confine my remarks, first, to the conditions in which we meet with infarction; and, second, to special features of the process in certain organs.

In looking over the notes of a number of cases in which infarctions occurred, I find they may be grouped into three sets: First, cases with fresh endocarditis, and lesions unquestionably embolic; second, cases in which there was thrombosis in regions other than the affected vessel; third, cases in which, so far as could be ascertained, the infarction resulted from the formation of a primary thrombus in the affected vessel, or was part of a condition of multiple thrombosis.

Upon the first group of cases I shall not dwell, further than to note that conditions of the endocardium, apparently the most favorable, may exist without the occurrence of infarcts. In several instances of severe ulcerative endocarditis, there was a notable absence of multiple emboli, while in others the distribution has been peculiar; for instance, to the brain alone, none to the abdominal viscera, or to the intestine chiefly. I have, also, the records of twenty cases with numerous endocardial vegetations, in which there were no infarcts.

In the second group, the infarctions resulted from the dislocation and transference of fragments of

¹ Read before the Association of American Physicians, June, 1887.

thrombi which had formed in various parts of the vascular system. In reality, there is no essential difference between these cases and those of the endocarditis group, as, in the latter, the emboli are chiefly small thrombi, which have formed on the valves as a result of inflammation. We meet with cases of this class under conditions of feebleness of the blood-current, and in septic and certain other states in which there is a special tendency of the blood to clot within the vessels. Whatever may be the cause or causes which prevent the coagulation of the circulating blood, we must admit that rapidity of the current plays an important part. Loss of the normal endothelium, upon which Cohnheim lays so much stress, as the essential factor in maintaining the fidelity of the blood, may exist to a remarkable extent without any clotting. Instances are not uncommon of the most extreme calcification of the aortic intima with rough, exposed surfaces, and no trace of thrombosis. So, also, in certain aneurismal sacs. How often are we surprised at the absence of the expected lamellar clots. Recklinghausen has specially insisted upon this, and claims that slowness of the blood-stream, and sudden dilatation in its course, are much more important elements in the production of marasbus thrombi than loss of integrity of the vessel wall. The recent observations upon the formation of thrombi touch this question in an interesting manner, and bear directly upon it. Evidence has been gradually accumulating to show that the blood-plaques play a leading rôle in the early stages of thrombus-formation. My observations on this subject would lead me to conclude (1) that certain of the marasmatic thrombi so common in the iliac, femoral, and pelvic veins are composed, in great part, of blood-plaques; (2) the globular thrombi of the heart-cavities are largely made up of the same elements; (3) that they play an important part in the formation of the laminated coagula of aneurismal sacs; (4) the soft thrombi which form on atheromatous patches of the aorta are, to a great extent, aggregations of blood-plaques. To these facts, we may add the experimental demonstration which I, as well as others, have offered, that in a lacerated vessel, these bodies are the very first elements to adhere to the torn tissue, and form the basis of the thrombus.

One among many of the interesting points determined by Eberth and Schimmelbusch, in their investigations on the subject, is the relation of the plaques to the blood-stream. When rapid, they keep a central position with the red corpuscles; but when, from any cause, the current slackens, they accumulate in the peripheral still layer, and tend to adhere to the intima. When the velocity of the flow is maintained, there may be a lesion of considerable extent without any attempt at clotting; but if the stream slackens, the first effect is the agglutination of the blood-plaques on the torn surface, and the formation of a white thrombus.

Now, the connection of this with the subject in hand lies in the fact that we most commonly meet with thrombi in conditions of general or local feebleness of the circulation. The infarcts occurring in this group of cases are, as a rule, easily traced to their source: those of the lungs to the globular thrombi of the right chambers, or clots in the systemic veins; those of the brain, abdominal viscera, and extremities to the thrombi in the left chambers, in aneurisms, or on atheromatous surfaces.

In the third group, we find the infarction and the plugged vessel, or we find multiple infarcts, and the most careful search fails to reveal either the primary source, or local conditions sufficient to account for thrombosis. Such instances are not very uncommon, and I have picked out fifteen cases from my records in which, so far as could be ascertained, the hæmorrhagic infarction was due to a local thrombotic process. A majority of these were associated with specific fevers—typhus, typhoid, diphtheria, and septicæmia. One was a case of cholera morbus, one acute Bright's disease, and one occurred in a case of morphia-poisoning. The tendency to thrombosis in certain of the fevers is well recognized, and in these cases, some other factor than debility may come into play. It is worth noting that in septic states, in which we so often meet with thrombi, the blood-plaques are exceptionally abundant.

Here and there in the literature, we find recorded instances of multiple thrombi and infarcts in association with an acute febrile condition. As these cases are of extreme rarity, and very obscure, I will here report a remarkable case which occurred under my care last year:

John Mullen, aged twenty, laborer, admitted to Philadelphia Hospital, October 10, 1886. He was a well-built, healthy-looking man. Never had had syphilis. Had been a hard drinker at times. Two years ago, in Pittsburgh, had typhoid fever: ill for six weeks. Present illness began, about a week before admission, with diarrhœa, and he felt constantly weak, exhausted, and had no appetite. For two days he had nose-bleeding. When first seen, on 11th, pulse 112, temperature $102\frac{3}{4}^{\circ}$, respiration 20; was rational. Expression of face dull. Complained of pain in abdomen, which was slightly swollen, and, on palpation, painful in left hypochondriac region. Beneath skin of anterior thoracic region and of abdomen, were many localized blue spots (*tâches bleuâtres*). Heart-sounds muffled; no murmur. Examination of lungs negative. Urine clear, no casts, trace of albumen. Tongue coated, white. Splenic dulness increased; edge not palpable.

On the 12th and 13th, the temperature did not rise above $103\frac{3}{4}^{\circ}$; the abdominal pain increased; was most marked in splenic and inguinal regions. Delirium almost constant, though, at times, he could be roused to give an intelligent answer. Had had one or two loose stools; no diarrhœa. No characteristic eruption. The *blue spots* persisted. Tongue became dry. On the evening of 13th, the feet were noticed to be very cold, and he complained of it; and, on the 14th, the feet and legs, as high as the knees, were cold, slightly swollen, and of a mottled-red color; pulse 120, temperature 102° ; great restlessness; persistent delirium; abdominal tenderness continued, particularly over spleen, the dulness of which extended to little below costal border. Heart feeble; no murmur. On the 15th and 16th, the legs became of a deep, livid-red color, as high as middle of thighs; no pulsation in femoral or popliteal vessels. Low delirium; tongue dry; pulse 120–140, temperature $101\text{--}103^{\circ}$. Blood examined, with negative result. Urine scanty, albuminous. He sank, and died on the morning of the 17th, a week after his admission, and about two weeks from the beginning of his illness.

The case was regarded as one of typhoid fever, the epistaxis, diarrhœa, and abdominal swelling and tenderness supporting the opinion, though a doubt always

existed, on account of the very positive statement of an attack two years before. The thrombosis in the iliacs and gangrene of the legs were looked upon as illustrations of a rare, but well-recognized, sequence of typhoid fever. The autopsy showed thrombosis of the lower two inches of the abdominal aorta, with plugging of iliacs and femorals, the clots firm, reddish-brown, and closely adherent. Mesenteric vessels free; two large branches of the splenic artery plugged. The spleen, three times the normal size, presented three or four infarcts; the upper one, as large as a small orange, was soft, covered externally with thick layers of lymph, and closely united to the stomach and colon. From this point, extended a general peritonitis. The right kidney presented two large, red-brown infarcts. The ileum was normal; no hæmorrhoids; bladder, prostate, and testicles normal. No endocarditis; lungs normal. Brain healthy; no otitis; no bone-lesions. During life, the blood was carefully examined for micro-organisms, but none were found. After death, in the infarct of the spleen, and in the lymph covering it, there were numerous micrococci.

Passing from a consideration of the conditions under which infarctions occur to special features of the process in certain organs, I will submit, first, an interesting, possibly a unique, instance of hæmorrhagic infarction of the liver. Under ordinary circumstances, this is impossible, for although the terminal branches of the portal vein have not extensive anastomoses with each other, occlusion is of no moment so long as the circulation is maintained in the hepatic artery. Indeed, as in a case which I reported,² there may be for years complete obliteration of the portal vein without interference to any apparent extent with the functions of the organ. The case is as follows:

A. B., aged sixty-two; an old soldier and a hard drinker. Illness began in June, when he had dropsical symptoms. In July he took a voyage from Newfoundland to Labrador, and came to Montreal, September 27th. He had been ill nearly all the way from the Gulf, and the dropsy had increased very much. When admitted to the General Hospital he had ascites, vomiting, and hæmatemesis. Death took place on the second day after admission.

Autopsy; Much fluid in peritoneum and in left pleura. Heart and lungs normal. Stomach contained a bloody fluid; mucous membrane stained, not eroded. Small intestine contained a quantity of altered blood. Liver was large; weighed 2,400 grammes; capsule a little opaque, and at right border was a little thickened. Organ extremely cirrhotic, the lobules mapped out in small irregular areas, not projecting much, but giving the characteristic granular appearance. A considerable portion of the right lobe presented a remarkable appearance, neither like a normal nor a cirrhotic organ. There were areas of red-brown and light-brown tissue, in places mottled, very dry, friable, and readily torn. Strands of connective tissue passed through these parts, but the cirrhotic character of these parts was lost. It resembled a firm infarct of the spleen. Microscopical examination showed these reddish areas to contain innumerable blood corpuscles, infiltrating the entire tissue. The liver-cells were small and fatty, in places indistinguishable. The portal vein presented a soft brown thrombus, occupying the upper part of the trunk, but not completely obliterating it; the branches passing

to the right lobe had closely adhering light-brown thrombi; that passing to the antero-lateral region, where the infarct was situated, was filled with a firm, solid, partially laminated clot, evidently formed some time before death.

The condition of infarction is stated not to occur in the liver, owing to the fact of a double blood-supply, and if a branch of the vena portæ is plugged the capillaries of its territory receive blood through the hepatic artery, and *vice versâ*. In this case we may suppose that the interlobular connective tissue growth had obliterated a majority of the hepatic artery branches in the affected region, and had thus converted certain trunks of the vena portæ into terminal vessels, which, when plugged with a solid thrombi, induced a condition of infarction in the area supplied by them. With the exception of a case to which Recklinghausen refers, I do not know of any instance in the literature of infarction of the liver.

Hæmorrhagic infarction of the intestine is an interesting lesion which we meet with in two forms; the one, a local process in the mucosa, the other, a general condition involving a portion of the entire gut.

Small infarcts of the mucous membrane are by no means infrequent in ulcerative endocarditis; they vary in size from a pea to a half-dollar, and present a central necrotic area, a zone of intense hæmorrhagic infiltration and congestion, and a central plug in the nutrient artery. In one instance I was able to find the embolus and determine its identity with the mycotic vegetations on the aortic valves. The central necrotic area may slough and leave a distinct ulcer.

Infarction of an entire section of the bowel is not a very common event in man; indeed, considering the large size of the superior mesenteric artery, we may wonder that it does not occur more often. In the horse, on the other hand, it is an extremely frequent lesion resulting from the transference of portions of clot from the verminous aneurisms which are so common in the mesenteric arteries. The fatal colic of these animals is the result, in a great majority of the cases, of hæmorrhagic infarction of the intestine. I have been long familiar with the condition, and have sought carefully for instances in man. The following cases illustrate the similarity of the lesions to those produced experimentally, as related by Dr. Welch:

CASE I. A woman, aged fifty-five, had suffered for a year or more with dyspeptic symptoms, and had vomited a small amount of blood, had lost flesh, but was not cachectic. No tumor of abdomen could be made out, but cancer of the stomach was suspected. The details of the last week of her illness are as follows: On April 14th, 15th, and 16th, she had nausea and vomiting; on the 17th she went to bed. There was vomiting and considerable epigastric pain; pulse about 90. On the 18th she was easier. 19th, much worse; she had fainted in the night; pulse weak, 115; face pale, feet cold, vomiting frequent. In the evening the temperature was 101°, pulse 120; the pain in abdomen was more diffuse, and there was considerable distension. On the 20th, condition did not improve, though, under opium, the distress was not so great. On the 21st, prostration more marked, and the next day the vomiting was distinctly fecal and frequent. Death on the 23d.

At the autopsy, the small intestine, from an inch or two below the duodenum to within two inches of the valve, was dark in color, distended, and covered in

² Journal of Anatomy and Physiology, London, 1882.

places with a thin sheeting of lymph. Several spots in the ileum looked almost gangrenous, and here and there extravasations had taken place. The coats were infiltrated, the mucosa soft, and there were three spots (ulcers) from which the membrane had disappeared. There was no heart disease. In abdominal aorta a few flakes of atheroma. At the orifice of the superior mesenteric artery was a large button of atheroma which had ulcerated on the surface and to which was attached a firm thrombus, completely blocking the vessel for one-and-a-half inches from the aorta.

CASE II. A woman, aged about seventy-five, was admitted to hospital under Dr. Ross, with necrosis of the femur. She was seized four days afterward with severe abdominal pain and frequent vomiting; there was diarrhoea at first, and then symptoms which pointed rather to obstruction, persistent vomiting, and great distension of the belly.

At the autopsy the small intestine was found greatly distended and of a deep livid-red color; no inflammation of the peritoneum, but about one-and-one-half pints of bloody serum in the sac. The coats of the bowel were swollen and deeply infiltrated with blood and serum. For about a foot from the pylorus the appearance of the gut was normal, and the last six or seven inches of the ileum were also healthy. The mucosa was deeply congested, soft, and readily scraped off. The mesentery was congested and infiltrated. In the heart, the mitral valve presented numerous recent warty vegetations, soft, pedunculated, and easily torn. The aorta was moderately atheromatous. Dissection of the coeliac axis showed the splenic artery blocked by firm brownish thrombus, which extended from about an inch from the hilus into the branches of the second and third degree. The organ was small and had a turbid, reddish-brown appearance. The hepatic artery was occluded by a firm thrombus, which began near the bifurcation and extended into both branches. The superior mesenteric artery contained a firm brownish-yellow clot, which began about a quarter-of-an inch from the aorta and extended an inch-and-a-half into the two main branches. Before this chief division six smaller vessels were given off, all of which were plugged. In tracing down the large branches, two of them contained firm thrombi about an inch from the bowel.

CASE III. J. C., aged forty, an engineer, large muscular man, patient of Dr. Gardner. Good health up to a year before death, when he began to suffer with pains in the back. While wheeling a barrow full of cinders, he was suddenly seized with intense pain in abdomen and groins, became faint, fell to the ground and vomited. He lived for a week after. The chief symptoms were persistent vomiting, which resisted all the usual remedies; severe diarrhoea; great pain in abdomen, which was distended. The voice was husky, eyes sunken, features pinched, and the whole appearance choleraic. The stools were thin, and at times blood-tinged. The temperature did not exceed 101° ; pulse was small and infrequent, rarely over 90.

The autopsy revealed an abdominal aneurism, involving the aorta just at the diaphragm. The axis, superior mesenteric and renals were given off from the sac. There was a dissecting aneurism of the lower part of the abdominal aorta and the iliac. The blood had passed from the sac beneath the intima at the hinder part of the aorta, and on the right side, and had passed into the iliac, elevating the intima, and

narrowing their calibre. On the right side of the external iliac it had burst externally by a tiny orifice, and a thin sheeting of blood extended beneath the pelvic peritoneum and in the lumbar region. The small intestine was swollen, and of a deep purple-red color; the walls infiltrated with blood and serum. The superior mesenteric artery arose from the most prominent part of the sac, and the orifice was dilated. About half-an-inch within the vessels was a firm plug of the fibrinous lining of the sac which had been dislodged and carried into the artery. There was a pretty firm coagulum about it, and, on the distal side a dark clot. The mesentery was thickened and infiltrated, and its veins full.

Regarding hæmorrhagic infarction of the lungs, I would refer briefly to the following points:

(1) The frequency with which we find vessels plugged without resulting infarction, even when the obstruction is total.

(2) The important part played by globular thrombi of the right auricular appendix in the production of infarcts, particularly in the last stages of valvular disease.

(3) The occasional occurrence of thrombotic infarction as a result of local disease of the pulmonary artery. We find this, as in the specimens I show, in atheroma of its branches in mitral stenosis, and in the endarteritis induced by the encroachment of tubercles in chronic phthisis.

(4) The occurrence of cases of pulmonary infarction in which a careful and thorough examination, such as is ordinarily possible to make in hospital work, fails to give any clew to the origin of the obstructing thrombi.

A CASE OF TUMOR OF THE BREAST.¹

BY S. J. MIXTER, M.D.,
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THE following case is reported, as it presents certain interesting features, and in order that attention may be drawn to methods of treatment and operation, not sufficiently insisted upon by many surgeons.

The patient, a young married woman, twenty-six years of age, was seen in consultation with Dr. Cook, of Natick, March 16th, and the following history obtained. She first noticed a lump in the breast six months ago. This was treated by an irregular practitioner by massage, without any material change in its size, for three-and-a-half or four months, when it began to grow rapidly. Since then, it has steadily increased in size until at the time of examination, it apparently involved the whole gland, the breast being enlarged, hard, and prominent, fairly movable, the nipple retracted, and the skin near the nipple fixed to the tumor. The axilla was filled with a hard movable mass.

After a consultation with Dr. D. W. Cheever, it was thought advisable to operate and endeavor to remove the mass as completely as possible. The rapid growth and extension of the disease to the axillary glands rendered the ultimate prognosis unfavorable, but it was hoped that a thorough operation might, at least, prolong life, and would give the patient the benefit of her only chance for recovery.

¹ Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.

I operated at the patient's home on March 23d. The breast was removed, together with a large amount of skin and nearly the whole of the pectoralis major muscle, to which it was attached, and which, on its upper surface, was studded with an occasional small nodule. The axilla was thoroughly cleaned out, according to a method I first heard insisted upon by Dr. M. H. Richardson; namely, to first expose the axillary vessels and then to remove the contents of the axilla. The artery and vein were exposed from the lower edge of the latissimus dorsi to the lower border of the first rib, every branch of both artery and vein tied and cut, except the main trunk of the sub-scapular. No tissue of any kind remained in the axilla when the dissection was completed.

It was with great difficulty that the skin could be brought together, even by means of deep stitches placed three and four inches back from the edges of the flaps — dressed with iodoform gauze.

The wound healed throughout, except at the axilla, where there was a small "dead space;" that is, a space where the deep surfaces of the wound were not in apposition. Here a small clot formed and gave rise to a small abscess, which was relieved later by re-introducing a drainage-tube. Patient sat up in a week, and is practically recovered from the operation at the end of two weeks.

Dr. W. F. Whitney, who kindly examined the tumor, reports it to be a very cellular mammary cancer.

The interesting points in connection with this case are, the presence of a growth of this nature in so young a patient; and the question of the influence of massage on the growth and extension of the disease.

One can but think that the treatment of a malignant tumor by massage, could only result in its more rapid growth, and stimulate not only the cell-production but perhaps favor its progress along the lymphatic vessels to neighboring glands and tissues.

In speaking of this operation in general, I wish to lay special stress on the necessity of removing a large amount of surrounding tissue with the gland, making a thorough and systematic dissection of the axilla, in every case, whether the glands are enlarged or not, and leaving no tissue between the two through which run the lymphatic vessels. To do this, the fascia covering the pectoralis major and the part of the minor exposed, should be dissected off with the tumor. All the contents of the axilla should be removed except the axillary vessels, brachial plexus, and sub-scapular nerves. These last, which are given off from the posterior cord of the plexus, should always be saved, if possible, as Küster has shown in a late article, that the varying amount of disability in the use of the arm, seen after these nerves have been sacrificed, is avoided when they are left. They supply the sub-scapularis, teres major, and latissimus dorsi muscles, and can always be readily found during the dissection. If they are divided or removed, paralysis of these muscles follows, and, as a consequence of the paralysis, a growth of connective tissue takes place in the substance of the muscle, making it much less elastic than it normally is. The sub-scapular vessels may generally be saved.

The following are one or two practical points in regard to the incision, and the method of sewing up the wound. The mammary incision should be continued along the border of the pectoralis major; in other

words above the upper boundary of the axilla, and the skin should then be dissected downward and backward. By doing this, the line of suture comes well forward in the axilla.

A quilted suture passed through the axillary skin at a point corresponding to the apex of the axilla, then through the serration of the serratus magnus on the second rib, and out again through the skin, about a quarter-of-an-inch from the point of entrance, the two ends being tied after all the other sutures are applied and just before dressing the wound, almost completely closes the "dead space" spoken of, and, by carrying the skin so high in the axilla, prevents union of the arm to the side. This I have done in a case operated upon since the one reported, with very satisfactory results. In previous cases I have generally had slight suppuration in this space. A second quilted suture can be passed through the axillary skin and pectoral muscles, and tied on the front of the chest, if the tension seems too great on the first stitch.

Drainage, to be successful, must be made by a tube through a buttonhole cut near the anterior border of the scapula.

I am aware that there is little or nothing new in these suggestions, but it has seemed to me that many surgeons do not appreciate their importance. The old practice of removing the breast alone, in malignant disease of that organ, leaving the axilla if no glands could be felt, and in case of enlargement removing the glands only, seems to me to be entirely opposed to the ideas of modern surgery. By this method almost no radical cures resulted, and many skilful and judicious surgeons came to look on the operation as almost useless, subjecting the patient to unnecessary suffering and anxiety, without a prospect of corresponding benefit.

Even with the greatest amount of care and thoroughness, many failures must follow operations for malignant disease, but the modern radical operation, when properly performed, shows results seldom or never arrived at by the old methods. Statistics of the results of operations in cancer of the breast, should to-day include only those cases where the operation has been thoroughly done. Patients to-day, have a right to expect such an operation, as giving them their best chance of life, and no surgeon should content himself with simply removing the mamma and then pointing with pride to a union by first intention, when already the disease has probably crept over the edge of the pectoralis muscle, and though not perceptible to touch, may be working its way along the lymphatics, out of reach of the knife. That is not surgery, it is simply an unscientific and incomplete operation.

REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

[The reporter is much indebted to WILLIAM H. POMEROY, M.D., of Springfield, for his assistance in preparing the report for this year.]

ANTIPIRETICS.

ANTIPIRETICS have recently been the subject of much practical and scientific study and observation; and as seemed probable with the first results of synthetic chemistry in this direction, each product has been better than its predecessors.

KAIRIN, THALLIN, HYDROCHINON.

It will be remembered that kairin, thallin, and hydrochinon, while effective in reducing temperature, had a peculiar action on the blood and circulation which rendered their use in excessive doses, somewhat unsafe. The experiments of Dr. Beyer¹ showed that kairin and thallin, and perhaps hydrochinon, had a destructive influence on the red corpuscles of the blood, accounting for the change of color caused by large doses. Kairin and hydrochinon have further a decidedly weakening effect on the heart: that is, are muscle poisons in large doses producing diastolic arrest. Thallin has the same action, but to a much less degree. These experiments explain the objections found to the clinical use of these drugs; and the many cases of collapse, cyanosis, and temporary heart failure observed, as also the manner of their action, sudden reduction, rapid succeeding rise of temperature with often rigors; these considerations placed their successor, antipyrin, far in advance in professional favor.

ANTIPYRIN.

The advantages of this agent as an apyretic are well evinced in the series of experiments to which already reference has been made. Unlike the preceding drugs it does not alter the constitution of the blood, and is not a muscle poison, while, however, it does depress the heart's action, probably its greatest defect. Its antipyretic action seems chiefly by increased local dissipation, by dilatation of surface capillaries. Clinically it was found safe and effective, in comparison with its predecessors, but later it was found to produce a depressing effect, decidedly objectionable in some cases and certain forms of disease, notably pneumonia and diphtheria. In general, a condition of weakness, with tendency to cyanosis, contraindicates its use. In the high temperature of beginning typhoid, and especially in acute articular rheumatism, it is found to give its best results. In typhoid, fifteen-grain doses are given to anticipate the evening rise: that is, fifteen grains at 11 A.M., repeated at 5 P.M., if the temperature continues to rise. This secures for the patient generally a comfortable night's rest, and is generally accompanied by free perspiration, and is advised when the temperature reaches or exceeds 103° F. No influence on the course of the disease is claimed, and its use in cases attended by great prostration and weak heart is open to objection.

Concerning its value in acute articular rheumatism, the inaugural essay of Dr. Eich² gives it high rank in this disease. Observations on thirty-six cases including acute and chronic articular rheumatism lead him to regard its anti-rheumatic action equal to that of salicylates.

Enjoining caution in the use of antipyrin, Dr. Geo. Dalton Heys³ reports three very severe cases of collapse attributable to its use, due to too frequent repetition of doses in the endeavor to secure fall of temperature when the initial dose failed. His conclusions are: the drug, like many others, after repeated administration, may in the usual doses act less rapidly, and attendants should be cautioned not to push the remedy if it seems ineffective, but if the rise of temperature be considered dangerous, to send for the physician.

Karsh, of St. Petersburg, reports very unfavorably on antipyrin.⁴ His cases were ten in number, three typhoids, three pneumonias, two of phthisis, one pleurisy, one acute articular rheumatism. He used fifteen-grain doses, three times a day, or oftener, even at hour intervals. Of the typhoids two died of complications (no inference), in the third the course of the disease seemed prolonged. In pneumonia and phthisis no good results are seen.

Dr. Enko⁵ reports retardation of resolution in cases of pneumonia treated with antipyrin.

Dr. Posadski,⁶ reports twenty-five cases of pneumonia treated with antipyrin and compared with twenty-three cases treated with calomel. He gave antipyrin in daily amounts of from fifteen grains to two drachms, calomel in the other series in one-eighth grain doses, four times daily. Conditions, ages, period of the disease, were as nearly the same as possible. The average duration of the disease in those treated by antipyrin was 8.1 days, in those treated by calomel 7.1 days, with antipyrin the termination was by lysis, with calomel, by crisis; with antipyrin there were five cases of collapse, four of vomiting, two of skin eruptions, eleven with dark cherry-colored urine, conditions none of which occurred in those treated by calomel.

The *Medical Record*, September 25, 1886, reports a case of sunstroke in which enormous doses of antipyrin failed to reduce temperature.

Antipyrin cannot, therefore, be regarded by any means a perfect antipyretic, and while undoubtedly a valuable drug in certain pyrexial conditions, yet has in it an element of risk in its depressing action on the heart, which greatly restricts its use and renders it ineligible in certain forms of disease with high temperature.

ANTIFEBRIN.⁷

Antifebrin is a substance new in its therapeutics, but old in its chemistry. It is phenylacetamide, or "acetanilide," long known to chemists and workers in dyes. It is made by the action of heat on acetate of aniline, and is contained in rosaniline made from acetic acid and iron. It was manufactured by Gerhardt in 1853, but its apyretic properties are the recent discovery of Drs. Cahn and Hepp, German observers, working in Kussmaul's clinic, whose announcement appeared in the *Centralblatt für Klinische Medicine*, August 14, 1886. The substance is not, like antipyrin, "protected" by patent right, and were it only equal to antipyrin as a therapeutic agent, should on that account be preferred, as well as from the resulting fact of much less cost.

Acetanilide, rechristened by Cahn and Hepp "Antifebrin," is a white, crystalline, odorless powder, slightly purgent, almost insoluble in cold water, sparingly soluble in hot water, readily soluble in alcohol. It melts at 113° C, and distils unchanged at 292° C. It has neither acid nor basic properties. The taste is not unpleasant, and it can be conveniently given in whiskey or warm sweetened water, or suspended in water. Its antipyretic action is marked and constant, and effective in much smaller doses than antipyrin, while enormously large doses do not produce toxic

⁴ Meditz, Pribavl, k. Meskomii, Sbornikii, January, 1886, p. 24 Lond. Med. Rec., April, 1886, 144.

⁵ Vratoh, 1885, No. 18, p. 293.

⁶ Quoted in Therap. Gaz., 1886, ii, 558.

⁷ Centralblatt f. klin. Med., August 14, 1886.

Brit. Med. Jour., December 4, 1886.

Berlin klin. Wochschr., 1887, Nos. 1 and 2.

Therap. Gaz., 1886, 697; 1887, 113, 163, 184, 190, 447.

¹ Am. Jour. Med. Sciences, April, 1886, 369-403.

² Basel, 1886, Therap. Gaz., 1886, ii, 773.

³ New York Med. Jour., January 22, 1887.

effects. Its apyretic action as compared with that of antipyrin is, weight for weight, as four to one, that is, four grains of antifebrin equals in effect 16 grains of antipyrin.

The authors themselves frequently took fifteen to thirty grains a day without the least effect, while Fürbringer and Reise raised the dose to ninety grains daily without harm. It causes no cerebral disturbance, rarely any rigors with the subsequent rise, no vomiting, and the appetite improves under its use. In a few cases, cyanosis of the face and limbs has been observed, but this soon disappeared and seemed to have no unfavorable significance.

To consider briefly the clinical evidence from the points brought forward, we have a series of twenty-four cases, reported by Cahn and Hepp,⁸ a later series of sixty cases by the same,⁹ followed by reports from various trustworthy sources both foreign and American, including thirty cases reported by Eisenhart, Ziemmeisen's clinic; twenty-nine cases by Prof. Osler, of Philadelphia, as well as results personally observed in the Boston City Hospital. A generalization of these reports and results is all that can be attempted in this article. In regard to the diseases treated: the cases reported by Cahn and Hepp were chiefly typhoid (37 cases), erysipelas, phthisis, acute articular rheumatism, and pneumonia standing next in number, with a few scattering cases of septicæmia, pyæmia, etc. Prof. Osler's cases were typhoid, pneumonia, phthisis and erysipelas. The best results were in cases of typhoid, the poorest in pneumonia, peritonitis and erysipelas, but the defect was not in the direction of untoward effect of the drug, but of simple failure on its part in ordinary doses to reduce temperature to any marked degree. Concerning the dose: a single moderately large dose once a day, preferably in the morning, seems to aid much better than small repeated doses; but when the temperature is brought to the normal by a single large daily dose, it can be held there several days by a very small single dose each day. Cahn and Hepp used first fifteen-grain doses daily, at a single dose or in divided doses close together. Later they employed seven and one-half-grain doses, except in the severer types of high temperature. Eisenhart¹⁰ used doses of only four to eight grains, with good results. Osler employed chiefly daily single doses of eight grains.

In ordinary cases, therefore, four to eight grains would seem a sufficient dose, with no hesitancy in repeating if it should seem advisable. Thirty grains daily is regarded as an absolutely safe limit.

In regard to the method and time of action. The reports referred to show a gratifying uniformity. Temperature begins to fall in about an hour after administration, continues falling for three hours or more, the pulse at the same time diminishing in rate and increasing its tension. Perspiration generally attends the fall in temperature. There is often thirst, and very generally diuresis. The apyrexia persists four to ten hours, quiet sleep generally attending it. The amount of temperature remission is two to seven degrees. The pulse-rate often falls twenty to thirty beats. The increased tension noted is in marked contrast to the action of antipyrin and allied drugs. Cahn and Hepp give sphygmographic tracings.¹¹ con-

clusively establishing increased blood pressure, high tension pulse, under the use of antifebrin. The same point has been established in experiments with the drug on animals in Schmiedeberg's laboratory, and it was found that even when injected into the veins antifebrin did not lower blood pressure. This point cannot be too much urged as an advantage in the action of antifebrin over antipyrin, since it shows that where antipyrin depresses and weakens the heart's action and the circulation, and so becomes unsafe in many cases where it would otherwise be valuable, antifebrin stimulates and strengthens the heart and circulation, and so is beneficial in such cases, aside from its apyretic action. Thus a pulse weak and rapid from disease becomes slow, full and regular when antifebrin is given, an action closely suggesting that of digitalis, which is still further carried out in the *diuresis* so generally resulting.

Adding to this many incidental advantages observed, freedom from vomiting (even in those in whom antipyrin caused nausea or vomiting) no irritation of urinary passages, but on the contrary disappearance of albuminuria in some cases, during its use; clear head and feeling of comfort on the part of the patient, and, considering its effectiveness and exceptional safety, antifebrin seems superior to any other antipyretic drug yet discovered. [Within a few days the attention of the reporter has been called to an instance of the use by a girl of sixteen who became cyanotic after taking a teaspoonful of antifebrin. There were no other indications of any unpleasant action.]

As further evidence of anti-rheumatic action the following report of thirty cases is interesting:¹²

THIRTY CASES FROM PROF. FÜBRINGER'S CLINIC:

Acute articular rheumatism	10
Phthisis	9
Typhoid	5
Pneumonia	4
Pleurisy	2

At first the daily amount of antifebrin was 2. only, later increased to 6. without bad results. In typhoid single doses of 0.5 were first tried, but later hourly doses of 0.25. The results in all cases were highly satisfactory, temperature fell, pulse became less frequent, patients did well.

In the ten cases of rheumatism the dose given was 0.5-1, the daily amount 3.-4., followed in all cases by complete disappearance of swelling and pain in three to five days. Four of these cases relapsed, three having received less antifebrin than the other cases, the fourth, a very severe case, and only given a total amount of 12.5.

The report closes with the claim for antifebrin in acute articular rheumatism, of "complete cure without the disagreeable incidental effects of salicylic acid."

ANTIPYRIN AND ANTIFEBRIN IN HEADACHE AND EPILEPSY.¹³

The use of these drugs in headache and epilepsy has recently been attracting some attention. Dr. Allan McLane Hamilton, of New York, has published an account of his experience in the *New York Medical Journal*, for May 28, 1887.

He used both drugs in cases of habitual insomnia, in doses varying from three grains to eight grains of

⁸ Centralblatt, August 14, 1886.

⁹ Berlin klin. Woch., 1887, Nos. 1 and 2.

¹⁰ Deutsch. Med. Zeitung, December 23, 1886.

¹¹ Berlin klin. Woch., 1887, No. 2, p. 27.

¹² Heinrich Riese in the Deutsch. Klin., Wochschr., November 25, 1886, 835.

¹³ Therapeutic Gazette, July 15, 1887, 485.

the antifebrin and ten to twenty of the antipyrin, without appreciable result, though in a case of maniacal excitement, due to nervous exhaustion and connected with moderate rise of temperature 102° F., fifteen grains of antipyrin repeated twice produced refreshing sleep and a subsidence of excitement.

There can be no doubt, however, that in wakefulness due to general disease, especially with high temperature, the value of both these drugs as hypnotics is very great. It would seem as if both remedies were of value in headaches or cerebral states attended by anæmia, or in the excitement due to cell-malnutrition and exhaustion; and though antipyrin seems to be the more serviceable remedy, it possesses drawbacks which do not belong to antifebrin. It would appear as if the remedies were valueless or even harmful in cases of organic or symptomatic epilepsy, but worthy of trial in the light cases attended by rather general cerebral vascular spasm and not much muscular movement. In several cases of petit mal, the good effect of continued doses of antipyrin and antifebrin is manifest, for the losses of consciousness are far less frequent than when the patients were under other treatment. So far as tolerance goes, he has given to one patient forty-five grains of antipyrin in two hours without ill effects.

Dr. Faust, of Dresden, recommends antifebrin in doses of from 0.5-1. gramme for headache. He noticed upon himself that migraine which defied all other remedies disappeared entirely in from half an hour to an hour's time after one of the above doses; he has obtained the same results in many other cases.

Antipyrin is also a useful remedy against migraine, according to Dr. T. S. Robinson,¹⁴ who has used it in eighty cases during the last two years.

The cases were not selected; in fifty-four the drug acted favorably in from thirty minutes to two hours. In fifteen cases the pain was much abated, and when he resorted to chloral, bromides, or other drugs, he had to use smaller doses than the patient had otherwise been in the habit of taking. The relief was greater and the attacks generally cut short. In eight cases it had little or no effect. The reports from successful cases were all in favor of this drug, not only that it was quicker in its action, but that it did not leave the ill effects generally left by other forms of medication. He recommends that patients who are subject to attacks of hemicrania should keep powders of antipyrin of twenty-two grains constantly on hand, and that on the first symptom of the attack one powder should be taken in a little Vichy water, and repeated in two hours if the pain is not abated.

SALICYLATES.

The possible evil results of a long course of salicylic acid or salicylates, formed the subject of an interesting discussion before the French Academy of Medicine, leading to the condemnation by that body of these agents as preservatives in articles of food. The evidence adduced was certainly suggestive of possible renal disease and arterial sclerosis as a result of cumulative irritation from long continued use of the drug, even in very small amounts.

ANTISEPTICS.

Iodoform. The antiseptic properties of iodoform have been seriously called into question by two ob-

servers in Copenhagen, Messrs. Heyn and Roosing.¹⁵ They refer to the experiments of Mikulicz, 1881, as indefinite in result, and to those of Rummo, 1883, as complicated by the use of oil of turpentine in combination. They do not refer to the experiments of Poliakoff, 1884, whose conclusions have an important bearing on the subject: "Iodoform proves an antiseptic *only* as regards the living animal system where it finds the conditions favoring a slow liberation of iodine. Outside the animal body, under an ordinary temperature, iodoform is unable to arrest putrefactive and fermentive processes; it is otherwise under higher temperatures, setting free iodine." The experiments of Heyn and Roosing under consideration were with solutions of iodoform in olive oil and serum, and with the dry powder. They studied the effect of cultures of various bacterial organisms in these mixtures or powder, with a few experiments on animals. Their results, as reported, are sweeping and conclusive against germicide or antiseptic action in iodoform, *under the conditions named*, chiefly being in germ cultures outside the body; that they thus disprove action in the animal system cannot be accepted; although it must be added that the few experiments they report on animals, in purulent and putrefactive processes, seem also to be adverse to antiseptic action. They go a step further in affirming that iodoform itself may contain pathogenic micro-organisms and be the cause of that which it is used to avoid; a carrier of bacterial infection, with the conclusion that as antiseptic or germicide, iodoform is absolutely worthless, and as a dressing or application in surgical practice it is dangerous unless previously sterilized. These conclusions naturally lead the modern practitioner, who has seen the clinical use of iodoform and results obtained, to doubt either the reliability of the experiments, or the whole foundation of antiseptic therapeutics as a theory of micro-organism destruction, and this doubt finds expression in a letter to the *Lancet*, March 19, 1887, from Dr. Glover, of London, who says that the doubt cast on the antiseptic properties of iodoform is contradicted by the practical experience of every surgeon who employs it, and reports one of his own cases, apologizing for the apparent absurdity of reporting one of hundreds that are constantly occurring, in which a badly "poisoned hand" riddled with abscesses and foul with pus, lost all offensive character and healed rapidly under treatment with iodoform.

R. Norris Wolfenden, M.D., Cantab., in an article on "Iodol" ¹⁶ says: "I am aware that doubts have recently been cast upon the antiseptic powers of iodoform, but this scepticism scarcely accords with common experience," and a foot-note adds: "The experiments upon which this opinion is based have been declared to be unreliable." Certainly, until these adverse experiments are established as completely reliable, and their results conclusively confirmed, iodoform, *in the animal system*, where alone its action is of practical clinical importance, will continue to hold its position as a powerful antiseptic and germicide agent.

IODOL.

For some time attempts have been made to obtain a preparation of iodoform in all essential characters, without its disagreeable properties, especially its nauseous and persistent odor. Dr. Wolfenden, of the

¹⁵ Fortschritt der Med., January 15, 1887. *Lancet*, February 12, 1887.

¹⁶ Practitioner, May, 1887, 337.

¹⁴ Therapeutic Gazette, June, 1887.

Hospital for Diseases of the Throat, in London, announces that end attained in "iodol, an efficient substitute for iodoform" (Ref. above). This substance was discovered by Silber and Ciamician, and first used clinically by Mazzoni. Chemically it is tetraiod-pyrrol (C_4I_4NH), a yellowish brown crystalline powder, nearly odorless, very slightly soluble in water, (1:5000), quite soluble in alcohol (1:3), very soluble in ether. Solutions darken on standing in the light or at high temperatures, depositing iodine, hence solutions should be kept in bottles of blue glass in the dark, and not exposed to high temperature. It is rich in iodine (88.9 parts by weight) which is readily liberated at body temperature. It has been chiefly used as an external application, and no toxic action has been observed even in long-continued use, an especial advantage, it is claimed, over iodoform. It is undoubtedly antiseptic, added to fluids which readily decompose; they remain undecomposed for months. Reports on its use in nearly all conditions in which iodoform has been used, show equally good results. It can be used (1) as a powder, (2) solution in alcohol and glycerine (iodol 1 part, alcohol 6, glycerine 34); (3) solution in ether (1:8); (4) spray, solution in glycerine and vaseline; (5) (iodol 1 — glycerine 1 — vaseline 7) to be warmed before using; (5) bougies $\frac{1}{2}$ grain each; (6) iodol gauze for dressings, etc.

It is summarized as odorless (or nearly so), tasteless, producing no constitutional effects, antiseptic, anæsthetic, a promotor of granulation and healing, arresting suppuration, deodorizing foul secretions.

SALOL.

This substance is a white crystalline body, soluble in alcohol. It is a compound of salicylic acid and phenol, supposed to combine the advantages and action of its two components, and hence employed both as antiseptic and antirheumatic. It was at first thought to be safer than carbolic acid, and less irritating to the stomach than salicylic acid or salicylate of sodium. Cases, however, of constitutional effect, as from carbolic acid have been reported, so that its superior safety is open to doubt, while its advantage over salicylate of sodium in rheumatism is not yet established.

(To be continued.)

Reports of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.¹

TWELFTH ANNUAL MEETING.

WEDNESDAY, SEPTEMBER 14TH. — SECOND DAY.
MORNING SESSION.

The PRESIDENT, in a few remarks, called attention to the death of Dr. John Scott, of San Francisco, Cal., and appointed Dr. Thomas Addis Emmet to prepare a memoir for the published Transactions.

THE THERAPEUTIC VALUE OF SOME MEDICINES IN THE TREATMENT OF HÆMORRHAGIC CONDITIONS OF THE UTERUS,

by DR. C. D. PALMER, of Cincinnati.

The author referred to the fact that very few papers on the medicinal treatment of hæmorrhagic affections of the uterus appeared in the eleven volumes of the Transactions of the Society. In hæmorrhage from the

uterus, it is important to remove the cause where this can be found. The object of the paper was to speak of the value of certain internal remedies, and their field of utility.

No drug is more frequently used than *ergot*. This is beneficial in many cases, but may aggravate some. It is of service in chronic hyperæmia and in subinvolution. Its effects are less marked in nulliparæ than in multiparæ. In the treatment of uterine fibroids, between the use of galvanism and of *ergot*, the field of laparo-hysterectomy must be a limited one. The hæmorrhage from fungoid degeneration and from ovarian irritation is better met by other remedies. In some cases of pelvic peritonitis and pelvic cellulitis, the hæmorrhage has been increased by use of *ergot*.

Digitalis, in appropriate cases, is of service. It is reasonably reliable in uterine hæmorrhage due to cardiac trouble. In atonic conditions of the circulation, weak heart, and low arterial tension, which tend to induce passive hyperæmia, *digitalis* may be used.

Cannabis indica has been the subject of diverse claims. The drug varies much in strength. It acts more especially on the nervous system. Its indications are imperfectly defined, and its effects uncertain.

Bromide of potassium is useful in certain hæmorrhagic states. It is indicated where there is sexual excitement, and ovarian congestion and irritation. It is not so useful where hæmorrhage is due to uterine irritation, although, in some cases of fibroid tumor, the author had found it more useful than *ergot*.

Arsenic is of service in uterine hæmorrhage. It is not prompt in its action, but, in appropriate cases, it is effective. It acts as a tonic, stimulating all the functions, and especially those of the skin and mucous membrane. In chronic endometritis, with or without fungoid degeneration, a course of arsenic will be of material service. It is of value in the case of young girls when menstruation appears too frequently, and continues too long. In menorrhagia at the time of the climacteric, it is of service, although its effect is less decided than in the former group of cases. Arsenic is a good remedy in menorrhagia of malarial origin.

Gallic acid is the best representative of the astringent class of remedies, and has been repeatedly tested in hæmorrhage due to uterine atony. Its large dose, unpleasant taste, and tendency to disorder digestion, limit its use.

Active cathartics, particularly so-called cholagogues, as mercury, are useful in uterine hæmorrhage of hepatic or splenic origin.

It is the custom with many to use iron in the intermenstrual period. Iron tends to promote pelvic congestion, and is almost universally injurious. Where there is menorrhagia due to hyperæmia, the muriated tincture of iron is beneficial.

Viburnum prunifolium, *hydrastis*, and *gossypium* have been recommended. Dr. Garrigues has reported one hundred and thirty-nine cases of uterine hæmorrhage from various affections in which he used *gossypium*, with the result of relieving the hæmorrhage in one hundred and twenty-five cases.

The last remedy referred to was *hamamelis virginiana*. If thoroughly tried, this is usually efficacious. The author had employed this drug, with satisfactory result, for six or eight years. It is not equally potent in all cases of uterine hæmorrhage. For active, profuse hæmorrhage, it is inferior to *ergot*, but for slight, long-continued flux, where the blood is dark and

¹ Continued from page 315.

venous, the hæmorrhage being passive in character, it is the remedy *par excellence*. This condition occurs in flabby, subinvolved uteri after delivery or abortion, in some forms of chronic endometritis, in chronic retroversion, and in some fibroids. He had also used it, with good effect, in several cases of vesical hæmorrhage from papilloma. The best preparation is the officinal fluid extract, in doses of a few drops to two drachms. None of the remedies here mentioned were intended to supersede local medication, where indicated.

DISCUSSION.

DR. FORDYCE BARKER, of New York. I believe that every one of the remedies mentioned is of special value in certain cases, and success in treatment depends upon a careful selection of the cases. A drug useful in one class of cases may be inert or injurious in another class of cases. Arsenic is useful where the system is broken down, and the patient is approaching the climacteric. It is useful not only from its tonic effect, but also from effect in controlling vaso-motor disturbance. It is of special value if, three or four days before each menstrual period, the patient is put on rather free doses of bromide of potassium. The arsenic is used only in the inter-menstrual period.

Where the hæmorrhage continues, and is profuse, the most valuable remedy is the fluid extract of hydrastis, combined with fluid extract of hamamelis, half a drachm of each being given. Six or eight drops of tincture of nux vomica may be added, if there is an atonic condition.

I have used viburnum prunifolium largely in passive hæmorrhage occurring at an early period of gestation, and in threatened abortion. I have found great benefit in cases toward the climacteric in the use of protoiodide of mercury, with iron and a small quantity of opium.

There is another class of cases not specially alluded to, and that is profuse hæmorrhage in very young girls, perhaps at the first menstrual period. In one of these cases, where hæmorrhage was exceedingly profuse, I relieved it by introducing a cone of alum, wrapped in a piece of linen, and passed into the vagina. This restrained the hæmorrhage. In other cases, I have relied on ergot and gallic acid, five drops of the former, with five grains of the latter, dissolved in mucilage.

DR. LLOYD ROBERTS, of Manchester, Eng. I have very little confidence in any drug, except ergot, in the treatment of uterine hæmorrhage. The great point in the use of ergot is to get a good preparation. In cases of hæmorrhage at the menopause, where the uterus is flabby, and in the case of young girls, the best results are obtained by giving it in the inter-menstrual period. In malarial hæmorrhage, I have found quinine better than arsenic. Gallic acid is the next best remedy to ergot. I think that the good effects of gallic acid are due to its local action. Except in cases where the hæmorrhage is due to congestion of the ovaries, I should think that the use of bromide of potassium would be of little benefit.

DR. W. BALLS-HANDLEY, of Melbourne. I do not see how the remedies referred to are going to act in restraining hæmorrhage. If their use is to be supplemented by operative measures, it is hard to say what does the good. Take a case of fibroid tumor: the

growth is surrounded by muscular fibres. There does not seem to be the slightest impression in the minds of those who have spoken, that if these drugs can cause contraction of the muscular, they may cause the tumor to be forced towards the peritoneal cavity. I have given ergot, and I cannot say that I have had the slightest benefit from its use. We must consider the natural history of these affections. Some fibroids increase very slowly, while others grow very rapidly. I have never seen the growth of one of these stopped by the use of ergot. I have thought that I have had some effect from the action of ergot, locally applied, a piece of cotton being saturated with the fluid extract.

I would speak of one remedy; that is, the tincture of the sesquichloride of iron. Some of these women are so anæmic, that they go on bleeding simply because there is no power of contraction. In these cases, the preparation referred to, in doses of half a drachm, three times a day, is of value.

DR. J. A. S. GRANT (bey), of Cairo, Egypt. I have had but little experience with these drugs. Two years ago, I was called by a doctress to see a patient. There was a tumor, and uterine hæmorrhage recurred every ten days. The case had previously been diagnosed as fibroid tumor, and removal of the ovaries recommended. I found a history of syphilis, and, as hæmostatics had been thoroughly tried for months, I decided to use mercury. Stimulants and cinchona bark were also given. The hæmorrhage ceased, and the tumor, which was as large as a child's head, gradually diminished in size, and in three months the woman was able to return to work.

DR. H. P. C. WILSON, of Baltimore. When I exclude cases of submucous fibroids, cases of granulations, and cases of polypi, the number of instances of uterine hæmorrhage is very small. I have very little confidence in any remedy as a hæmostatic in these cases. The most trouble is experienced in young girls commencing menstruation. In these cases, attention should be paid to the general health, the bowels should be regulated, and exercise enjoined.

DR. JAMES R. CHADWICK, of Boston. I will speak of one remedy which I have found peculiarly efficacious, and that is Chian turpentine. I have used this in hæmorrhages from all causes, with surprising results. In one case, a young lady had been losing blood for the greater part of two years. Dilatation had been done, and curetting had been employed on several occasions. I could find no definite cause. She was given six grains of Chian turpentine, three times a day. Menstruation at once became regular, and has remained regular. I think that ergot, given between the flows, is of more service than when given during the hæmorrhage. During the flow, I am in the habit of giving aromatic sulphuric acid.

DR. WM. L. REED, of Glasgow. I would merely refer to a drug which was formerly used. In certain cases, where no apparent cause could be found, and where ordinary hæmostatics failed, I have found alum of service, given in doses of twenty grains a day. When the immediate attack has ceased, I give sulphate of magnesia, with sulphate of iron. I have great confidence in arsenic where there is disease of the endometrium. I prefer the iodide of arsenic.

ALEXANDER'S OPERATION.

by PROFESSOR DOLORES, of Paris.

The speaker treats cases of retroversion of the

uterus by shortening the round ligaments, where all other measures of treatment have failed. Where there is retroflexion, he first overcomes the flexion by three or four forcible dilatations, and then shortens the round ligaments. In cases of prolapse, he first restores the uterus to a normal condition. If the cervix is abnormally long, it is amputated, and the round ligaments are then shortened. Anterior and posterior colporrhaphy are also performed. In cases of anteversion, there is no need to shorten the round ligaments, as the pressure of the abdominal contents does not come upon the uterus, as in the case of retroversion. In these cases, the vaginal operation is sufficient. The object of the shortening of the round ligaments is not to suspend the uterus, but to antevert it.

DISCUSSION.

DR. WM. L. REED, of Glasgow. One of the most important points to which attention should be called, is that, even when a successful operation has been performed in a case of chronic retroversion, you must not expect the patient to feel quite well in the course of a few weeks. All that the operation does is to restore the position of the uterus. It does not alter its condition. The patient will probably be no better three months after the operation than before it, especially if care is not taken.

The principal difficulty in the operation is to find the ligaments, for, after leaving the inguinal canal, they divide extensively. If you dissect down upon the ring, a good many of these fibres are destroyed. The dissection should be made clear of the abdominal ring until the tendon of the oblique muscle is reached. Then, by pressing on the canal, a little fat is forced out. This can be picked up carefully, and the fibres of the ligament separated, and usually there is no difficulty. The after-treatment is most important. If you take a case of prolapse, with the uterus down to the woman's knees, shorten the ligaments, and allow her to be about in two weeks, you need not be surprised if the trouble is soon reproduced. The patient should be kept in bed five or six weeks, and afterwards, she should wear a well-fitting pessary for five or six months. A pessary that, before the operation, could not be kept in place one hour, will remain without difficulty after the operation.

DR. A. MARTIN, of Berlin. I have not performed this operation, but my colleagues have done it in a small number of cases. I should not object to performing the operation when a suitable case presented itself. From my experience, I am led to believe that we exaggerate the importance of prolapse. I have seen many cases where the patient suffered this displacement without discomfort. I do not think that an operation on the ligaments without restoration of the pelvic floor will give a certain hope that the uterus will be retained within the pelvis. In these cases, I perform Hegar's operation. We cannot retain the uterus in its place either by narrowing the introitus of the vagina, or by narrowing the canal. It is only by a restoration of the pelvic floor that it can be retained. Hegar's operation consists in making a strong cicatrix in the floor of the pelvis, and I have performed his operation with satisfaction.

DR. WM. T. LUSK, of New York. I have performed Alexander's operation a number of times. The operation is simple, and easy to perform, except where there is great atrophy of the abdominal walls.

I consider it absolutely devoid of danger, if performed with ordinary cleanliness. There is no reason why this operation should not be employed in cases where a pessary will not remain. I have done Hegar's operation, but I have never found that the cicatrix has prevented sagging down of the uterus. If the uterus is held forward after Hegar's operation, I think that the prolapse will be overcome.

DR. C. C. LEE, of New York. I have done Alexander's operation about nineteen times. The operation is indicated in those cases where a pessary cannot be borne, on account of the abnormal tenderness of the vaginal vault, although no distinct pelvic peritonitis or cellulitis can be detected. It may be used in cases of retroversion of the uterus, with chronic salpingitis, which cannot be cured without laparotomy. It is also to be employed in a limited class of cases where there is complete procidentia, and where the usual plastic operations have failed to keep up the uterus. In such cases, where there is a laceration of the cervix, I do not attempt to do Alexander's operation without, at the same time, closing the tear. Where the uterus is bound down by adhesions, this operation is not indicated.

DR. HOWARD A. KELLY, of Philadelphia. I have done this operation for three years. It is folly to expect a heavy uterus to be held over a large open canal by two ligaments. If the cervix is hypertrophied, it must be removed. Suitable operations should be performed on the vagina. In the case of a heavy uterus, the round ligaments acting at right angles to the organ are at a disadvantage when we attempt to raise the womb. In one case, therefore, I substituted hysterorrhaphy, with entire success.

THE PRESIDENT'S ADDRESS

was then delivered by DR. ALEXANDER J. C. SKENE, of Brooklyn.

He first referred to the organization of the American Gynecological Society, which occurred in the Hall of the Academy of Medicine, New York, twelve years ago. The Society has passed its age of development and entered upon its period of growth. The object of the organization is to promote science and art, not to regulate the relations of the profession to the public. The usefulness of a medical society depends upon its objects. When called into existence by the necessities of man, and for the benefit of the human race, it is enduring. America is notable for the rapid development of gynecology. The first Gynecological Society in the world was organized at Boston. Modern gynecology is but seventy-five years old, but much has been accomplished. The advance of gynecological surgery has been marvelous. At least ten of the most serious operations on the human body belong to gynecology. Over seven hundred and eighty different instruments have been devised for the diagnosis of diseases of women. For the correction of displacements, there are in use some three hundred different pessaries. The growth of the literature of gynecology has been surprising. About six thousand books pertaining to this subject have been published in the last seventy-five years, and in the last eight years eight hundred and four books and seven thousand journal articles and pamphlets have appeared. The majority of these have been devoted to surgical gynecology. Since the discovery of the effect of germs and the means of counteracting

their influence, operative gynecology has taken a prominent position, perhaps too prominent, but it will soon find its true level. Instead of pushing on, would it not be well to stop and consider what has been accomplished? The major portion of the time of this society has been given to surgical subjects. This should not be so. As much attention should be elicited by the discussion of a functional affection as by the report of a case in which the surgeon has removed all the organs of the body with the exception of those absolutely essential to life. There is room for more definite knowledge with reference to pathology and especially with regard to nomenclature. There are still interesting fields to be explored, and the greatest of these is with reference to preventive medicine. Gynecology has much to accomplish in this direction. Brilliant reputations have been made by the removal of the tubes and ovaries, but little has been done in the way of preventing the diseases which lead to their destruction. In the present state of society more honor is accorded him who relieves the ills of man than is given to the one who prevents them. In obstetric medicine greater advance has been made in this direction. Vesico-vaginal fistula which formerly were very frequent, have almost entirely disappeared under modern methods of obstetric procedure.

Progress in gynecology would be hastened by improvement in the medical press. In this country there is too much writing in proportion to the amount of thinking and practice. The most copious writers are not the most distinguished in practice.

THE TREATMENT OF THE PEDICLE IN SUPRA-VAGINAL HYSTERECTOMY.

by DR. GEORGE GRANVILLE BANTOCK, of London.

The surgical treatment of fibroid tumors of the uterus has attracted a great deal of attention during the last ten years. Considerable progress has been made in the last three years, mainly in the treatment of the pedicle. In his first operation the speaker ligatured the pedicle, applied the cautery, split the pedicle into an anterior and posterior portion and brought these together with sutures. The patient died four days later of septic poisoning. It is a peculiarity of uterine tissue that it shrinks under strong pressure. In this case the ligatures soon became loose and there was oozing into the peritoneal cavity. In the next case the pedicle was tied in three portions and surrounded by a silvered copper wire and transfixed with two long needles. It was brought into the lower angle of the wound. Thirteen hours after operation there was a free flow of blood, which was arrested by the cautery. On the ninth day, as the copper wire did not make sufficient pressure, a wire ceraseur was substituted, and this succeeded in reducing the size of the stump. As now performed the operation consists of surrounding the pedicle with a soft iron wire attached to a small ceraseur by which the wire can be tightened. Before cutting away the pedicle it is important to transfix it with needles to prevent the wire from slipping. After the body of the uterus is removed the pedicle is secured in the lower angle of the wound. In some of the cases reported, the pedicle, which at the time of operation, was two or three inches in diameter, was reduced to one-third of an inch in diameter, when the wire came off at the end of the eighteenth or twentieth day. The author did not think that the operation could be improved by

substituting the intra-peritoneal method of treating the pedicle. Thirteen cases of pediculated fibroids treated by the extra-peritoneal method, recovered, while two treated by the intra-peritoneal method died.

With reference to the after-treatment of the pedicle, Dr. Bantock said that if the pedicle is properly secured at the time of operation, the less it is interfered with the better. The *serre-nœud* should not be touched in less than four or five days, unless there is oozing, in order not to disturb the adhesion of the peritoneum. If there is bleeding it usually occurs within a few hours. If the pedicle is thick it may be necessary to tighten the wire. When the stump comes off, the dry or wet method of treatment may be employed. The former consists in dusting iodoform on the part. The latter consists in washing the part with a solution of sulphurous acid, 1 to 9, and then applying equal parts of rectified spirits and glycerine.

The author's statistics were as follows: fifty-seven cases of supra-vaginal hysterectomy with forty-five recoveries and twelve deaths. In five of the fatal cases there was pronounced disease of the kidneys. In one there was acute enteritis. In two there was hemorrhage. In one there was obstruction of the bowel, and in two, septicæmia.

The discussion of Dr. Bantock's paper was made the first order of business for Thursday morning.

(To be continued.)

PHILADELPHIA PATHOLOGICAL SOCIETY.

W. E. HUGHES, M.D., RECORDER.

STATED meeting, September 22, 1887, the President, DR. J. C. WILSON, in the chair.

DR. W. OSLER presented a specimen of

THROMBOSIS OF THE PORTAL VEIN.

Chronic obstruction to the blood-flow in the branches of the vena portæ within the liver, such as occurs in cirrhosis, is probably the most common cause of this rare condition. We not infrequently meet with atheroma in the portal vein and its branches in cirrhosis, one factor in the production of which, as in the pulmonary artery in mitral stenosis, is the heightened blood-pressure, and to this change, the thrombus-formation is closely related. At first, and possibly for a long time, mural, it gradually becomes obliterating; and if the collateral circulation is established, the patient may live some time, as in a case which I reported in 1882,¹ in which the vein was represented by a firm, fibrous cord. The specimen here shown was taken from a Swede, aged about forty-five, who was admitted to the University Hospital, May 7th, with ascites. As he could not speak English, it was difficult to obtain a history, but we ascertained that he had been in failing health for some time, and latterly, his abdomen had become swollen. It did not appear to have come on suddenly. The liver dulness was reduced, the superficial abdominal veins were moderately distinct, and the case was regarded as one of ordinary cirrhosis. He was tapped five times between May 20th and July 14th, and from twelve to fifteen pints of serous fluid removed on every occasion. He was able to be up and about after each tapping, but he gradually became emaciated, weak, finally comatose, and he died July 20th. There were no hemorrhages,

¹ Journal Anatomy and Physiology.

and it may be stated that the abdominal veins were at no time more distended than is common in atrophic cirrhosis. The condition, post-mortem, was as follows: Fibrous adhesion in peritoneum; atrophic cirrhosis of liver, with thickened capsule; old, firm thrombus in vena portæ, extending into splenic and mesenteric veins; thickening and patchy calcification of the walls of the portal vessels; great enlargement and induration of the spleen; kidneys indurated; no special changes in thoracic organs. A careful dissection of the abdominal veins was not made, but I am told by Dr. Miall, who made the autopsy, that the peritoneum was very dark, and the veins behind the liver very large. The collateral channels were, no doubt, largely the anastomoses which exist between the peritoneal, mesenteric, and lumbar veins, and the gastric, diaphragmatic, and œsophageal vessels. As in the case of fibroid obliteration referred to, a perfect collateral circulation may be established in occlusion of the portal vein, and the patient may live for months or years. In this instance, the thrombus was evidently old, as, in places, there were calcareous changes. The branches in the liver were filled with soft clots. The gall-bladder was full of normal bile. In two other cases of cirrhosis, I have met with thrombi in the portal vein in both instances, with thickening and atheromatous changes in the vessel walls, but the thrombi had not undergone such degenerative changes as in this specimen.

DR. H. F. FORMAD presented a specimen of

CHRONIC HYPERTROPHIC CIRRHOSIS OF THE STOMACH,
WITH GASTRIC ULCER AND COLLOID CHANGES OF
THE MUCOUS MEMBRANE.

A sailor, aged thirty-eight, a German, was admitted to the Naval Hospital, ten months ago, with the symptoms of dyspepsia and occasional vomiting. There had been absolutely no pain at any time, and no vomiting of blood. Three months before death, he began to have serious difficulty with swallowing, with œsophageal regurgitation, and though a stricture was sought for, none was found. Very curiously, for a few days immediately preceding death, he swallowed well. Death resulted from starvation. At the autopsy, the abdominal cavity was found to contain fifty-two ounces of straw-colored fluid, and showed evidences of old peritoneal inflammation, especially at the upper part, where the organs were matted together into one mass. The stomach was quite contracted, having a capacity of four to five ounces. Its walls were one-half to one inch thick, the thickness greatest at the cardia, and gradually decreasing till within two inches of the pylorus, where the wall abruptly resumed its normal condition. The first impression given was that it was a case of cancer, but closer examination showed it to be simply great thickening of the wall, with polypoid elevations of the mucous membrane, and secondary colloid change. The ulcer was situated in the posterior wall, near the cardia, its bottom formed by scar tissue in the spleen, and the peritoneal coat of the transverse colon. Communication with the abdominal cavity had been prevented by firm adhesions. The omentum contained a number of colloid granules as large as peas. The abdominal lymph-glands appeared to be amyloid. The case was remarkable, first, in the complication of hypertrophy with gastric ulcer, which was a condition that the reporter had never before seen; second, in that the hypertrophy

should commence at the cardia, instead of at the pylorus.

Also,

A STAB-WOUND OF THE ABDOMEN.

Laparotomy had been performed, and a wound of the intestine found, which was sutured. The man died suddenly, sixty hours after the operation. At the autopsy, there was only a very slight amount of peritonitis found, and the wound in the intestine had firmly united. The abdominal condition not being sufficient to account for death, the brain was examined, and a very distinct embolus in the floor of the fourth ventricle found. The stomach had not been touched, but on its peritoneal surface were some slight tears, and opposite them, in the mucous membrane, but not corresponding exactly with them, were several distinct, small, linear ulcers, which appeared like ulcers due to some injury. They did not look at all like ordinary ulcers, but still had evidently formed *ante-mortem*. There was an old hæmorrhagic infarct of the kidney.

DR. OSLER had been particularly interested in the specimen, and had hoped that possibly it might prove to be related to the formation of gastric ulcer in the way pointed out by Dr. Baumgarten, and to which he wished to call attention; namely, that the movement of the stomach against the costal edges produces distinct localized thickenings, and that, in corresponding points of the mucous membrane, ulcers form.

Also,

A GUN-SHOT WOUND OF THE HEART.

The ball had entered the chest, between the fourth and fifth ribs on the left, passed through the left ventricle, and was found imbedded in the spinal column. Death was instantaneous. The principal point of interest lay in the fact that the ball had traversed the cavity of the left ventricle, near its base, without injuring the chordæ tendinæ, or the leaflets of the mitral valve.

DR. WESCOTT presented a

MEDIASTINAL TUMOR,

removed from a man, aged twenty-eight, who had entered the University Hospital a week ago. He was a brakeman, with good family history and personal habits, and no venereal history. He had been in good health, and at his work, till last July, when dyspnoea developed, and he quit work. About the same time, he noticed a tumor in his neck. There was no pain nor difficulty of swallowing. On admission, he was in a condition of orthopnoea. Over the left side of the chest there was complete dulness, extending to the right edge of the sternum, with absence of respiratory murmur. The apex-beat of the heart could not be seen or felt. The tumor of the neck involved the superficial lymph-glands, and could be traced behind the sterno-cleido-mastoid muscle, and down into the chest. There was no inequality of the pupils, and no œdema. At the autopsy, on opening the chest, nothing but a large, fleshy mass and the edge of the right lung could be seen. The mass penetrated the chest-wall, between the first and second ribs, and became continuous with the tumor in the neck. It was closely attached to the bodies of the dorsal vertebræ from the first to the fourth, filled all the upper part of the left chest, and completely enveloped the great vessels. The œsophagus was pushed to one side, but not compressed. The left lung was completely collapsed, and

contained numerous secondary nodules. The heart was pushed down and back, but was normal. The mesenteric glands were enlarged. A section of the tumor showed largely fibrous tissue. The reporter asked whether, in the case of such a large mass, the absence of pressure symptoms was not remarkable.

DR. J. B. WALKER said that in the absence of pressure symptoms, such a large tumor was, in his experience, unique, generally very much smaller ones giving rise to marked symptoms.

NEW YORK STATE MEDICAL ASSOCIATION.

FOURTH annual meeting, held at the Hotel Brunswick, New York City, September 27th, 28th, and 29th, 1887.

FIRST DAY — MORNING SESSION.

The report of the Committee of Arrangements was read by DR. CHARLES A. LEALE, in which he extended to the members a hearty welcome.

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DR. ISAAC E. TAYLOR then proceeded to read his address, in which he spoke of the past success of the Association, of the indications of continued success, urged upon the members the full discharge of the duties devolving upon them individually, and gave expression to feelings of sorrow at the loss by death of several worthy and prominent members.

Turning, then, to the main subject of his address,

LUPUS SERPIGINOSUS OF THE CERVIX UTERI AND GENITALIA OF WOMAN,

Dr. Taylor described a case which had come under his observation, and presented a cast of the external organs. The disease began in the cervix and was first seen by him in 1885. Its course was interrupted by a period of comparative health; it then renewed its activity, extended to the vulva where it was manifested in the hypertrophic form, involved the clitoris and urethra, and finally ended in the death of the patient.

The rarity of this affection of the female genitalia, the fact of its existence being doubted by some, the differential points from cancer, tubercular disease, etc., were dwelt upon. It remained to determine whether the disease was due to a special organism. The treatment was as unsettled as in former years, and varied according to the views of the physician having charge of the case and the symptoms manifest. A principle to be borne in mind in the treatment, was not to do injury to the healthy tissues beneath and around the diseased part. In this case the escharotics had been abandoned for solutions of nitric acid.

THE USE OF HOT WATER IN SURGERY.

DR. THEODORE R. VARICK, of Jersey City, read this paper as supplementary to two which he had read the past three years at other meetings, one of this association. His intention was to reply to criticisms and to give further statistics in support of the method. The water employed by him was only a little below the boiling point. It was brought from the boiling kettle, and applied by means of a clean sponge or linen cloth dipped into the hot water and applied to the operation wound; and when applied was probably of a temperature of about 188°F. Its effect was

to coagulate the albumen, and hermetically seal the bloodvessels against the entrance of germs or extraneous matter. As long as bleeding was active, there was little danger of sepsis, but when oozing ceased, if the vessels were not sealed, there was danger of the absorption of germs. Hot water was also a cardiac stimulant, and counteracted the shock which was present in greater or less degree in all major operations.

Dr. Varick gave the statistics of mortality after amputations by different surgeons in as many as six thousand cases, the mortality averaging thirty-two per cent., *plus*. Of fifty-three amputations performed by him since 1879 in which he applied hot water to the wound, there had been only three deaths, or a mortality of less than six per cent. Most of the cases were railroad injuries. In one of the cases death was due to angina pectoris, in another to secondary hemorrhage, and in only one to septicaemia, arising, he felt confident, from the other wounded foot which was not operated upon. Dr. John D. McGill had amputated in twelve cases, applying hot water, without a death. It was not sufficient to apply the water warm, as some who failed to understand the principle of the treatment had done.

A vote of thanks was extended Dr. Varick, a resident of New Jersey, for his paper.

BI-CHLORIDE OF MERCURY; ITS USES AND ABUSES.

DR. CHARLES S. WOOD, of New York, thought that this powerful drug, unless its use was surrounded by proper restrictions, would do more harm to the human race than good. Some years ago, before its germicidal properties came into prominence, he had employed it in certain cases of phthisis, with, he believed, good effects. While it had not been shown to possess the power of killing the bacillus tuberculosis when taken internally, he thought it probably exerted a beneficial influence in counteracting the effects of the ptomaines developed by these.

Another class of cases in which it had been of utility in his hands, were those of Bright's disease. In several cases he attributed to it the effect of relieving symptoms and prolonging life, and enabling the patient to go about his duties with comfort. Its use in syphilis was touched upon, as well also in surgery. He cautioned against the too frequent and careless use of bichloride of mercury both in internal administration and in surgical dressings. It could never arrest any disease of acute or infectious character by killing germs after internal administration; for, given in sufficient doses to effect this object, it would first kill the patient.

A CONTRIBUTION TO THE STUDY OF HIP-JOINT DISEASE.

DR. NATHAN JACOBSON in this paper favored the view that hip-joint disease usually had traumatism back of it, and that accompanying pulmonary tuberculosis did not necessarily mean the hip-disease was primarily tubercular in origin. In one of two cases which he related there were signs of pulmonary tuberculosis which cleared up with disappearance of joint symptoms following operation, and he said that whether the pulmonary trouble was secondary to the affection of the joint, or whether they were concomitant but independent affections, must remain a matter of conjecture. That the disease of the lung was

largely influenced by the joint disease, he was convinced. The existence of tuberculosis of the lungs should not be a contra-indication to operative procedures in hip-joint disease. One case was cited illustrating a class which would do best under rest and hygienic measures.

FIRST DAY.—AFTERNOON SESSION.

DISCUSSION ON THE MANAGEMENT OF COMPOUND DISLOCATION OF THE ANKLE-JOINT.

DR. E. M. MOORE opened the discussion by a paper in which he showed by extracts from Astley Cooper, and writers from his time down to the present, that there had been manifested here and there a tendency to adopt more conservative methods of treatment in compound dislocations of the ankle-joint. This tendency to conservation, however, had been too little marked, and even at the present day had taken a less firm hold on surgeons than it should. Dr. Moore referred briefly to five cases which had come under his observation, in none of which had he found it necessary to perform primary amputation, and in none had there been a fatal issue. Four recovered with useful limbs: in one the dressing exerted some compressing effect and led to gangrene, and amputation was performed. The patient recovered. An ideal result was obtained by a friend in the case of an elderly lady who recovered with apparently a perfect limb, as shown by a cast, and who was able to walk without a limp. It would have to be a severe case to lead him to do amputation in the first instance. Where practicable he would choose Syme's amputation.

DR. URI C. LYNDE discussed the question

WHEN SHOULD AMPUTATION BE PRACTISED, AND WHEN SHOULD OTHER METHODS BE EMPLOYED?

In answer to the first part of the question, Dr. Lynde said that of modern writers only a few had been specific enough in the expression of their views for them to be of any value. From his own experience he divided the cases into two classes. If there was only contusion in connection with the dislocation, and that contusion were confined to one side of the ankle, and covered a limited surface, we should not amputate, although sloughing might take place, but if the contusion were extensive, on both sides of the ankle, and especially if the injury of the bones were severe, it would be our duty to amputate at once. If the injury to the bones was not extensive in connection with rupture of the posterior tibial artery, the case should be treated conservatively; if the injury to the bones was marked, the astragalus being comminuted, rupture of this artery would suggest the propriety of amputation. The same rule applied in connection with rupture of the anterior tibial artery. While surgeons would not, owing to rupture of the nerves alone, amputate, yet this accident might, in a particular case lead to an unfavorable result.

With all the safeguards of modern treatment thrown around it, primary amputation is not without danger. It was fair to state that modern surgery had done, and could continue to do, more toward rendering amputation safe than it had, or could, toward rendering conservative methods safe. But if the surgeon failed to save the foot, there still remained a chance for secondary amputation. If he made a mistake it should rather be on the side of conservatism.

IF AMPUTATION IS TO BE PERFORMED, AT WHAT POINT SHOULD IT BE MADE TO RENDER THE STUMP MOST USEFUL, THE RISKS TO BE ENCOUNTERED BEING EQUAL?

DR. JOSEPH D. BRYANT, of New York, read a brief paper in discussion on this subject. He thought the choice lay between two methods: first, Syme's amputation, second, amputation at the junction of the middle and lower thirds of the leg. Which of these two ought to be selected was a matter, he thought, which could quite easily be determined. Syme's amputation should be selected in all cases when the vitality of the soft parts would warrant a reasonable belief that a serviceable stump could be procured by usual flap procedure. If, when amputation of the leg was performed, the bones were divided just above the malleoli the stump would not be oval; a stump would be formed with a bulbous extremity, which would require an artificial limb with a carefully fitting socket. The conclusions drawn by Dr. Bryant had been concurred in by several gentlemen engaged in the manufacture of artificial limbs. Pyrogoff's amputation was most objectionable from this standpoint.

DR. CHARLES W. BROWN discussed the question:

SHOULD THE LUXATION BE MERELY REDUCED, OR SHOULD SOME BONY TISSUE BE REMOVED, AND IF SO, HOW MUCH?

He said that bone should be removed when it is protruding considerably, and cannot be returned to its normal position without further injury to the soft parts, or when a portion of the periosteum has been removed, or when the head of the bone has been crushed or broken. As to the amount of bone to be removed, much would depend upon the nature of the injury. If the articulating surface of bone is pushed completely out through the soft parts, the safest plan is to saw it off; but if dislocation is not complete, and the joint is simply torn open, the wound should be thoroughly cleansed and dressed antiseptically without the removal of bone.

WHAT DRESSING AND AFTER-TREATMENT WILL CONDUCE TO THE BEST RESULT, WITH THE LEAST RISK, TO THE PATIENT?

This subject was discussed by DR. FREDERIC S. DENNIS, of New York. He said: It is assumed that the question of amputation has been considered, and amputation is not to be employed. Where conservatism is to be practised, partial resection may be resorted to to put the wound into an aseptic condition. The foot, toes, ankle, and leg should be washed, scrubbed, shaved, and irrigated, preparatory to examination of the wound. Enlarge the original wound, explore thoroughly the interior of the joint, make a counter-opening. All loose pieces of bone, cartilage, and foreign bodies should be removed, loose tendon, fascia, or muscle cut away, the joint thoroughly irrigated with warm solution of bichloride of mercury. A rubber drainage-tube should be carried directly through the cavity. Some surgeons, however, thought a counter-opening should not be made. The joint being free from extraneous matter, wet towels, wrung out of bichloride solution, should surround the parts. If tendons showed resistance in reduction of the dislocation, they should be divided subcutaneously, in order to secure rest of the joint. The splint should depend upon the special circumstances arising in each case.

In the majority of cases, he thought the plaster-of-Paris bandage should be employed. The danger of its being applied too tightly could be avoided by the use of cotton. After a final irrigation, iodoform should be sprinkled over the wound, a thin strip of iodoform gauze be put over the wound, a wet bichloride bandage of double-fold placed on the ankle and leg, and a layer of borated cotton, held on by bandage. Over this, plaster-of-Paris could be snugly applied, the dressing underneath affording ample elasticity to prevent constriction from inflammatory swelling. Four strips of iron might be used to strengthen the plaster-dressing. At the expiration of three days, a fenestrum should be cut at the side of the drainage-tube, and when the tube was withdrawn, it should be done under continuous irrigation. The advantages of this splint are: complete immobility; freedom to move in bed; to dress the wound without disturbing the bones; uniform and comfortable compression, to prevent infiltration; comfort to the patient during healing; convenience to the surgeon during after-treatment.

A CASE OF CYSTITIS TREATED BY COLPO-URETROCYSTOTOMY, IRRIGATION OF THE PELVIS OF THE KIDNEY, AND INTRA-VAGINAL DRAINAGE.

DR. NATHAN BOZEMAN, of New York, read a paper with this title, which was supplementary to one read at the Ninth International Medical Congress. By means of the new instrument devised by him, urine passing through a vesico-vaginal fistula could be carried to the urinal without coming but to a limited extent in contact with the walls of the vagina, and without injurious effects. During experiments with this method, he had opportunity to pass a rubber catheter up through the ureter into the pelvis of the kidney, and repeatedly irrigated that organ, which was the seat of disease. The procedure was not difficult, was not painful to the patient, and could be practised with safety. His patients had returned to their homes immediately after such an irrigation. The method opened a new field in the treatment of diseases of the kidneys. It was free from the objections pertaining to nephrotomy and nephrectomy.

DR. H. D. DIDAMA then read a paper on

METHODS OF APPLYING COLD.

A review of ordinary methods having been given, he described his own, which was effectual, comfortable to the patient, and inexpensive. A rubber sheet was laid upon a mattress; on one side of this, a folded cloth, wrung out of cold water; also a pillow; another rubber sheet—an ordinary sheet, on which the patient lay. When necessary to renew the cold, cloths wrung out of cold water should be placed between the rubber sheets on the other side of the bed, and the patient be lifted over by wooden bars rolled up in the edges of the sheet.

GALL-STONES.

DR. ROBERT H. SABIN, himself subject to gall-stones and biliary colic, read the paper, in which he took the ground that gall-stones formed only during an alkaline state of the system, as indicated by the alkalinity of the urine. His treatment was by bichloride of sodium, taken in water at intervals during the day, until the urine became alkaline. An interesting case was cited, that of a woman who, at times, passed as many as a teaspoonful of gall-stones, the size of hulled peanuts, and closely resembling these.

(To be continued.)

Recent Literature.

Sphygmography and Cardiography. By ALONZO T. KEYT, M.D. Edited by Asa B. Isham, M.D., and W. H. Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887. pp. 229.

The late Dr. Keyt was well known as the inventor of a compound sphygmograph, and as a contributor to the periodical medical press of articles on the application of the graphic method to the study of the cardiac and arterial circulation in health and disease. His premature death doubtless prevented him from the presentation of his work in a connected treatise, such as that which his friend and his son have prepared. "Nothing more is assumed on the part of the editorial supervision than that it presents Dr. Keyt's work in an available shape to the profession."

The book includes two parts, the first physiological, comprising 148 pages; the second clinical. Keyt's compound sphygmograph is fully described and figured. It traces pulsations of the heart itself, of any accessible artery, of the fontanelle, of pulsating tumors. But it does far more than this, for simultaneous tracings can be taken on the same plate of, for instance, the cardiac and peripheral pulsations, the relation of which to one another as regards time is recorded by a chronographic tracing. It is readily converted into a pneumograph or plethysmograph, and can be used as a kymograph. The main difference between Keyt's and Marey's compound sphygmograph is that the former uses water where the latter uses air to transmit the pulsations.

The value and the limitations of the simple sphygmograph are well set forth by Broadbent in his Croonian Lectures on the pulse, delivered in London during the past winter. The compound instrument has already made important additions to our knowledge of the circulation in health and disease, and promises more in the future.

Among the subjects dealt with in the physiological section are the velocity of the pulse-wave and the causes of its variation; the relation of the ventricular systole and diastole to each other, and the presphygmie interval—the portion of the systole between the commencement of ventricular contraction and the opening of the aortic valves. This interval varies slightly in the same healthy person at the same sitting with the same pulse-rate; more notably in different healthy persons with the same pulse-rate; but corresponds pretty closely with the pulse-rate, shortening in general as the pulsations shorten.

To turn next to the clinical portion of the work, the author confirms the observation first made by Franck, that, contrary to the opinion generally current until within a few years, in free aortic regurgitation the retardation of the arterial on the cardiac pulse is shortened, the presphygmie interval being largely lost. The presence of this sign is positive evidence that regurgitation takes place throughout the diastole—is complete—provided only that active febrile movement is absent; the value of the sign is not impaired by the presence of concomitant valvular lesions.

Aortic aneurism, on the other hand, generally causes increased retardation of the arterial pulse.

So, likewise, in mitral regurgitation, there is delay in the arterial pulse, and the amount of the delay is proportional to the gravity of the lesion. If this ob-

servation proves to be correct, we are furnished with precious means for determining more precisely the significance and importance of many apex systolic murmurs.

We have thus all too briefly touched upon some of the striking features of this work, all of which is worthy of careful study. We have mentioned only some of the author's conclusions. For the steps leading to these conclusions we must refer those who are interested to the original. The style is simple and clear, and the work is one which does honor to American medicine. A good table of contents does not take the place of a good index. The publishers have done their share in a manner which silences criticism.

F. C. S.

A System of Gynecology by American Authors. Edited by MATTHEW D. MANN, M.D. Vol. I. Philadelphia: Lea Brothers & Co. 1887.

A more than usual interest has been felt in this work, the first volume of which has just appeared. More comprehensive systems of both medicine and surgery have from time to time been published and have attained marked success. This is, however, as far as we know, the first attempt to subdivide a special and limited branch of medical science among different authors. Until the present decade it would hardly have been possible to successfully carry out such a project, both from the lack of a sufficient number of competent men, and also on account of a too wide divergence of views of pathology and treatment. Today, however, thanks to the impetus which has been given to the study in this country, of this branch of medicine by what may be called the New York School, emanating largely from the New York State Woman's Hospital, and to the extent and zeal with which the results of the marked progress made in gynecology in Europe have been appropriated and used, it has been possible to find a sufficient number of observers to write a thorough and well-rounded system of gynecology.

The inherent difficulty with an undertaking of this kind, is that with so full a subdivision of a necessarily limited field, the various parts will be so exhaustively treated, and approached from so many standpoints, that there will be a great deal of unnecessary repetition, and the thread of continuity will be broken, so that we shall have a series of monographs, instead of a connected and harmonious whole. That this difficulty has been wholly avoided in the work under consideration can hardly be affirmed. At the same time there is more unanimity in the treatment of the various divisions than might have been expected. The result is a book which fills its niche in the medical literature of the day, not as a work for students, but primarily as crystallizing and epitomizing the present status of gynecology, and secondarily as a book of reference for specialists and general practitioners. It is our opinion, however, that the latter class will find simpler and less bulky treatises answer their purpose better.

Its scope and size have admitted of very thorough treatment of each individual subject, and in the majority of instances foreign sources of information have been largely drawn upon, or duly noticed. It will not be possible in the limits of a short review to criticize each article. A list of the subjects of the various articles and their authors will, however, indicate the extent and character of the work.

The book opens with a "Historical Sketch of American Gynecology," by Dr. E. W. Jenks, in which the author has, with a great deal of pains collected numerous important and interesting facts with regard both to individual workers in this field, and to societies and institutions. The next article is one on "The Development of the Female Genitals," by Dr. H. J. Garrigues. Then follows a very thorough and painstaking article on "The Anatomy of the Female Pelvic Organs," by Dr. H. C. Coc. He very wisely includes the anatomy of the urinary tract and the rectum, both of which are so often complicated in affections of the genital organs proper. The subject of "Malformations of the Female Genitals," is clearly treated of by Dr. Garrigues, who has added to the value of this, as well as his former article on "Development," by appending a list of books referred to. The article on "Gynecological Diagnosis," by Dr. E. H. Grandin, is clear and comprehensive. Dr. E. C. Dudley has in his article on "General Consideration of Gynecological Surgery," grouped a great many important facts which are usually scattered through the ordinary textbooks, and the result is a valuable contribution.

"General Therapeutics," by Dr. A. J. C. Skene draws attention to the fact that much may be accomplished by general, as distinguished from local treatment, even in purely gynecological affections. Dr. A. D. Rockwell contributes an interesting article on "Electricity in Gynecology," showing how wide the application of this agent is, and giving simple rules for the use of the various currents. "Menstruation and its Disorders," by Dr. W. Gill Wylie, and "Sterility," by Dr. A. Reeves Jackson follow, the latter giving a very thorough *résumé* of the subject. "Diseases of the Vulva," is clearly and exhaustively treated of by Dr. M. D. Mann.

The important chapter on "Inflammatory Affections of the Uterus," by Dr. C. D. Palmer, embracing as it does such frequent and important diseases as acute and chronic endometritis, acute and chronic metritis, and ulceration and degenerations of the cervix, is well abreast of the times, both as regards pathology and treatment. Dr. T. A. Reamy has admirably described "Sub-involution of the Uterus and Vagina," and we are glad to see the latter half of the subject, namely, sub-involution of the vagina, accorded its proper recognition in gynecological literature as a factor in affections of the vagina following and incident to parturition. "Periuterine Inflammation," by Dr. R. B. Maury, and "Pelvic Hæmatocele and Hæmatoma," by Dr. E. Van de Warker, complete this volume.

On the whole, the editor and his co-workers may be congratulated on the degree of success they have attained in this important undertaking. The publishers have done their share, and the letter-press and binding are all that could be desired.

— Dr. S. P. Neklevitch, of Lozki, Russia, in the one hundred and ninth year of his age, and still in the active practice of his profession, dropped suddenly dead recently, while in the act of writing a prescription for a patient. If the physicians in Russia will persist in holding on to their patients so far into the second century of their existence, there is little wonder that so many medical students become Nihilists.

THE BOSTON

Medical and Surgical Journal.

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94 BOYLSTON STREET, BOSTON, MASS.**HEMIANOPSIA AND THE CENTRES FOR VISION.**

THE work of the last two years has done much to establish our knowledge as to the localization of the visual centres in the cerebral cortex. Von Graefe's original claim that these centres were in the occipital lobe, and that each centre presided over vision in one-half of each eye, was attacked from a clinical standpoint by Charcot, and from an experimental standpoint by Ferrier. Charcot¹ in 1875, asserted, from the study of cases of hysterical amblyopia, that there must be a double decussation of the fibres of the optic tract, so that the fibres from the retina of one eye should all meet in a common centre in the opposite hemisphere. The following year Ferrier² published his experiments upon the brains of monkeys and other animals, which seemed to show that this centre was situated in the angular gyrus, destruction of which produced blindness in the opposite eye. The removal of the occipital lobes, the angular gyri being intact, he found was without effect on the faculties of special sense. The views of Charcot and Ferrier, although they gained credence, in France and England, were not long after opposed by Munk,³ who became convinced that the centre of vision was not in the angular gyrus, but in the occipital cortex. In the dog, where there is supposed to be a complete decussation of the optic tracts, destruction of the cortex over one side of the occipital lobe produces blindness in the opposite eye, but in the monkey and presumably in man, where there is only a semi-decussation, destruction produces hemianopsia. In both dog and monkey a partial destruction of the occipital cortex produces soul-blindness, and complete destruction on both sides produces absolute blindness.

Since that time German writers have generally accepted Munk's views, while careful study of disturbances of vision from the clinical and pathological stand-points has of late brought forward a mass of evidence in favor of them that is convincing. Dark-

schewitsch and Forel have not found any anatomical traces of a double decussation, while Seguin,⁴ who has made an elaborate study of the literature of all cases where visual disturbances of central origin have been followed by an autopsy, has failed to find a case which proves Charcot's hypothesis of a double decussation of the optic tracts and of a centre for monocular vision,—in other words, he has failed to find a case of unilateral amblyopia from cerebral disease. His conclusions are so important that we give them in full.

"(1) Lesions in the mesal aspect of the temporal lobes or even in other basal districts of the hemispheres may give rise to hemianopsia indirectly by pressure upon the primary optic centres, the optic tract, or the chiasma.

"(2) Lesions of the corpus geniculatum laterale, the pulvinar, and the lateral caudal parts of the thalamus may cause hemianopsia, usually in association with hemianæsthesia and hemiplegia, or hemianæsthesia alone.

"(3) Lesion of the white substance of the occipital lobe in the caudal radiations of the internal capsule may cause hemianopsia alone or with hemianæsthesia.

"(4) Lesions of the supra-marginal gyrus, the angular gyrus, and the inferior parietal lobule, with the subjacent white substance, may cause hemianopsia with or without other symptoms, such as hemiplegia, loss of muscular sense, or word-deafness.

"(5) A lesion of greater extent, involving the speech centre, the motor convolutions, and the parts named above (under 4), due usually to embolism or thrombosis of the entire Sylvian artery, will, when on the left side, produce aphasia, alexia, hemianopsia, and hemiplegia.

"(6) Lesions of the occipital lobe, both cortex and subjacent white matter, produce blindness when bilateral, and hemianopsia when unilateral (agreeing with Exner).

"(7) A lesion of the cuneus and adjacent fifth temporal (of Ecker) on one side, will produce lateral hemianopsia of the opposite side."

From these conclusions he derives the following data for diagnosis:

"(1) Lateral hemianopsia is always due to an inter-cranial lesion on the opposite side from the dark fields.

"(2) Lateral hemianopsia with immobility of the pupils, optic neuritis, or optic atrophy, especially with symptoms of disease of the base of the brain, is due to a lesion of one optic tract, or of the primary optic centres of one side.

"(3) Lateral hemianopsia or geometric sector-like defects with hemianæsthesia and hemichorea or hemiataxia, without marked hemiplegia, is probably due to a lesion of the caudo-lateral part of the optic thalamus, or of the caudal division of the internal capsule.

"(4) Lateral hemianopsia with complete hemiplegia

¹ J. M. Charcot. *Leçons sur les localisations*. 1876.² D. Ferrier. *The Functions of the Brain*, pp. 164, 193. Ed. 1876.³ Verhändl. d. physiolog. Gesellschaft zu Berlin. 1876-1879. Die Functionen der Grosshirnrinde. 1877, 1880.⁴ E. C. Seguin. *A Contribution to the Pathology of Hemianopsia of Cerebral Origin*. *Journal of Nervous and Mental Disease*, Jan., 1886.

(becoming spastic later) and hemianæsthesia, is probably due to an extensive lesion of the internal capsule in the knee and caudal part.

"(5) Lateral hemianopsia with typical hemiplegia (spastic), aphasia (if on the right), and with little or no anæsthesia, points to a superficial lesion of the region of the middle cerebral artery.

"(6) Lateral hemianopsia with moderate loss of power in one half of the body, especially with impaired muscular sense, is probably due to a lesion of the inferior parietal lobule and angular gyrus, with the subjacent white substance, deep enough to involve the optic fasciculus.

"(7) Lateral hemianopsia alone, without motor or common sensory symptoms, is due to a lesion of the cuneus only, or of the cuneus and the gray matter immediately surrounding it on the mesal surface of the occipital lobe in the hemisphere opposite the dark fields.

"In the last five cases the pupils are normal and the ophthalmoscope rarely shows any changes."

Seguin, therefore, believes that the cuneus is the true visual centre. The anatomical relations of the optic fasciculus, lying immediately beneath the angular gyrus, show why lesions of the gyrus often cause disturbances of vision. Hun,⁵ while holding to Seguin's views in the main, has sought to elaborate them, by claiming that the fibres from the upper quadrant of the retina terminate in the lower half of the cuneus, and the fibres from the lower quadrant in the adjacent part of the median occipito-temporal convolution.

Although Ferrier,⁶ in the second edition of his work, has not taken account of the work of Seguin, and has taken every occasion to deride the work of Munk, he has, nevertheless, abandoned his former position. The visual centres are no longer placed by him solely in the angular gyrus, but in the gyrus and the occipital lobes combined. He believes, moreover, that the angular gyrus is the centre chiefly for vision in the opposite eye, while the occipital lobe is the centre for the opposite halves of the two eyes, and he denies that any case of hemianopsia from lesion of the occipital lobe alone has ever been reported—a manifest error in view of Seguin's work.

Since then our knowledge of the subject has been increased by the work of Wilbrand⁷ and Reinhard.⁸ Wilbrand believes that there are three layers of cells in the occipital cortex that form the visual centres, the outer layer being the centre for the color sense, the middle for the sense of space, and the inner, deeper layer for the perception of light. With this theory Reinhard, from a series of careful clinical and pathological observations agrees, and he adds many valuable conclusions. Lesions of the occipital lobes cause

direct disturbances of vision, either soul-blindness or cortex-blindness, that is, absolute blindness; while lesions of the parietal lobes cause only indirect and temporary disturbances. If the lesion be superficial there is loss of perception of form and color, and soul-blindness, but if it be deep there is also loss of perception of light—total cortex-blindness. These two forms of blindness are seen chiefly in lesions of the convexity of the occipital lobe, and the point in it that corresponds most exactly to the macula lutea is in the neighborhood of the second occipital convolution.

As will be seen, Reinhard and Seguin place the visual centre in different parts of the occipital cortex, and Reinhard's centre is more nearly in accord with the centre discovered by Munk in the dog. Although the exact location of the centre in the occipital lobe may still be regarded as a matter of doubt, the weight of pathological evidence in man is in favor of Seguin's theory that it is in the cuneus, rather than in the second occipital, and the idea that the angular gyrus itself is in any way a centre for vision is now well-nigh abandoned except by Ferrier and his followers, and Charcot's old diagram of the double decussation of the optic track, which has so long done service in the text-books, must at last be discarded.

HOUSE-FLIES AS CARRIERS OF TUBERCULOUS CONTAGION.

SPILLMAN and Haushalter have recently reported to the Academy of Sciences (Paris, Session August 16th) their investigations as to the possibility of "contagion" (bacillus) of tuberculosis being carried by house-flies, and the results make it extremely probable that these pests of our dwelling-houses and hospital wards may have much to do with the propagation and dissemination of such contagion.

These investigations included repeated examinations made of the excrements and intestines of flies that had fed on the contents of the spit-cups of consumptive patients: in both, they found abundance of tubercle bacilli. They also found the same bacilli in the dried excrements of flies scraped from the windows and walls of rooms occupied by phthisical patients. The experimenters show how easily such germs may be disseminated by the dried excrements, or even by the desiccated and pulverulent remains of the bodies of these insects; how easily the air of respiration, or the food and drink, may be thus polluted and infected. It is known that the germs of the tubercle bacillus have great tenacity of life. These observations also indirectly strengthen the belief that the suitable soil is quite as essential to the development of tuberculosis as the suitable seed, otherwise the disease would inevitably be far more common even than it is.

Spillman and Haushalter, as a practical deduction from these investigations, insist on the importance of thorough disinfection of the spit-cups of tuberculous patients, by means of strong solutions of phenic acid or corrosive sublimate.

⁵ H. Hun. A Clinical Study of Cerebral Localization. American Journal of the Medical Sciences, January, 1887.

⁶ D. Ferrier. The Functions of the Brain, p. 270, et seq., 2d ed., 1886.

⁷ H. Wilbrand. Hemianopsie. 1881. Die Seelenblindheit als Herderscheinung u. s. w. 1887.

⁸ C. Reinhard. Zur Frage der Hirnlocalisation mit besonderer Berücksichtigung der cerebralen Sehstörungen. Archiv. f. Psychiatrie, xvii, 717, 1886, xviii, 240, 449, 1887.

MEDICAL NOTES.

— Dr. St. John Roosa's work on the ear has been translated into German by Dr. Ludwig Weiss, and will be published early in the coming year, in Berlin, by Hirschwald, unter den Linden.

— A four-year-old boy, named Albert Kirkham, living at Lancaster, Eng., was severely bitten by a mad dog about the 1st of August last. He was taken at once to Paris, and treated by M. Pasteur. He returned to his home August 25th, and was taken, the next day, with premonitory symptoms of hydrophobia. He was removed to the Lancaster Infirmary, and died in great agony.

— A "Journal of Animal Morphology," edited by C. O. Whitman, Director of the Lake Laboratory, Milwaukee, Wis., has been established, devoted principally to embryological, anatomical, and histological subjects. Cordial promises of support have been received from many of the most eminent investigators in this department. This journal will be issued in the best style, with elaborate lithographic plates, and will be published by Ginn & Co.

— The women in the Sultan's seraglio at Constantinople have just been vaccinated, to the number of one hundred and fifty. The operations, reports one of our foreign contemporaries, took place in a large hall, under the superintendence of four gigantic eunuchs. The Italian surgeon to whom the task was confided was stationed in front of a huge screen, and the women were concealed behind it. A hole had been made in the centre of the screen, just large enough to allow an arm to pass through, and in this manner, the arms of various colors and sizes were presented to the operator in rapid succession. It was utterly impossible for the surgeon to get a glimpse of his patients; but, in order to guard against the chance of his being able to see through the screen, two eunuchs who stood by the operator threw a shawl over his face the instant an operation was concluded, and did not remove it till the next arm had been placed in position.

— The eminent Professor Nothnagel, we learn from our foreign exchanges, experienced an almost miraculous escape from death recently. He had been summoned to a consultation in Moscow, and, his professional mission over, he had entered a sleeping car on his homeward journey on the night of August 20th. He had barely settled down in bed when he had occasion to leave his *coupé*, and, after making his way along the passage, opened the wrong door and fell out upon the rails. Strange to say, he alighted without further injury than a slight bruise on one of the temples, and another on the foot. He found himself, bareheaded, and in the scantiest night gear, on a dark, rainy night, at a lonely spot—no one in the train, it seems, having been aware of his fall. With great difficulty and discomfort, and in the midst of a storm, he reached the house of the nearest guardian of the line, and was by him accompanied to the Iwanowka station; thence

he got by train to Dünaburg, where the station-master gave up to him his clothes and travelling effects, as well as his pocket-book, containing more than ten thousand roubles, also left behind him in the carriage.

BOSTON.

— Dr. A. G. Griffin resigned his appointment of port physician, October 1st, to enter private practice. Dr. Griffin succeeded Dr. A. B. Heath as port physician in 1883, on the transfer of the latter gentleman to the superintendence of the Marcella Street Home. He had been assistant port physician for a year or more. Dr. Charles H. Cogswell has been promoted to fill the vacancy.

NEW YORK.

— The inauguration of the fine new buildings of the College of Physicians and Surgeons, the gifts of the Vanderbilt family, took place on the 29th of September, in the presence of a distinguished company. On this occasion Dr. John C. Dalton, President of the College, gave an historical sketch of the institution, and in speaking of its present prosperity paid a warm tribute to the generous benefactors by whose liberality such satisfactory accommodations have been provided for its work. Mr. Joseph H. Choate, of the Board of Trustees, was to have delivered the inaugural address, but as he was prevented from being present by illness in his family, his place was taken by Dr. William H. Draper, who also presented a number of memorial busts. The first of these was a fine bronze of the late William H. Vanderbilt, the gift of the Trustees and Faculty, for which Mr. Vanderbilt had been sitting on the day that he died. It is by the eminent sculptor, J. Q. A. Ward, and has been placed in the main hall at the entrance of the College building. The other busts were of the late Drs. Hosack and Mitchell, and of President John C. Dalton.

In the evening, in honor of the event, the alumni of the College had a banquet and jubilee celebration at Delmonico's. Dr. C. R. Agnew was toast-master, and after some remarks by the President, Dr. Dalton, Mr. Chauncy M. Depew responded for "Our Benefactors" in his usual happy vein. In the course of his speech he said: "No one could have attended the ceremonies this afternoon, heard the admirable addresses, looked into the faces of the alumni, and joined in the enthusiasm and applause, without breathing the university atmosphere and feeling like an alumnus of your college. Every man of middle age whose family physician is one of your graduates, has attested in crucial tests his devotion to the college. He has time and again shed his life-blood in serene confidence in your practitioners and their theories. He has time and again swallowed the most virulent of mineral and vegetable poisons to prove his loyalty, and his life has been at your service whenever you chose to take it. In England, this summer, I found that the medical theory of the hour was that all the ills that flesh is heir to come from eating and drink-

ing, and that the only panacea for perfect health is to give them up. In view of my public duties during the banquet season, I have rejected this advice, though obtained under the most expensive conditions from my London doctor. . . . When the College of Physicians and Surgeons reached 23d Street and halted, while the city swept on, you would have fallen behind, perhaps have been paralyzed, had not the Vanderbilt gift brought you abreast of the city's growth in wealth. For the first seventy-five years of our country's existence, our one need was money to develop mines, railroads, telegraphs, steam, electricity and inventions, and thus open up our unequalled natural resources. Fifty years ago there were not three ten-million-dollar men in the country, and not ten one-million-dollar men in New York. The man who had an income in excess of liberal living, for that reason alone had distinction, superiority, and social power; and the one ambition was for money. Now, rich men are so common that in itself wealth confers no power. The nation has more wealth than it needs for its development, and the millionaire is estimated by the use he makes of his money. Nobody asks him to divide his fortune, but everybody expects him to feel and act as if his possessions carried with them a trust. Their proper administration is his only opportunity to secure the good opinion of the community. If he simply schemes and hoards, he loses all that makes life worth the living—the respect of his neighbors here, the approval of his Maker hereafter. In the older States there are Colleges enough. The rich man who founds a new one to perpetuate his name, does no good and wastes his money. The endowment of colleges with age and traditions, in themselves a liberal education, helps us to obtain the best education and intellectual life. William H. Vanderbilt appreciated this, and selected for his benefaction the oldest medical college in the city."

Among the other speakers were Cornelius Vanderbilt; Daniel F. Gilman, President of Johns Hopkins University; the Rev. Dr. John Hall, Chancellor of the University of the City of New York; and Dr. William Pepper, Provost of the University of Pennsylvania. Letters of regret were read from Dr. Oliver Wendell Holmes; President Barnard, of Columbia College; President Dwight, of Yale University; Dr. Weir Mitchell, of Philadelphia; and Abram S. Hewitt, the Mayor of New York. In his letter, the Mayor said: "I am glad to say that the world more and more comes to the opinion that superfluous wealth is a public trust, and when this view is acted upon by those who have control of such wealth, we shall hear less of the sufferings of the poor, and of the antagonism which is believed to exist, but never can, between capital and labor."

On the same day as the inauguration exercises, the pavilion erected by Mrs. R. H. L. Townsend, at Bellevue Hospital, for the operative treatment of abdominal diseases in women, was formally presented to the city. The Rev. Henry S. Satterlee, in a few appro-

priate remarks, handed over the keys, in behalf of Mrs. Townsend, to the municipal authorities, represented by Commissioner Porter, of the Board of Charities and Correction, after which an informal reception and inspection of the new building followed. Six hundred patients of Bellevue Hospital were then treated to ice-cream and buns, in honor of the occasion.

— Dr. Smith, Health Officer of the Port, has announced that hereafter, the cargoes of vessels loaded with rags will be admitted without the delay and expense of disinfection, when they come with a clean bill of health from the sailing port. In order that they may escape this, it will be necessary that each invoice is accompanied by a certificate of the United States Consul at the sailing port that the rags were gathered in a country free from contagious or infectious disease.

— Of the eight cholera patients arriving in the *Alesia*, two have died at the hospital on Swinburne Island; and among the well passengers, who were transferred to Hoffman Island, there have been six cases and five deaths. Two new cases of the disease have developed.

— The position of Chief Inspector of Food and Chemical Analyses, on the Board of Health, has been abolished, and Dr. Cyrus Edson, who has held the post for a considerable time, has been made Chief Inspector of Contagious Diseases, in place of Dr. J. B. Taylor, resigned. Mr. Edward W. Martin, of the Columbia School of Mines, chemist to the department, is to take charge of the duties hitherto performed by Dr. Edson.

— Dr. Joseph D. Bryant, who has held the office of Surgeon-General of the State under both Governors, Cleveland and Hill, is one of the guests of President Cleveland on his Western and Southern trip.

Miscellany.

CURED PHARYNGEAL TUBERCULOSIS.

IN a case of apparent tuberculosis of the posterior palatine folds, to which he was called in consultation several years ago, Dr. J. Solis-Cohen reports in the *Polyclinic*, September, 1887, that he advised thorough cleansing of the ulcers with a sponge, and energetic applications of powdered iodoform, but gave an unfavorable prognosis. To his surprise, the case was cured; but he has heretofore hesitated to record it, on the ground of possible mistaken diagnosis. It may be mentioned that there was not the slightest reason to suspect syphilis, that antisyphilitic constitutional treatment had failed to arrest the disease, and that there were all the objective and subjective indications deemed characteristic of primary tuberculosis.

Quite recently a similar case was brought to Dr. Cohen, in which emaciation to the extent of thirty pounds had ensued within a few weeks, as a result, chiefly, of difficulty in nourishment. The parts were cocaineized, thoroughly scraped with a sharp spoon, and then energetically rubbed with a solution of lactic

acid, fifty per cent. This was repeated on several occasions with undiluted lactic acid until healthy granulation presented. Thorough cicatrization took place and the patient is for the time cured. Internally, one grain of iodoform and half a minim of creosote were administered in capsule thrice daily, after meals.

RESOLUTIONS ON THE LATE ALONZO CLARK, M.D.

At a meeting of the Board of Managers of the New York Society for the Relief of the Widows and Orphans of Medical Men, held September 21, 1887, Dr. Gouverneur M. Smith presiding, the death of Dr. Alonzo Clark, a late associate and benefactor having been announced, it was

Resolved, That this Board has heard with sincere sorrow of the death of Alonzo Clark, M.D., LL.D., and in view of his eminent service to the medical profession as scholar, instructor and counsellor, deems it fitting to place on record an expression of its appreciation of his eminent ability, singularly upright professional and private life, and of his zeal and ability as an investigator and lecturer.

Resolved, That the medical profession owes to him much of value in the advancement of medical science, while his ever loyal devotion to those needing his help and advice make his name one to be honored both by personal and professional friends.

Resolved, That, while there is in his death a sense of bereavement to those who knew him best, there is also the satisfaction of a long and honorable life, filled with results capable of accomplishing much of good to his fellowmen.

Resolved, That a copy of these Resolutions be sent to the family of Dr. Clark, and that they also be inscribed in full upon the minutes of this Board, and be published in the medical journals.

WILLARD PARKER, M.D.,
JOHN H. HINTON, M.D., } *Committee.*
ELLSWORTH ELIOT, M.D., }

At a special meeting of the Board of Trustees of the College of Physicians and Surgeons, held on the twentieth day of September, 1887, the following resolutions were passed:

Whereas, We have been called upon to deplore the death of our late associate, Dr. Alonzo Clark, a former President of the College of Physicians and Surgeons, and for more than thirty years a distinguished professor in the institution; therefore,

Resolved, That we hereby record our eminent regard for the dignity and influence of Dr. Clark's personal character and our high appreciation of his attainments and distinction as a teacher.

Resolved, That the College of Physicians and Surgeons is largely indebted to Dr. Clark, as one of the most learned and skilful physicians of his time, for its high reputation as a school of medicine, and that it is both appropriate and gratifying for us, as trustees of the institution, to express our sense of the obligation. Also

Resolved, That we offer to the family of the deceased the assurance of our respectful sympathy in their deep affliction.

Resolved, That the foregoing resolutions be inscribed upon our minutes; that a copy of them signed by the President and Registrar, be transmitted to the family of the deceased; and that they be furnished for publication to such medical journals as the registrar may elect.

WILLARD PARKER, M.D., *Secretary pro tem.*

Correspondence.

"AN M.D. IN NINE MONTHS." — REPLY.

DENVER, COL., September 25, 1887.

MR. EDITOR,—In the JOURNAL of August 4, 1887, you kindly published a communication from me headed "An M.D. in Nine Months." I purposely left all names blank, but the Medical Department of the University of Vermont, through its instructor in surgery, has taken the case to itself, and thinks that I have cast "undeserved reflections upon them." Not wishing to be unjust, even by implication, and with a view of correcting any reflection, which may "seem" to be undeserved, that my original communication placed upon the Medical Department of the University of Vermont, I have to request of you an opportunity of publishing the following letter from my friend, Dr. Wheeler, which letter has been put by him in the shape in

which he wishes it to appear in print, and is forwarded to you with his approval and consent.

BURLINGTON, VT., August 25, 1887.

DEAR DR. FISK.—Your communication to the *Boston Medical and Surgical Journal*, of August 4th, entitled "An M.D. in Nine Months," has attracted my notice. A person who is not specially interested in medical colleges would not be likely to know which one you mean by the "University of —," but your allusions are sufficiently definite to indicate to any one who is at all acquainted with the University of Vermont, that you refer to that institution. As I am one of its Board of Instructors, and as you charge us with being "lax in our requirements," and intimate that we are in the habit of grinding out doctors regardless of preparation or proficiency, I write in order to let you know all the facts in the case under consideration, some of which, I am sure, cannot have come to your knowledge. If you were a stranger to me I should not trouble you with this letter, but I know you, personally and professionally, too well to be willing that the University of Vermont should suffer undeservedly in your estimation, or that reflections upon its Medical Department which seems to me undeserved, should appear in print over your signature.

The Mr. X., to whom you refer, I take to be a gentleman by the name of —, who came here from Denver. If this supposition is correct, either you are mistaken as to the length of time which he has spent in the study of medicine, or we were mistaken as to the genuineness of his credentials. He did come here, as you say, "armed with a card stating that he had attended one lecture course, and a certificate of having passed a satisfactory examination in materia medica and chemistry," but his armament also included a diploma which declared him qualified to practice pharmacy in the District of Columbia, and a certificate from Dr. —, a reputable physician of Denver, stating that Mr. — had "studied medicine three full years." I do not understand how a man who can present such credentials, can justly be said to have become an M.D. in nine months. Here is a qualified pharmacist (not a "drug clerk") who studies medicine three full years (not exactly the course pursued by the average "office boy.") and then attends lectures for nine months, at the end of which time he is allowed to go up for graduation, and on passing creditable examinations (as the gentleman in question did) takes his degree. This may be laxity as compared with a three years graded course, but there are few, if any, of the "two-courses-of-lectures-and-three-years-of-study" colleges (which still include the majority of our leading institutions), which do not allow graduates in pharmacy who have studied medicine three years, to come up to graduation at the end of their second course of lectures, even if both courses have been attended within the same twelvemonth. It is allowed here, as elsewhere, but such men do not often succeed in graduating. Three of them tried it here this year, but — was the only one of the three who passed the examination.

The implication that the University of Vermont is the only college in which the second course of lectures could be taken within a twelvemonth of the first is erroneous. If a man with —'s qualifications were to take his first course here, he could, in the following winter, take his second course and degree from any medical college which holds its regular session at that time of year and does not require a three years graded course.

With further reference to the matter of laxity, I would state that of seventy-nine men who went up for graduation at the last Commencement of the Medical Department of the University of Vermont, only fifty-three succeeded in graduating. It does not strike me that a medical college which plucks thirty-three per cent. of its candidates for graduation can be very alarmingly "lax in its requirements." If there is another which can show as good a record, I should be glad to know it.

Sincerely yours, JOHN B. WHEELER, M.D.

Instructor in Surgery, Medical Department Univ. of Vt.

Accepting Dr. Wheeler's statement, I will say that the certificate of Doctor — and the additional certificate from the Board of Pharmacy, were sufficient evidence, so far as the University of Vermont was concerned, of Mr. —'s preparatory training.

However, the laying so much emphasis upon them as qualifications for obtaining the degree of Doctor of Medicine, and slighting the fact, which Dr. Wheeler admits, of two courses of lectures taken in nine months, the second one being of only sixteen weeks duration, seems to me a little like letting the tail wag the dog.

Moreover, I am at a loss to understand what Dr. Wheeler means by saying that they allow "graduates in pharmacy, who have studied medicine three years, to come up for graduation at the end of their second course of lectures, even if both courses have been attended within the same twelvemonth," unless he also wishes it to be understood that a very liberal construction is to be placed upon the

"Requirements for Graduation," as they appear in their published "announcement."

Under that heading in their "Announcement" for 1887, I read:

"Candidates for the Degree of Doctor of Medicine, before presenting themselves for examination, must have attended two full courses of lectures of *twenty weeks* duration each, the latter at this College, and the time elapsing between the beginning of the first and the end of the second being at least *fifteen months*" (*italics mine*). Further on they state: "*Two full courses of lectures of at least twenty weeks each are absolutely required,*" and in a footnote they emphasize the fact that their lecture-course has been extended from sixteen to twenty weeks.

In spite of these published statements, the Faculty of the Medical Department of the University of Vermont have, in the case cited by Dr. Wheeler, graduated a man who attended both of his lecture-courses within the space

of about nine months, the second course being only sixteen (not twenty) weeks in duration.

I would also remind Dr. Wheeler, in passing, that a man is not a "graduate in pharmacy," simply because he has a certificate from an Examining Board, of a State or District, entitling him to practice pharmacy; any more than he would be a "graduate in medicine" because he bore a certificate from a State Board of Medical Examiners.

Instead of laying so much stress on certificates, over which they have no control, it does seem as though this Faculty would have done better to have insisted upon the fulfilment of their "Requirements," over which they have absolute control.

It is no excuse that others do the same thing. The system is, I think, wrong, by whomsoever practised, and in all that I have written, my purpose has been simply to call attention to this process of quick parturition in medical education.

SAMUEL A. FISK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 24, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	693	287	26.10	13.49	13.05	2.03	7.40
Philadelphia	993,801	358	136	15.84	11.76	2.36	6.72	4.20
Brooklyn	745,108	329	146	21.90	13.20	8.70	.90	9.30
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	136	55	22.20	14.80	14.80	2.22	2.22
Boston	400,000	192	80	18.72	16.12	6.24	2.60	3.12
New Orleans	242,750	134	35	32.08	11.73	2.76	.69	2.76
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	96	28	20.80	16.64	6.24	4.08	4.08
Pittsburgh	210,000	82	42	29.12	3.12	5.20	5.20	15.60
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	77	46	32.25	6.45	21.93	2.58	2.58
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	13	3	46.14	15.38	30.76	7.69	—
Charleston	60,145	45	14	22.22	16.66	11.11	2.22	4.44
Portland	40,000	13	2	7.69	30.72	—	—	7.69
Worcester	68,383	24	16	29.12	8.32	20.80	4.16	4.16
Lowell	64,051	38	16	21.04	13.15	13.15	7.89	—
Cambridge	59,660	21	11	38.08	9.52	23.80	9.52	—
Fall River	56,863	36	15	27.77	11.12	16.68	8.34	—
Lynn	45,861	14	4	7.14	28.56	7.14	—	—
Lawrence	38,825	9	5	—	33.33	—	—	—
Springfield	37,577	22	6	27.30	13.65	4.55	—	18.20
New Bedford	33,393	18	5	50.00	16.66	11.11	5.55	27.77
Somerville	29,992	8	6	37.50	12.50	12.50	—	—
Salem	26,084	14	3	28.56	14.28	7.14	7.14	14.28
Holyoke	27,894	7	4	28.56	28.56	28.56	—	—
Chelsea	25,709	8	1	12.50	25.00	—	—	—
Taunton	23,674	6	1	33.33	16.66	—	33.33	—
Haverhill	21,795	11	3	18.18	18.18	—	—	18.18
Gloucester	21,713	8	3	12.50	25.00	—	—	—
Brockton	20,783	8	0	12.50	—	—	—	12.50
Newton	19,759	7	1	42.84	14.28	—	28.56	—
Malden	16,407	3	0	—	—	—	—	—
Fitchburg	15,375	6	1	33.33	16.66	—	16.66	—
Waltham	14,609	4	1	—	—	—	—	—
Newburyport	13,716	6	3	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,336: under five years of age 979; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, and fevers) 564, consumption 321, lung diseases 176, diarrhœal diseases 230, diphtheria and croup 149, typhoid fever 78, malarial fever 44, scarlet fever 18, whooping-cough 17, cerebro-spinal meningitis 16, erysipelas five, puerperal fever four, measles three. From malarial fevers, New Orleans 23, New York seven, Brooklyn six, Baltimore and District of Columbia three each, Nashville, and Charleston one each. From cerebro-spinal meningitis, New York five, Milwaukee three, Philadelphia, Pittsburgh, Cambridge, Fall River, Springfield, Somerville, Chelsea and Gloucester one each. From scarlet fever, Boston six, New York five, Philadelphia and Brooklyn two each, Pittsburgh and Nashville one each. From whooping-cough, Boston six, New York three, Philadelphia two, Brooklyn, Baltimore, Pittsburgh, Milwaukee, Charleston and Somerville one each. From erysipelas, New

York and District of Columbia two each, Brooklyn one. From puerperal fever, New York, District of Columbia, New Bedford and Newton one each. From measles, New York two, Boston one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending September 10th, the death-rate was 18.8. Deaths reported 3,333: infants under one year of age 1,072; acute diseases of the respiratory organs (London) 160; diarrhœa 469, scarlet fever 95, whooping-cough 83, fever 57, measles 32, diphtheria 28, small-pox (Sheffield three, Bristol one) four.

The death-rates ranged from 12.2 in Derby to 29.1 in Preston; Birmingham 16.9; Blackburn 22.8; Bradford 24.2; Hull 23.6; Leeds 17.4; Leicester 19.0; Liverpool 21.0; London 16.7; Manchester 25.2; Nottingham 20.2; Sheffield 19.8; Sunderland 19.3.

In Edinburgh 18.8; Glasgow 19.4; Dublin 27.9.

The meteorological record for the week ending September 24, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sept. 24, 1887.																			
Sunday, ... 18	30.40	57.0	68.0	47.0	65.0	60.0	74.0	66.0	N.W.	E.	W.	3	8	14	C.	C.	C.		
Monday, ... 19	30.19	65.0	78.0	51.0	82.0	58.0	72.0	71.0	W.	W.	N.W.	12	19	11	C.	C.	C.		
Tuesday, ... 20	30.30	56.0	65.0	51.0	63.0	58.0	63.0	61.0	N.W.	S.E.	W.	12	8	6	C.	C.	C.		
Wednes., ... 21	30.04	64.0	76.0	48.0	72.0	50.0	82.0	68.0	W.	S.W.	S.W.	6	12	12	C.	H.	H.		
Thursday, ... 22	29.74	63.0	70.0	50.0		65.0	73.0	78.0	S.W.	W.	W.	15	8	8	R.	O.	O.		
Friday, ... 23	29.87	52.0	60.0	44.0	63.0	55.0	67.0	62.0	N.	N.	N.	10	18	16	O.	O.	C.		
Saturday, 24	30.02	48.0	53.0	40.0	66.0	63.0	67.0	65.0	N.	N.E.	N.W.	14	18	11	C.	O.	F.		.05
Mean, the Week.	30.08		67.0	49.0				67.0										8	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 24, 1887, TO SEPTEMBER 30, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Granted leave of absence for one month and fourteen days, to take effect upon his being relieved from duty at United States Military Academy. S. O. 223, A. G. O., September 24, 1887.

JOHNSON, R. W., captain and assistant surgeon. Granted leave of absence for twenty-one days, to be taken advantage of so that he will return to his station at latest by the middle of October, 1887. S. O. 204, Division of the Atlantic, September 23, 1887.

DUTZ, W. D., first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 223, A. G. O., September 24, 1887.

KNUDSEN, WM. L., first lieutenant and assistant surgeon. Ordered to accompany Light Battery "F," 4th Artillery, from Fort Snelling, Minn., to the International Military Encampment at Chicago, Ill. S. O. 97, Department of Dakota, September 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 1, 1887.

MEANS, V. C. B., assistant surgeon. Ordered for examination preliminary to promotion.

DERE, E. Z., passed assistant surgeon. Detached from Navy Yard and to the "Nipsie."

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from Naval Academy, Annapolis, Md., and wait orders.

RUSSELL, A. H., passed assistant surgeon. Ordered to the Naval Academy, Annapolis, Md.

HERNDON, C. G., passed assistant surgeon. Detached from Naval Dispensary, Washington, D. C., and to the "Enterprise."

ARTHUR, GEORGE, passed assistant surgeon. Detached from the Museum of Hygiene, Washington, D. C., and to the Naval Dispensary.

GRIFFITHS, S. H., passed assistant surgeon. Ordered to the Museum of Hygiene, Washington, D. C.

SPEAR, J. C., medical inspector. Leave of absence granted until July 1, 1888, with permission to leave the United States.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, October 12th, at 7.45 o'clock. Papers: Dr. W. Everett Smith, "A Case of Poisoning from Arsenical Wall-paper." Dr. F. W. Stuart, "A Case of so-called 'Vicarious Menstruation.'" Members having specimens or other objects of interest to the profession, are requested to present them at this meeting.

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

THE VERMONT STATE MEDICAL SOCIETY. — The Seventy-Fourth Annual Meeting of the Vermont State Medical Society will be held in the new Court-Room, State House, Montpelier, Vt., Thursday and Friday, October 13 and 14, 1887.

DEATHS.

Died in Lynn, Mass., September 28, 1887, John Ambrose McArthur, M.D., M.M.S.S., aged fifty-seven years.

Died in Hanover, Mass., September 29, 1887, John Odoway French, M.D., M.M.S.S.

RESOLUTIONS ON THE LATE DR. JOSEPH C. HUTCHINSON.

At a meeting of the Medical Staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted.

The long and active connection of our friend and associate, the late Dr. Jos. C. Hutchinson, with the Brooklyn Hospital, was characterized by earnest and unflinching devotion to its interests. His preëminent professional skill, his large and varied experience, his conservative and accurate judgment, his genial manner and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestions that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city.

Contributing as he did by his dignified presence and his many graceful accomplishments to the adornment and advantage of the enterprise, culture and benevolence of the city, the Brooklyn Hospital was nearer to his heart than any other interest, and to it were given his utmost care and the best of his gifts.

D. E. KISSANE, M.D., President.

ARTHUR R. PAINE, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

Twenty-Third Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of Training-School for Nurses. 1886.

Insanity: its Classification, Diagnosis and Treatment. A Manual for Students and Practitioners of Medicine. By E. C. Spitzka, M.D., President of the New York Neurological Society, etc. New York: E. B. Treat. 1887.

Handbook of Gynecological Operations. By Alban H. G. Doran, F.R.C.S., Surgeon to Out-Patients Samaritan Free Hospital for Women and Children, London, etc. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

Lessons in Gynecology. By Wm. Goodell, A.M., M.D., Professor of Clinical Gynecology to the University of Penn. Third Edition. Thoroughly revised and greatly enlarged with 112 illustrations. Philadelphia, Pa.: D. G. Brinton. 1887.

Notes embodying Recent Practice in the Sanitary Drainage of Buildings, with Memoranda on the Cost of Plumbing Work. By Wm. Paul Gerhard, C.E., Consulting Engineer for Sanitary Work, (New York City). New York: D. Van Nostrand. 1887.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By Condit W. Cutler, M.S., M.D., Assistant Attending Physician for Skin and Venereal Diseases, at the New York Hospital Out-door Department. New York: G. P. Putnam's Sons. 1887.

Oxygen as a Therapeutic Agent. Its Germicidal and Healing Qualities; its Consequent Adaptability to the Treatment of Consumption and Pulmonary and Throat Troubles generally; its Place in Surgery. With a Report of Twenty Cases treated in the Practice of Drs. Rothwell. By P. D. Rothwell, M.D., Denver, Col. Denver, Col.: W. W. Rea. 1887. (Reprint.)

Original Articles.

INJURIES OF AND OPERATIONS UPON THE KIDNEY.¹

BY EDWARD O. OTIS, M.D.

THE heart, lungs and kidney have been aptly called the three legs of the human tripod. Destroy or impair the integrity of any one of these three, and the vessel totters or is broken. Consequently, whatever interferes with the proper physiological function of these organs, be it disease or injury, must always be of the highest interest to the practitioner. When this interference comes from an injury or can be remedied by surgical device, the interest and attention of the surgeon is at once engaged. Of these three organs, up to the present time, with one or two exceptions in favor of the lungs, surgery has had only to do with the kidneys, and that of comparatively recent date.

I propose first to speak of injuries of the kidney, and secondly of operations upon it.

The kidneys, although so snugly and deeply enshrouded in the body, are in that part of it which is naturally exposed to many dangers. Vehicles, car buffers and the like are about the right height to strike that portion of the body containing these organs, and their injury is no uncommon thing. Falls, compression between two unyielding bodies, blows, a falling mass, are generally the causes which produce the accident. Muscular strain may do it, and I have seen a comparatively light blow from a boxing glove produce one of the most characteristic signs of the injury, hæmaturia. The injury may be slight or severe; a simple contusion or bruise, or a multiple laceration. It may be subcutaneous, or communicating with an open wound. The peritoneum may or may not be involved. All parts of the kidney have been torn and lacerated; the most dangerous portion to be injured is the pelvis with the renal vessels.

The diagnosis of a subperitoneal injury can generally be pretty surely determined, but not always, as one of the cases which will be cited later testifies. We have as signs, the nature and circumstances of the accident; pain, more or less intense over the injured kidney; hæmaturia generally; retention of urine and retracted testicle sometimes; a tumor in the loin, dull on percussion, rarely occurs; and if the injury is a severe one there are the ordinary signs of shock and collapse. Of course there are many variations and combinations of these symptoms, and, as I have said, all or nearly all, may be absent. The prognosis, of course, depends upon the severity of the accident, and the amount of injury the kidney has sustained. If a simple contusion or bruise, as illustrated by the first case I shall presently give, the symptoms soon disappear and the patient is well. In lacerations, where the kidney is ruptured or crushed, the case is different, but even here authorities agree with Mr. Harrison, who says that "lacerations of the kidney is a lesion more frequently recovered from than any corresponding one of an internal organ."

Maas² gives an interesting series of experiments upon animals where the kidney was artificially rup-

tured or incised, and the number of recoveries are noteworthy.

By incision into the kidney no fatal result ensued. In certain cases where he severely ruptured the kidney, atrophy of the injured organ followed, and the remaining kidney performed the functions of both. In other cases cicatrization without subsequent symptoms followed: and in still others hydronephrosis and abscess resulted with necrosis of a great part of the kidney substance. In these experiments the most prominent symptom of rupture was hæmaturia. Maas³ has also collected seventy-one cases of kidney injury, of which thirty-seven recovered and thirty-four succumbed, but of these thirty-four he says in only sixteen is the injury itself to be looked upon as sufficient cause of death. Bloch⁴ records forty cases with twenty-three deaths; and Simon⁵ ten, with seven deaths. I have collected twenty-seven cases (1879 to 1887) with eleven recoveries and sixteen deaths. Adding these twenty-seven cases to Maas' seventy-one [Maas probably included the cases of Bloch and Simon in his number,] we have ninety-eight cases with fifty deaths or a mortality of 51.02 per cent. (for subcutaneous injuries.)

A fatal result in an injury of the kidney may be caused by hæmorrhage, either primary or secondary, peritonitis, suppuration, abscess, and concomitant lesions of other organs. Maas in his cases found primary hæmorrhage as a cause of death relatively seldom. The treatment of the more severe cases—laceration and rupture—demand particularly our attention, for the question of surgical interference may come up. The cases of little gravity get well of themselves, with rest and expectant treatment.

Knowing, then, that the crush, blow, or fall over the kidney was a severe one; having profuse hæmaturia, intense pain in the loins, symptoms of collapse and the general signs of severe hæmorrhage; we can feel sure that we have to do with a ruptured or lacerated kidney, which may involve both the renal vessels and the peritoneum. What is to be done? The first thing, obviously, is to arrest the hæmorrhage, and without operative interference only indirect means can be used to accomplish this. Of the first importance is perfect and prolonged rest in bed; a disregard of this cardinal principle was followed with disastrous results in one of the cases reported, as you will see. The best external application is an ice-bag. Morphia subcutaneously or opium per anum must be given to alleviate pain and restlessness. Then comes the internal administration of astringents, and I should doubt if any of them do much good. They are ergot, tannin, gallic acid, acetate of lead, iron, matico, hydrastis, hamamelis, rhubarb, aromatic, and others. The food should be liquid like milk and ice, and no stimulants should be given. Intestinal and gastric activity are to be reduced to a minimum. Catheterization may and probably will be required, and if the bladder is filled with clots, Mr. Morris suggests breaking them up with a lithotrite. The plan suggested by Dr. F. N. Otis⁶ for dissolving clots in the bladder, by injecting into it a pepsin solution (a drachm of pepsin to two or three ounces of water), seems to me to be worthy of trial. Cystotomy may have to be performed to give exit to

¹ Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.

² Klinische und Experimentelle Untersuchungen über die Subcutanen Quetschungen und Zerreissungen der Nieren, Deutsche Zeitschrift für Chirurgie, Vol. X. 1878.

³ Loc. cit.

⁴ Bloch, De la contres du rein, Thèse, Paris, 1873.

⁵ Simon, Chirurgie der Nieren, II. Theil, Stuttgart, 1876.

⁶ "Genito-Urinary Diseases and Syphilis," by F. N. Otis, M.D., New York, 1883, p. 466.

the clots, as was done in a case of Mr. Rawdon's, reported by Mr. Morris.⁷

If, in spite of these means, the hæmaturia continues, and an increasing anæmia and collapse, accompanied perhaps with dullness and swelling in the loin, indicates that the hæmorrhage is still active, and a probability that the pelvis of the kidney has been involved, the only resource left is surgical interference. Simon's⁸ points, which seem sufficient for an operation, are *strong collapse and swelling* in the region of the injured kidney.

This should be either an abdominal or lumbar incision; the latter is the operation to be at first thought of and done, and only in case one fails in this way to reach and tie the source of the hæmorrhage, or there are clots in the peritoneal cavity—the peritoneum having been torn—is abdominal section to be considered. A previous lumbar incision in no way prejudices a later abdominal one, so far as I can see. Moreover, the operation should be done, as Mr. Reeves⁹ says, "before the patient is too weakened by hæmorrhage, and before septic phenomena have been allowed to develop."

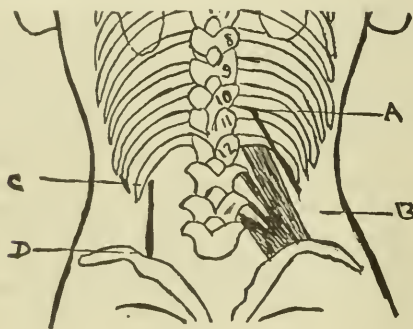


FIG. 1.

For injuries, the vertical incision (Fig. 1, C D), seems the most natural one, over the swelling if it exists, if not, from just below the twelfth rib to the crest of the ilium, along the external border of the quadratus lumborum muscle, or about three inches from the spine. If more room is desired, a second incision can be made from near the top of the vertical one outwards, about one-half an inch below the twelfth rib;

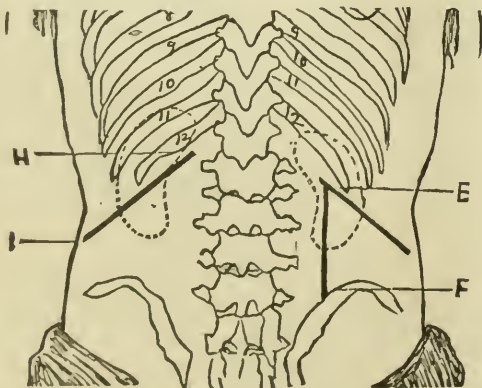


FIG. 2.

the whole incision will then be in the form of an inverted L (Fig. 2, E F). The ribs can also be strongly

raised by retraction. The oblique incision, as in nephrotomy, is also equally good. The kidney, or what remains of it, having been reached, all clots, effused blood, and debris are to be removed, and the cavity thoroughly cleaned with an antiseptic fluid. The source of hæmorrhage is to be sought for and ligated. In cases of such serious gravity as to call for an operation, the pelvis of the kidney will probably be broken into and the renal vessels injured. These with the ureter should be ligated and the renal remnants removed; a nephrectomy done, which procedure receives the sanction of both Mr. Reeves¹⁰ and Mr. Morris.¹¹ "Nephrectomy will in future," says the latter, "be probably adopted as giving the best prospect for recovery." That it has been done many times up to the present date, for wounds and lacerations, I find no evidence, and can only refer to five cases cited by Dr. Weir¹² in which it was done, and successfully so in three.

If the hæmorrhage has been stayed, an immediate operation, at least, is not indicated, but there are other dangers to be guarded against. Peritonitis is one, which, if it occurs, is to be treated in the usual way; or, knowing that it is of traumatic origin, abdominal section may properly be thought of. Extravasation, suppuration, and pyonephrosis are other late dangers, indicated by general constitutional symptoms, fever, rigors, etc., and often dullness and a tumor in the loin. All of these three last conditions call for lumbar incision and drainage. "If the kidney, by suppuration, is structurally destroyed, it is to be removed."¹³ If the symptoms do not give clear evidence of fluid beneath, aspiration can first be resorted to. Septic decomposition in the bladder is still another danger, and, for its relief, washing out the organ with antiseptic solutions is required, or even cystotomy.

Compound fractures or injuries of the kidney are caused by firearms and penetrating instruments. They are rare in civil life. There are two symptoms which, if present, are pathognomonic of a wound of the kidney—hæmaturia and escape of urine from the wound. Of course, there are cases in which the evidences of an injury of the kidney are not clear, and only accumulate later.

The dangers are the same as in subparietal injuries, and are to be combatted in the same way. An operation may be demanded, as in the other class of cases, and under similar circumstances. In the seventy-eight cases reported in the medical and surgical history of the War, twenty-six recovered. Nephrectomy or nephrotomy was not done in any case; probably more cases would have been saved if they had been. "If life be threatened by hæmorrhage or suppuration, the kidney ought to be removed by lumbar nephrectomy."¹⁴ The external wound should be treated on general antiseptic principles.

I am aware that I have only given, in relation to injuries of the kidney, about what are the opinions and experience of all modern surgeons. The one point I wish to emphasize is the recourse to an operation—lumbar or abdominal incision, with nephrotomy or nephrectomy, and ligation of the ruptured vessels, when other means fail to control the hæmorrhage—and the doing of this just as soon as it is evident that

¹⁰ Loc. cit.

¹¹ Encyclopædia of Surgery, Vol. V, p. 879.

¹² New York Medical Journal, Dec. 27, 1884, Vol. xl, p. 721.

¹³ Injuries of the Kidney. R. Clement Lucas. Lancet, I, 1884.

¹⁴ Morris. Loc. cit.

⁷ Surgical Diseases of the Kidney, Henry Morris, p. 144.

⁸ Loc. Cit.

⁹ The Lancet, Oct. 4, 1884.

the bleeding is jeopardizing the life of the patient. Also, if the danger from primary hæmorrhage is past, a later operation of the same kind for suppuration, extravasation, or pyonephrosis.

In concluding this part of my paper, I can, perhaps, make it more vivid by giving a few illustrative cases from among those I have collected.

ILLUSTRATIVE CASES.

CASE I. My own. A student was thrown violently down in a game of foot-ball. Severe pain in the lumbar region, over the kidney, and hæmaturia followed; also some difficulty in micturition. Rest in bed, poultice over the loin, and ergotin were prescribed. The hæmaturia ceased in one or two days. He grew rapidly better, and in a week or ten days was up and about. Several weeks after the accident, he reported himself as feeling perfectly well. This illustrates one of the lighter forms of injury, and might, perhaps, be called a bruise of the kidney.

CASE II. Reported by W. Macfie Campbell.¹⁵ Supposed rupture of the kidney. A boy of fourteen years, in leaping over a hedge, struck first on his feet, and then fell and rolled over on his left side. He picked himself up, and walked some distance. There followed shock, intense pain over the left kidney, and more or less profuse hæmaturia, which disappeared in a few days. Later, some rise of temperature for a few days. The treatment was perfect rest, liquid diet, gallic acid, and opium, with ice over the injured kidney. The ice was the only thing which relieved the intense pain, which returned as soon as it was removed. In a microscopic examination of the urine, blood, casts and traces of broken tubules were found.

The pain disappeared in two days, and he was sitting up in seven days. He became and remained entirely well. The author bases his diagnosis of rupture upon the immediate violence of the symptoms, the amount of blood lost, and the presence of blood casts and broken tubules. He further adds that "the differential diagnosis between rupture and contusion is by no means easy, nor for treatment is it essential."

CASE III. Reported by W. Y. Eales.¹⁶ Crush and rupture of the kidney. The accident was caused by a mass of coal falling upon the patient. The injury was followed by collapse, intense pain in the right lumbar region on deep breath, and hæmaturia. Death occurred sixty hours after the accident, from anæmia and shock. On autopsy, a large quantity of blood was found in the peritoneal cavity, and, behind the right kidney, was an enormous amount of blood-clots and effused blood. The kidney itself was, in its upper half, smashed to a pulp, and, in its lower half, was a small, deep, jagged wound. No wound of the trunk artery or vein was detected. The ureter was blocked by blood-clots.

One thinks of an operation in a case like this as soon as the hæmorrhage was seen to be alarming, but, in the light of the autopsy, only an abdominal section would probably have offered any chance of success.

CASE IV. Reported by W. Jas. Spence.¹⁷ Rupture of the kidney; death on the forty-seventh day. The patient was struck in the right flank by the revolving handle of a travelling crane, and knocked down a cutting some sixteen or seventeen feet deep. Collapse ensued, with pain and hæmaturia. An ice-bag was ap-

plied to the loin, and opium given. The hæmaturia continued more or less profusely for eight days, when it subsided under large doses of iron. On the nineteenth and twentieth days after the accident, the patient sat up for two or three hours each day. On the twenty-first day hæmaturia recurred, and, with two days intermission, continued until he died of exhaustion, forty-seven days after the accident. Lead, ergot, turpentine, and other remedies were tried without avail.

At the autopsy, a rent was found in the medullary substance at the upper part of the right kidney. This rent was filled with a decolorized and partly-organized clot. The pelvis of the kidney, the ureter, and bladder, were distended with blood-clots.

Here, again, was not an operation indicated when the secondary hæmorrhage occurred, and all other means to stay it had failed? Incidentally, the case shows the disastrous effect of movement, for all was going well when the patient sat up.

CASE V. Reported by T. W. Stokes.¹⁸ The patient was crushed between the buffers of two cars, and was supposed to have sustained a laceration of the liver, no symptoms pointing to an injury of any other organ. The urine was drawn, and found clear. Pain not very intense, and chiefly confined to the region of the liver. Death occurred four days after the accident. At the autopsy, besides extensive injury to the liver, the right kidney was found to be extensively torn, the lacerations running transversely, and extending almost to the sinus, but not in it, which, the author thinks, accounts for the absence of hæmaturia. The kidney tear was completely sealed up and in process of healing, its edges being glued together by lymph. The immediate cause of death was secondary hæmorrhage, probably from one of the lacerations of the liver.

The case is interesting, as showing the process of repair in a badly-lacerated kidney, and the absence of almost all the signs of a rupture of that organ. The author's reason for the absence of hæmaturia was probably the correct one.

CASE VI. Reported by M. Maunoury.¹⁹ A carter was crushed between his cart and a post. The day after the accident, he noticed that his urine was bloody, but he paid no attention to it, and in a few days resumed his work. Hæmaturia, however, continued, and finally retention followed. He applied to a pharmacist, who catheterized him. Later, fever appeared, and other serious symptoms, and he entered a hospital. Here evidences of extensive suppuration were found, and a tumor detected in the left lumbar region. Aspiration showing pus, a lumbar incision was made, giving exit to almost a quart of pus, mixed with fragments of renal tissue, the total mass of fragments weighing nearly two ounces. The vast cavity was washed out, and an antiseptic dressing applied. Healing was complete in about a month and a half.

It is marvellous that, with so serious a laceration as this evidently was, the symptoms, at the first, should have been of so little intensity.

OPERATIONS UPON THE KIDNEY.

Two cases occurring in my own practice, the one fatal, and the other full of suffering, have indelibly impressed upon my mind the importance of surgical interference in certain affections of the kidney, notably calculus and suppurative lesions, as affording the only

¹⁵ *Liverpool Medico-Chirurgical Journal*, 1884, Vol. IV, p. 425.

¹⁶ *Lancet*, March 13, 1886.

¹⁷ *Medical Times and Gazette*, 1885, I, p. 9.

¹⁸ *Dublin Journal of Medical Sciences*, 1880, Vol. LXIX, p. 61.

¹⁹ *Revue de Chirurgie (Paris)*, 1885, V, p. 418.

deliverance in otherwise hopeless cases. The one case was that of a young married man, who, for years, suffered from symptoms of renal calculus, enduring the most excruciating and convulsive pain of renal colic, and for which he vacillated between opium-eating and rum-drinking, becoming a curse to himself and his unhappy family. The other case²⁰ was also that of a young man just beginning a professional career, from which he had much to hope, afflicted with a suppurative affection of one kidney. After dragging out a wretched existence for two years, he died of pyæmia, and the autopsy revealed an enormously dilated, pus-secreting sac in the place of the kidney. Both of these lives, I believe, might have been restored to usefulness and comparative health through the intervention of surgery.

To Simon, of Heidelberg, and Morris, of London, the surgical profession is indebted for firmly establishing the operations of nephro-lithotomy and nephrectomy, nephro-lithotomy having been first performed by the latter in 1880, and nephrectomy by the former in 1869.

Besides these two operations, with which the remainder of this paper will be chiefly concerned, we have nephrotomy, nephrorraphy, paracentesis, and what Mr. Lucas²¹ makes a distinct operation, exploration of the kidney, which is but a part of nephro-lithotomy.

Within the last few years, recorded cases of operations upon the kidney have been rapidly multiplying, and the literature upon the subject is becoming voluminous. Gross's²² paper, based upon an analysis of nearly four hundred and fifty cases of all kinds, embracing all he could collect up to May 15, 1885, is well known to you.

I have collected, of cases recorded since that date, sixty-eight operations of all kinds, as follows:²³

Nephrectomies, 28 with 6 deaths, 21.42%. Of these 18 were lumbar with 2 deaths, 11.11%; and 8 abdominal, with 4 deaths, 50%; the incision in two cases was unknown. Nephrotomies, 13 with 4 deaths, 30.77%. Nephro-lithotomies, 21 with 2 deaths, 9.52%. Exploration, 2 with no deaths. Nephrorraphy, 4 with no deaths.

Of these sixty-eight cases, thirty-two were for calculus, in which nephrotomy was done nine times, with one death; nephrectomy twice, with one death; and nephro-lithotomy twenty-one times, with two deaths. I have added these cases to Dr. Gross's, and give a synopsis of the result.

The indications and technique of nephro-lithotomy and nephrectomy have been carefully discussed by surgeons of all countries, and, at the present time, the tendency is toward a greater precision in diagnosis, and earlier surgical interference.

With regard to the indications for nephrectomy, for a broad rule, Simon's²⁴ is a good one: that when a reasonable certainty exists that one kidney is healthy, and the other is the seat of advanced and irremediable disease, its extirpation is justifiable.

SYNOPSIS OF GROSS'S CASES WITH SIXTY-EIGHT ADDITIONAL ONES ADDED THERETO, COLLECTED SINCE MAY 15TH, 1885, THE DATE OF HIS PAPER.

	No. of cases	Recovered	Died	Per cent. died
Nephrectomies both lumbar and abdominal for all causes	261	153	110	42.14
Nephro-lithotomy . .	42	38	4	9.52
Nephrotomy (lumbar)	116	89	27	23.28
Nephrorraphy	22	21	1	4.54
Exploration	31	31	0	0

SUPPURATIVE LESIONS FROM ALL CAUSES.

Nephrectomy	90	55	35	38.88
Nephrotomy	104	79	25	24.04

INCISIONS.

Lumbar	129	86	43	33.33
Abdominal	128	63	65	50.78

Nephrectomy, says Wagner,²⁵ is urgently indicated in cases in which the renal lesion directly threatens life. As, for instance, in cases of severe injury of the organ, and malignant disease. In suppurative affections, if the disease be progressive, has caused emaciation and hectic fever, and is likely to be associated with general amyloid degeneration. Braun²⁶ adds cases of fistula of the ureter which cannot be healed, and injuries of the kidney, where an open wound permits a clear recognition of the injury. He finds, further, that nephrectomy for malignant tumors give bad results, while, on the contrary, the results from this operation for pyelitis and pyelo-nephrosis are remarkably good, he having obtained twenty-three complete recoveries from thirty-eight operations. In hydro-nephrosis, he is in doubt whether a fistula or extirpation is the better procedure. Gross, and many others, hold that nephrectomy should not be resorted to as a primary operation in suppurative lesions, but only after a previous nephrotomy. No hard and fast rule can be laid down, it seems to me, but the surgeon must be governed in his decision very much by the condition of the case and patient. One thing is certain, that nephrectomy is being more frequently done every year; and Tillaux's²⁷ opinion, that it is an operation which ought to be reserved for very exceptional cases, is receiving a less rigid interpretation.

It is, of course, a very serious matter to leave the patient with only one kidney, ignorant as the operator is of the exact condition of that one, or, in fact, if it exists, though this last risk is a small one, for out of eight thousand and sixty-six post-mortem cases, according to Mr. Morris, there were but two instances of congenital absence, and one only of congenital atrophy of the kidney. That a single kidney is capable of eliminating sufficient urine for the maintenance of health, is sufficiently well established: that it so increases its functional powers as to perform the full amount of work formerly performed by the two kidneys, seems to me to be extremely doubtful. At

²⁰ Boston Medical and Surgical Journal, March 27, 1884.

²¹ British Medical Journal, September 29, 1883.

²² American Journal Medical Sciences, July, 1885.

²³ Operators: Knaggs, Dickinson, and Pouse, Polakion, Colquhoun, Croft, Hill, Bogue, Hatch, Thornton, Elder, Lucas-Championnière, Nicholson, Whitehead, Owen, Clarke, Donkin, C. Mac Namara, Shepherd, Watson, Briddon, Park, Wright, Heilbrun, Edis, Walsburn, Inulach, Browne, Wright, Clark, Paul, Lauenstein, Franks, Page, Lloyd, Cheesman, Agnew, Gross, Lange, Edel, Trelet, Sadler, Howard, Paoli, Orłowski, Lucas, Ferreri, Cullingsworth, Waddin, Pallaster, Pickering, Morris,

²⁴ Chirurgie der Nieren,

²⁵ P. Wagner, Casuistische Beiträge zur Nierenchirurgie. Deutsche Ztschr. f. Chir. (Leipzig), 1886, XXIV, 505-592.

²⁶ Ueber die Indikationen zur Nephrectomie. Centralblatt für Chirurgie, No. 14, 1886.

²⁷ Anatomie Topographique, Troisième édition, p. 700.

all events, the man with one kidney is very like the showman with his head in the lion's mouth, who calls out: "Is he wagging his tail? for, if so, it is all over with me." If this one kidney is attacked with disease, it is likely to be all over with him.

(To be continued.)

THE THERAPEUTIC VALUE OF MALT.

BY CHARLES W. TOWNSEND, M.D.

ONE of the fashionable remedies of the present day is the extract of malt in the form of one of its numerous preparations. Its valuable properties are generally considered to be: first, the concentrated nutriment it contains; second, the digestive power it possesses owing to the presence of diastase. From its first property it is indicated in cases of malnutrition where a concentrated food is desired, and one that is in a condition to be directly absorbed. From its second property it would seem to be indicated in cases of starchy dyspepsia, where some artificial ferment is needed to aid or supply the place of the natural ones in digesting starch. That the diastase found in malt and in good malt extracts is capable of digesting starch at the temperature of the body in a test-tube is a fact easily confirmed. Will malt do this in the alimentary canal? If not, malt given after a meal, as is usually prescribed, is of value only from its contained nutriment and its diastatic power is simply wasted. In the test-tube experiment malt and starch are brought in contact in a watery medium and are raised to the temperature of the body, but in the stomach the malt would have to act on the starch in the presence not only of the other solid and fluid ingesta and the products of their digestion and decomposition, but also in the presence of the gastric juice. Now it may be that the diastase is either destroyed or its action so hindered by the acids produced by fermentation from the ingesta, or by the hydrochloric acid of the gastric juice, or by that and pepsin combined that it is unable to act on the starch. To determine this point the following experiments were performed: First, the effect of various percentages of hydrochloric acid on the diastatic power of malt. Second, the effect of pepsin alone and of pepsin combined with hydro-chloric acid on this power. Third, the diastatic power of malt in the stomach of the living animal.

To test the action of malt in the presence of hydrochloric acid, a water bath was used, kept at a temperature between 99° and 104° F. by an alcohol lamp. In each experiment one ounce of clear starch paste, made by boiling fifteen grains of starch in one ounce of water, was used, and thirty minims of a liquid extract of malt. This proportion of malt to starch was larger than was really needed to convert the starch to sugar, but saved time and made the results of the experiments more satisfactory. Chemically pure hydrochloric acid was used, and the percentages calculated are those of the anhydrous acid. The paste, paste and water or paste and acid solution were first put in the vessel in the water-bath, the malt was then added, and the solution tested every few minutes by placing a drop in one of a series of test-tubes containing a solution of tincture of iodine, in the proportion of two drops to the ounce of water. The experiments were continued from twenty-five to forty-five minutes, and most of them were verified by repetition.

No.	Paste	Water	Percentage of HCl.	Malt	Result
1	1 oz.	....	....	30 m.	Paste liquefied in two minutes, all changed to sugar in ten minutes
2	1 oz.	6 oz.	....	30 m.	In one minute starch mostly changed to sugar as shown by purple tint with iodine; all changed to sugar in seven minutes
3	1 oz.	....	.2 or 1-5 per cent.	30 m.	Starch as abundant at end of twenty-fifth minute as end of first minute
4	1 oz.	6 oz.	.03, about 1-33	30 m.	Starch as abundant at end of twenty-fifth minute as end of first minute
5	1 oz.	6 oz.	.015, about 1-66	30 m.	Experiments continued for forty-five minutes and starch still found as abundantly as at first
6	1 oz.	6 oz.	.0111, about 1-90	30 m.	Experiments continued for forty-five minutes and starch still found as abundantly as at first
7	1 oz.	6 oz.	.00740, about 1-135	30 m.	In four minutes starch partly changed as shown by purple tint with iodine but not till thirty minutes was it all changed to sugar
8	1 oz.	6 oz.	.00565, about 1-177	30 m.	The purple tint with iodine showed itself in two minutes; starch all changed to sugar in thirty minutes
9	1 oz.	6 oz.	.00370, about 1-270	30 m.	Changed to purple with iodine in one minute; all changed to sugar in seven minutes; results same as that of experiment two

The gastric juice, according to Foster,¹ contains two per cent of free hydro-chloric acid. The contents of the stomach after a meal has, of course, a less acidity than this from the dilution of the juice with food and drink, but, as reference to the table will show, .011 per cent. of free acid was sufficient to stop the diastatic power of malt entirely; .00565 per cent. of free acid checked the action of the malt to a slight extent, but .00370 per cent., an extreme dilution, had no effect whatever. Now .0111 per cent., the minimum percentage according to these experiments necessary to entirely check the action of the diastase of malt, would be about the percentage of acid in a stomach containing one ounce of gastric juice and nineteen ounces of other fluid, and it is probable that the percentage of acid in the stomach is usually much greater. The following calculations show this to be the case: The amount of gastric juice secreted in twenty-four hours, according to Bidder and Schmidt,² is 6,400 grammes or about fourteen pounds, and even supposing that it is secreted equally at all times, whether food is in the stomach or not, this would give one-and-one-sixth pounds secreted during the two hours of stomach digestion following a meal. Flint³ calculates that as two ounces of gastric juice have been found to be secreted in response to stimulation in ten minutes, twenty-four ounces, or a pound and a half, avoidupois, are secreted in the two hours of gastric digestion. Now, in order to reduce the normal .2 per cent. strength of hydrochloric acid in the one-and-one-fourth pounds, we will say, of gastric juice to a .011 per cent. solution, the minimum amount of acid needed to stop entirely the action of diastase, it would be necessary to ingest about twenty-two pounds of fluid at that meal. Of course, this amount of fluid is not taken at one meal, at least by invalids for whom malt

¹ Text-book of Physiology, New York, 1880, p. 246.

² A. Flint, Jr., Physiology of Man, Vol. II,

³ Ibid.

is intended, and, therefore, the percentage of acid in the contents of the stomach must be much greater than the minimum percentage needed to check the action of diastase. In fact, the amount of acid needed for this purpose is so small that great diminution in the amount and acidity of the gastric juice would be possible, and still suffice to render the diastase worthless.

But, it may be asked, will not the malt be able to act on the starch when it has passed from the acid stomach to the alkaline duodenum? To determine this point and to imitate this process in the living animal, experiment No. 6 was repeated, but at the end of thirty minutes sufficient hydrate of potash was added to neutralize the hydrochloric acid. At the end of twenty-five minutes after neutralization a deep blue precipitate was still caused by the addition of a drop of the solution containing the malt to the test solution of iodine. In a second experiment the same solution in the water was made slightly alkaline at the end of thirty minutes, but the starch remained unchanged after fifteen minutes more, when the experiment was discontinued.

From these experiments it seems rational to infer that the diastatic power of malt is permanently destroyed by the presence of hydrochloric acid in not larger quantity than is found in the stomach, and therefore that malt given by the mouth is of no value as a digestive.

The action of diastase was found not to be noticeably affected by the presence of pepsin alone, or of pepsin and of as much hydrochloric acid as had previously been found to have no effect on this action. This is to be expected, for pepsin acts best in a two per cent. hydrochloric acid solution, and refuses to act in a neutral or very faintly acid solution, and it is probable that in a stronger acid solution, where the acid alone is sufficient to arrest the action of the diastase, the presence of pepsin would assist by digesting this ferment.

As confirming the results of these experiments in which a water-bath was used as an artificial stomach, the following, in which living stomachs were used, are of interest.

A litter of five kittens about one month old were chosen, and each one was given by the mouth some milk containing a measured amount of boiled starch, followed immediately by some more milk containing fluid extract of malt. More malt was given than would have been sufficient to digest the starch at the temperature of the body in a test-tube in seven minutes. The kittens were killed by ether ten, fifteen, twenty, thirty and sixty minutes respectively after their meal of malt, and the contents of the stomachs turned into vessels and tested by the iodine test for starch. In all cases starch was found present in large quantities.

Having considered this diastatic property and shown, it seems to me, conclusively that it is valueless in the ordinary method of administration of malt, the direct nutritive value of malt remains to be considered. That this is great is abundantly proven clinically, cases of malnutrition improving under its use in the same way as from the use of cod-liver oil. Malt, however, is often preferable to cod-liver oil, as it is free from disagreeable odor and taste, is not so liable to loosen the bowels as the oil is so apt to do in infants and young children, and is in many cases much more easily assimilated. It is hardly possible to make a compari-

son of the nutritive values of malt and cod-liver oil by an examination of their constituents, for the latter is composed almost wholly of various fatty acids,—oleic, palmitic and stearic,—combined with glycerine, with the addition of biliary principles and small amounts of iodine, phosphorus, lime, magnesia, and iron, and phosphoric and sulphuric acids, while the former consists chiefly of carbo-hydrates,—glucose and dextrine,—with a small amount of nitrogenous substances, among which is diastase, and of inorganic substances, chiefly phosphates of potash and magnesia, with small quantities of lime, soda and iron, and sulphuric and silicic acids.

With malt liquors and Liebig's food or malted wheat, however, a comparison can more easily be made, and the nutritive value of both of these is well known. Beer is essentially a solution of malt in water with the addition of hops and of alcohol and carbonic dioxide, the two latter formed at the expense of some of the glucose. Alcohol adds, of course, to its nutritive value, but that the chief value resides in the malt is evident, when we consider that people who drink the light wines, which are equal in alcoholic strength to beer, do not display that rotundity of figure seen in the beer drinkers. Liebig's food is malted wheat and differs from barley malt only by not possessing diastase, and by being made from a different grain. The nutritive value of wheat is, however, superior to that of barley, as it is superior to that of most other grains, it being especially rich in nitrogenous substances, constituents in which barley is comparatively poor.

In the following table, the amount of nutriment in a glass of beer, a tablespoonful of fluid extract of malt and a tablespoonful of malted wheat has been calculated from analyses given by Payen⁴ and Leeds.⁵

	Glass Beer (3 viij).	Ext. Malt (3 ss).	Malted Wheat (3 ss).
Water	gr. 3636.480	gr. 53.928	gr. 12.000
Alcohol	172.860	3.816	....
Glucose and dextrine .	158.976	148.728	205.056
Nitrogenous substances.	2.026	7.464	14.280
Inorganic salts . . .	.706	2.784	3.536
Glycerine . . . . .	....	22.248	(fat) .360
Lactic acid . . . . .	....	3.816	....
Grains	3970.988	242.784	235.232

The small amount of alcohol in the malt extract is due to the presence of the tincture of hops. The above is interesting, as showing that a glass of beer and a tablespoonful of the malt are practically of the same nutritive value as far as the sugar is concerned, while the tablespoonful of malted wheat or Liebig's food contains one-third as much again of sugar; but the two latter are superior to beer in nitrogenous substances, the malt containing more than three times as much, and the Liebig's food more than seven times as much; and they are also superior to beer in the inorganic salts, the malt having nearly four times as much, while the Liebig's food has nearly five times as much. Beer, of course, contains alcohol in addition.

⁴ *Précès théorique et prat. des subst. aliment.*

⁵ *Leeds. Phila. Med. News, July 21, 1883.*

The superiority of the Liebig's food in nitrogenous substances and minerals makes it preferable to malt, if the diastatic power of the latter is to be disregarded, by taking it directly into the stomach.

By way of summary, it may be said that although malt by reason of its contained diastase is able to convert starch into sugar in a watery medium at the temperature of the body, it has no power over starch in the living stomach, owing to the presence of the gastric juice. Administered directly by the mouth, therefore, it is of use only on account of its contained nutriment, and is inferior in the amount of nitrogenous and inorganic principles to a food formed by the action of diastase on wheat, that is to say, to Liebig's food.

REPORT ON PROGRESS IN THERAPEUTICS.¹

BY FRANCIS H. WILLIAMS, M.D.

NAPHTHALIN.

Naphthalin seems to be of special value as an intestinal antiseptic or germicide — being so sparingly soluble that much of it remains to act upon the intestines and their contents from the stomach to the rectum. Rossbach advises it in intestinal catarrh. Borelius reports cases of typhoid in which it seemed to relieve the abdominal symptoms. Its value is especially urged by Dr. L. Emmet Holt,¹⁷ in a paper on the "Antiseptic Treatment of Summer Diarrhœa." His conclusions are: That summer diarrhœa has many remote causes, but the single immediate cause is putrefactive changes taking place in undigested food in the stomach and bowels, the products of these changes acting either as systemic poisons or locally irritating agents, causing catarrhal and inflammatory conditions in the intestines. The diarrhœa is, at the outset at least, salutary, and the use of astringents and opium is not only useless, but, in the beginning especially, may do positive harm by checking peristalsis and increasing decomposition. (Opium in many other forms of diarrhœa he regards of value.)

The indications to be fulfilled are: (1) Clear the bowels; (2) stop decomposition; (3) restore healthy action; (4) treat consequential lesions. To meet the first he recommends castor oil, the second, salicylate of sodium or naphthalin, the third and fourth, if present, call for various measures, but in the majority of cases castor oil and salicylate of sodium or naphthalin were alone necessary. He gives statistics of 300 cases treated by the old routine of opium and astringents preceded by castor oil, resulting in 50% cured, 27% improved; also of 81 cases treated during the past year with castor oil and salicylate of sodium, resulting in 84% cured, 7% improved; and of 44 cases treated with castor-oil and naphthalin, 67% were cured and 15% improved. Resorcin gave only 55% cured, 22% improved. He says of naphthalin, it is of latest introduction and seems likely to prove of very great value, perhaps the most valuable of all. He also reports seven cases of chronic dysentery and twenty-one cases of chronic diarrhœa, treated by naphthalin *alone*, with uniformly good results. Concerning the dose and administration: it may be given in powder, mixed with sugar and taken in wafers or cap-

sules, the taste is not bad, but very persistent and strongly suggestive of tar.

In summer diarrhœa of children, he used from two to six grains, according to the age, (when he used salicylate of sodium he gave one to three grains) every two hours. If the child were not on the breast he withheld milk entirely, and with vomiting he withheld all food for twelve to twenty-four hours. In chronic diarrhœa, dysentery and typhoid he used large doses of naphthalin, sixty to ninety grains daily.

One point in regard to naphthalin requires investigation before its extensive use can be with perfect safety recommended. A note in the *Vienna Zeitschrift des Oesterreichs Apotheker Vereins*, 1887, xli, p. 38, states that in the Paris Academy of Medicine, Prof. Bouchard reported that animals to whom naphthalin was administered internally developed beginning cataract within twenty days or less, generally in both eyes simultaneously, and that the cataract process thus begun did not stop with discontinuance of the drug. The theory was advanced that the affinity of naphthalin for sulphur affected the globulin of the lens.¹⁸ Doubtless the doses used were, for the animal, excessive, and very likely have no important bearing against the therapeutic use of the drug. Certainly no untoward effects are reported from its clinical use, except dark-colored urine and a single case of dysuria from large doses.

RESORCIN.

This drug is favorably reported in the treatment of cutaneous and gastric disorders. Dr. Edward MacLay¹⁹ claims for it the antiseptic properties of carbolic acid without the irritant properties of that substance. A two per cent. solution is antiseptic, and irritating to the tissues. It seems to possess special advantages in the treatment of gastric and cutaneous disorders. Dr. MacLay reports two cases of gastric ulcer with immediate recovery under its use. In gastric catarrh not relieved by bismuth, soda, etc., recovery followed at once under treatment with resorcin. Intestinal catarrhs, chronic diarrhœa, etc., were in no way benefited by resorcin, nor were the evacuations disinfected, constituting a marked contrast to the action of naphthalin, and suggesting a special field of action for each of these two drugs; naphthalin for intestinal disorders or wherever it is desirable to disinfect the intestinal canal or render antiseptic its contents; resorcin for the same purpose in the stomach and externally on sensitive tissues. Internally Dr. MacLay employs five-grain doses of resorcin three times a day, given in water with a little glycerine, or in chloroform-water. The taste is peculiar, but slight, and easily tolerated. Much larger doses have been employed, but are not advisable, thirty grains having caused febrile disturbance, and sixty grains marked toxic action, dizziness and collapse.

CORROSIVE SUBLIMATE.

The use of corrosive sublimate as an antiseptic has been on the accepted ground that in the weak solutions employed, while destructive to germs it is not dangerous to the patient. Some recent observations and cases would suggest considerable caution, at least, in its use. Fleischmann, of Prague, reports a fatal case of acute poisoning in a healthy primipara, from

¹ Concluded from page 333.

¹⁷ Medical Record, January 15, 1887. Therap. Gaz., February, 1887, 108, March, 1887, 184.

¹⁸ Australian Med. Gaz., April, 1887, 165.

¹⁹ Lond. Med. Record, September 4, 1886. Therap. Gaz., 1886, 761.

two vaginal douches before labor, sublimate solution 1:2000 being used. Abdominal pain, rise of temperature, diarrhœa occurred an hour after the second injection, followed by nephritis, salivation, continued diarrhœa, and, after the birth of the child, death in coma on the ninth day following the douche. The pathological anatomical diagnosis from the autopsy was: Corrosive sublimate poisoning, acute nephritis, dysentery, stomatitis and pharyngitis in the stage of ulceration, parenchymatous degeneration of heart and liver, lobar and lobular pneumonia, bilateral, acute cystitis. Investigation showed that the patient had left her bed and worked about the ward after the douching; that all ordinary precautions were taken to secure the complete expulsion of the fluid from the vagina. It is suggested as possible that some of the fluid entered the uterus through the dilated os, and it is further stated that the patient had a slight diarrhœa before the douching.

Fleischmann calls attention to the danger attending the use of sublimate in puerperal patients with any lesion or disordered conditions of the bowels or kidneys, and quotes an eminent authority to the effect that the use of sublimate in obstetrics should be limited to disinfection of the hands, instruments and external genitalia.²⁰ An article by the Paris correspondent of the *British Medical Journal*, October 9, 1886,²¹ is of interest in this connection. He calls attention to the frequency of intestinal lesions coming to the notice of medical men, especially those in obstetric practice, since the wide use of corrosive sublimate as an antiseptic, and refers to the experiments of Prévost,²² indicating that visceral lesions may be produced by sublimate. M. M. Cherin and Roger experimented on animals with sublimate solution of 1:1000 to 1:4000, injected subcutaneously or intravenously, and obtained uniform intestinal lesions, varying with the dose, localized in the large intestine, and consisting of ecchymoses, hæmorrhage and ulceration, the principal lesion being hæmorrhage. Perforation did not occur. These experiments, however, indicated a dose of 0.24 as necessary to produce ulceration in a man weighing 60 K., while some clinical facts seemed to indicate the possibility that smaller doses might cause such a result in man. The experimenters did not deem the possibility of such an accident, however, sufficient to lead to the proscription of the use of sublimate as an antiseptic.

Maximilian Jolles and Erlangen give an elaborate demonstration of the identity of lesions and clinical history in sublimate poisoning and septic infection.²³ Gläser, of Hamburg, reports twenty-three cases of typhoid treated with corrosive sublimate with very bad results and no benefits. In diphtheria, on the other hand, Dr. Verner reports²⁴ seventeen cases with very good results, giving one-fourth to three-fourth grains daily.

The conclusions warranted, seem to be that corrosive sublimate is an efficient antiseptic, but best adapted to external use, suggesting caution in its use in obstetrics for douching, especially with any disorder of bowels or kidneys, and throwing doubt on the possibility of safe disinfection of the blood or in-

testinal canal by internal administration in infective diseases.

SUBCUTANEOUS ANTISEPSIS.

Dr. Albin Meunier²⁵ advocates the treatment of many diseases due to micro-organisms by the subcutaneous administration of antiseptic, especially eucalyptol and iodoform in pure vaseline. The difficulty of disinfection of circulating blood without danger to the patient is great, and any successful solution of the problem will be most welcome, but it hardly seems that it is so much to come by the method of administration as by the agents used. (Mercury is already administered subcutaneously for syphilis by some practitioners, and with good results, it is claimed.)

ANTISEPSIS IN PHTHISIS.

The therapeutics of phthisis have had the usual addition of "new remedies," promising very much the same history as former numerous discoveries of a like nature. The recent work, however, is based on the germicide theory, and the problem already alluded to seems equally difficult here. Bergeons, of Lyons, advances the treatment by rectal injections of sulphuretted hydrogen. Prof. Kremianski, in a paper before the Moscow Medical Congress, advocates inhalations of atomized aniline, while intrapulmonary injections of iodoform preparations are supported by several observers.

Concerning Bergeon's treatment, Wyss, of Geneva,²⁶ calls in question first of all the theoretical ground-work, showing at least the non-establishment of any destructive action by the gas on the bacilli, with their persistence in the sputum of patients treated by the gas, while both abroad and in America hospitals are reporting fully as adversely as favorably in regard to clinical results.

The aniline treatment is newer, has fewer clinical observations for or against it, but has in its favor what sulphuretted hydrogen has not: that it is a substance destructive, even in very great dilution, to the tubercle bacillus of Koch. (It would be interesting to follow out the results of large doses of antifebrin in phthisis, since that drug is of the aniline series, in connection with this germicide action of aniline.)

Intrapulmonary injections of solutions of iodoform in oil of eucalyptus, constitutes part of the so-called "subcutaneous antiseptics" already mentioned. Some very good results are reported in gangrene of the lung and in disinfection of pulmonary cavities, but nothing definite toward the relief of the essential conditions of phthisis. It must still be held, therefore, that a *specific* curative or remedial agent for pulmonary phthisis — beyond simple nutritive and hygienic measures — is yet to be established.

URETHAN.

This is a generic name given to a class of ethers derived from carbonic acid, the name signifying the close chemical relation of this class of ethers to urea. "Urethan," however, has recently been employed to designate one of this class of ethers: carbonate of ethyl, or strictly speaking, "ethyl-urethan," having the formula $C_2H_7O_2$.²⁷ The urethanes were known chemically as early as 1833, when Dumas and Cahours announced investigations concerning them be-

²⁰ *Centralblatt für Gynæcologie*, No. 47. *Therap. Gaz.*, February, 1887, 126.

²¹ Quoted in *Therap. Gaz.*, 1886, 846.

²² Described in the *Revue Medicale de la Suisse Romande*, 1882, p. 553.

²³ *Wiener Med. Wochschr.*, 1886, Nos. 44 and 45.

²⁴ *Les Nouveaux Remèdes*, No. 19, 1886.

²⁵ *Lyons Medical*, December 5, 1886, and January 2, 1887.

²⁶ *Lond. Med. Record*, March 15, 1887.

²⁷ *Eloy in L'Union Medicale*, March 14, 1886.

fore the French Academy. Carbonic acid and urethanes were then successively studied by Liebig, Woehler, Gerhardt, Wurtz and others. In 1884 Schmiedeberg conceived the idea of therapeutic experiments upon animals with urethan, from theories of action founded on chemical constitution. Jolly and Von Jaksch, later Riegel and Stiker, employed it clinically. The researches of Huchard and Eloy and many clinical observers followed, and the drug became established as a hypnotic agent. Ethyl-urethan or urethan as it is ordinarily called, is a white crystalline substance very soluble in water, alcohol and ether, at all temperatures. It is prepared by the action of ammonia on chloro-carbonate or carbonate of ethyl, or by heating in a sealed tube a saturated alcoholic solution of cyanogen. Schmiedeberg's conclusions concerning its action were: That it depressed the cerebral functions, slightly stimulated the respiratory centre, was irritating subcutaneously. Von Jaksch's clinical observations were on twenty cases, in which he states it rarely failed to produce hypnotic action. Dr. Huchard²⁸ gives fourteen cases of which two only, from excessive coughing and dyspnoea in tuberculosis, failed to be benefited, in all the others quiet refreshing sleep was obtained from it, coming on in from ten minutes to an hour after the dose, and lasting four to ten hours, and neither attended nor followed by any digestive disturbance or headache.

Without going into detail concerning the very numerous reports of its action and clinical use, the following points may be considered as fairly well established. It is a hypnotic, acting chiefly by depression of cerebral centres, not sufficiently powerful to cause sleep if pain, persistent cough, great dyspnoea, or analogous conditions are present. It is of no value in delirium tremens. In simple insomnia, nervous sleeplessness from worry, over-excitement, etc., and in many forms of sleeplessness in insanity, it is very uniformly effective, producing restful, dreamless sleep, closely simulating physiological sleep. It is slightly stimulant to the respiration and does not depress the heart, even in toxic doses. This is a marked advantage in action over chloral. It has in ordinary doses no unpleasant after-effect, but very large doses produce gastric irritation with nausea and vomiting. Concerning the dose: twenty grains seems a medium dose. Huchard gave forty-five to sixty grains, and considered a single large dose better than several small doses. German observers recommend doses of fifteen to thirty grains (some seven and one-half to fifteen grains.) Ordinarily a single dose of fifteen to thirty grains at bedtime gives sleep without after-effects. The drug is not disagreeable in taste, and as noted, very soluble. Prof. Anreß²⁹ has demonstrated the antagonistic action of urethan to convulsive agents like strychnine and picrotoxin. He considers it a safer and more effective antidote to strychnine than chloral. Its therapeutic action, if correctly observed, is certainly opposed to such a view, as it is said to act chiefly on the *brain*, while strychnine convulsions are from the *cord*.

HYOSCINE.

After the hyoscyanine was isolated from hyoscyamus, it was believed that another alkaloid or alkaloids were present, since hyoscyanine was, in action,

essentially atropin, while hyoscyamus had a distinctly *hypnotic* action not possessed by atropin. This led to the discovery by Ludenbourg, in 1881, of hyoscine, another alkaloid, isomeric with both atropin and hyoscyanine, of the formula $C_{17}H_{23}NO_3$. Hölm and Reichardt had already employed the name "hyoscine" to designate a decomposition product of hyoscyanine, but Ludenbourg showed that product to be identical with atropin, and transferred the name "hyoscine" to the new alkaloid.

The pure alkaloid has not been obtained in crystalline form, but its salts, the hydriodate, hydrochlorate, and hydrobromate, have been so obtained, and are chiefly used, hyoscine itself being a syrupy body unsuitable for use. The hydriodate is moderately soluble in water, the hydrobromate and hydrochlorate readily soluble. Kobert's³⁰ experiments were with the hydrochlorate. His conclusions, in brief, from experiments on animals and clinical use are: That it acts on the vagus, peripheral bloodvessels, secretory system, and pupil, exactly as atropin, increasing pulse-rate by vagus paralysis, dilating capillaries, checking secretion of sweat and saliva, dilating the pupil. On respiration it seems to have little action in animals, in man it may produce dyspnoea on the spinal cord, no action on the brain; in animals little if any action; in man, hypnotic action, *weak* in conditions of *health*, but marked in conditions of disease of almost any form, most marked in disease with over-excitation of cerebral centres. Then clinical evidence for its use is abundant and very generally favorable. Dr. J. Mitchell³¹ recommends it highly, from personal experience in its use, in cases of insomnia with restlessness, delirium, and other forms of cerebral excitation. He considers it a valuable addition to hypnotic agents, and says his experience is that "for the troublesome, noisy delirium which disturbs a ward for a whole night, there is no treatment at once so prompt, successful and safe, as a hypodermic injection of hyoscine. He further urges that too much must not be expected of it; it does not cure disease, but is simply hypnotic, temporarily removing delirium and securing quiet and sleep. Furthermore, that it should be used in cerebral cases only to combat urgent symptoms. It has some serious disadvantages in the way of occasional incidental effects. "Within a half-hour after the administration of a full dose, $\frac{1}{15}$ to $\frac{1}{5}$, it may cause failure of respiration in the form of rapid, shallow breathing, or even Cheyne-Stokes rhythm, at the same time the pulse may become weak and infrequent, the face livid, the pupils dilated." Cough is sometimes aggravated by it. On the other hand he gives cases in which he used hyoscine with perfect safety in double pneumonia, cardiac dilatation, and in chronic Bright's with delirium. Death has not, to his knowledge, in any recorded instance, been attributable to an overdose of this drug. He closes with the important statement, counterbalancing much that might seem adverse, that perfectly good results have been obtained from doses far short of those productive of the disagreeable incidental effects named, and that in his hospital wards he has found $\frac{1}{20}$ grain a useful working dose. He does not think it checks perspiration.

Drs. Francis L., and John R. Haynes³² of Philadel-

²⁸ Bull. Gen. de Therap., Paris, 1886, cx, 103-110.

²⁹ Pharm. Post, October, 1886.

³⁰ Archiv. f. exper. Path. d. Pharm. xxii, 6, 396.

³¹ Prac., Nov., 1886.

³² Therap. Gaz., 1886, 594.

phia, report their results in fifty-seven cases treated with hyoscine, prefacing their report with the quotation "Facts, sir, Facts." Their facts are: That generally it produced one or more of the following symptoms: (1) Delirium, rambling or muttering, hallucinations of vision, etc. (2) Sleep, sometimes apparently natural, sometimes disturbed. (3) Intense reddening of the whole face, with sensations of heat. (4) Muscular weakness, sometimes extreme. (5) Headache. (6) Dryness of the throat. (7) Dilatation of the pupil.

Of these fifty-seven cases, hyoscine produced: (1) Sleep in fifteen. (2) Delirium in thirteen. (3) No marked effect or followed by various symptoms in twenty-nine. The article is headed "Hyoscine Hydrobromate," the drug always spoken of as "hyoscine" and stated to be of Marck's manufacture, also that "the alkaloid was dissolved in pure alcohol (grain $\frac{1}{10}$ to minims 20). The *dosage* is in many cases rather heroic, rarely less than $\frac{1}{10}$ grain, often $\frac{1}{5}$, sometimes $\frac{1}{3}$, once $\frac{1}{3}$, and of large totals in rapidly repeated doses; " $\frac{1}{7}$ grain in five doses in six hours" " $\frac{1}{10}$ grains in ten doses in twenty-four hours," " $\frac{1}{8}$ grains in four doses," " $\frac{1}{12}$ grain in divided doses," etc. The symptoms certainly indicate a close approach to "belladonna poisoning," but it is difficult to explain the failure to get any effect from some of the large doses given. Some other observers report cases showing unreliability of action, and suggesting lack of uniformity in the preparations of the drug. In the hands of many other reliable observers the salts of hyoscine have certainly given excellent results as hypnotic agents.

Concerning the *dose*: Bruce used the hydriodate, making a simple aqueous solution, one grain to two hundred minims. He says the dose of the hydriodate is $\frac{1}{10}$ to $\frac{1}{20}$, and that the average dose in America is $\frac{1}{10}$. His own experience is that the best results are to be obtained from doses of $\frac{1}{20}$ in all ordinary cases of restless insomnia and delirium, *without any risk of unpleasant effects*. If the symptoms are very urgent, $\frac{1}{10}$ or $\frac{1}{5}$ *with caution*, may be given. The hydrobromate is very much used, the ordinary dose being $\frac{1}{10}$ to $\frac{1}{5}$ grains. It is not irritating subcutaneously. When effective, its results are rapid, sleep in from ten to thirty minutes.

Dr. Tirard⁸³ regards it perfectly safe in renal disease, his inference, however, being from a single case in which its use over quite a long period, gave excellent results.

AMYLHYDRATE.

This is one of the most recent hypnotics, and has been introduced by Professor von Mering, of Strasburg.⁸⁴ This substance, which was first prepared by Wurtz, is a colorless fluid, which boils at 100 C, is dissolved by eight parts of water and is miscible with alcohol in all proportions. It has a peculiar ether-like taste suggesting camphor, and a cooling after-taste resembling that of peppermint. Besides the usual trials of this new drug on animals, Prof. von Mering has used it on sixty patients. The number of doses given was 350, a single dose varying between three and five grammes (45-75 grains.)

The majority of these patients were suffering from insomnia, among them two had cardiac disease, other cases included delirium tremens, phthisis, typhoid, rheumatism.

Doses of three to five grammes produced a quiet, refreshing sleep, which came on in half an hour and continued six to twelve hours. In only four cases was its action incomplete. Twice it proved serviceable in children suffering from whooping-cough; it was given in doses of 0.2 gramme in the evening.

In sleeplessness due to pain, its action like that of chloral is uncertain. Ill effects were not observed, nausea and vomiting did not occur, and digestion was not disturbed by its use. Headache was not a consequence of its use; in one case only the patient complained of a slight unpleasant feeling in the head.

So far as the taste goes, amyhydrate has the advantage of paraldehyde, and patients give the former the preference.

The exhalations do not have an unpleasant odor, as is the case with paraldehyde, and the dose is smaller.

The hypnotic action of amyhydrate is weaker than that of chloral, though stronger than that of paraldehyde. One gramme chloral affording the hypnotic action obtained from two of amyhydrate or three of paraldehyde.

Amyhydrate has this advantage over chloral: it has less action, even in larger doses, on the heart and respiration. It is, however, weaker than chloral, and cannot take its place where an energetic hypnotic is demanded.

CALOMEL AS A DIURETIC.

The use of calomel as a diuretic has been previously considered. Evidence accumulates to establish this action. Prof. Stiller,⁸⁵ of Buda-Pest, publishes eighteen cases of cardiac dropsy treated by calomel, confirming the essential views of Jendrassik, an enthusiastic advocate of this use of calomel. Cases with great œdema of the extremities, peritoneal and pleural effusions, enlarged and congested liver, with marked dyspnoea, were restored almost to health, certainly to comfort, by the administration of calomel, and this in several cases, where digitalis failed to relieve, or, from unfavorable action had been necessarily discontinued.

Prof. Stiller believes that in cardiac dropsy, not only for the removal of œdema, but also of effusions into the serous cavities, small doses of calomel constitute the most efficient and rapid means of relief. He found that generally diuresis occurred on the third or fourth day after the commencement of the administration, and occurred generally very suddenly and to a marked degree. He thinks it advisable then to discontinue the calomel until the diuretic action begins to pass off, when it should be renewed in smaller doses. He secured most marked diuretic effect without the least signs of mercurialization. In his first case, however, diarrhoea occasionally occurred, but this was remedied and prevented by the employment of opium with the calomel. In one case only did he get stomatitis. His doses were: 0.15-0.20 (2½-3 grains) three times a day, or 0.10 (1½ grains) five times a day. The urine generally jumped to a large amount on the third or fourth day (for example, 650 to 3200, 480 and 600, to 3600, etc.), and the calomel was stopped for two or three days, when the urine began to fall off in amount, and calomel was resumed. (He does not state in what doses.) With diarrhoea, or to prevent it, he gave 0.015 opium (¼ grains) with each dose of calomel. He adds that, combined with

⁸³ *Prac.*, Feb., 1887.

⁸⁴ *Therapeutische Monatshefte*, July, 1887.

⁸⁵ *Wiener Med. Wochenschr.*, July 10, 1886.

or alternating with digitalis, calomel is an especially powerful diuretic agent. While this evidence is unquestionably strong, it can hardly be expected to place the calomel treatment above or even equal to the treatment with digitalis and allied drugs. Prof. Siller found that in renal cases the calomel treatment was ineffectual.

STROPHANTHUS.

This drug seems to be giving good results as a substitute for digitalis. Prof. Fraser, in a recent article,³⁶ says that the tincture should be made from the seeds only, and should be of a standard strength similar to that of tincture of digitalis. He recommends the use of such a tincture in doses of five to ten minims. Strophanthin, a white, crystalline substance, soluble in water, proves a very active toxic agent, fatal to dogs, in doses of 0.0002 per kilo., continued administration of much smaller doses proving fatal in four to seven days.

Clinical reports³⁷ indicate that strophanthus is not good in cardiac cases with renal complications, but in uncomplicated cardiac cases, is decidedly beneficial.

LANOLIN.

This substance is a cholesterin fat, differing from ordinary fat in containing cholesterin in place of glycerin. The peculiarity of cholesterin fats is that they do not decompose by boiling with alkaline solutions; that is, do not form soaps; they are, in other words, more stable chemical compounds than ordinary fats. Another peculiarity is their ready absorption of water, absorbing more than 100 per cent., by simply stirring with water. Ventral glycerine fats, vaseline and petroleum do not possess this property. "Lanolin" is made from the oil of sheep's wool, or "wool oil," which under the name of "oesypus" is of very ancient use by the Romans, and through the Middle Ages by the Continental races.

Its impurities, however, due chiefly to rancid, fatty acids, and giving it very repulsive characteristics, led to its abandonment. Liebreich has, however, succeeded in freeing this "wool oil" from its impurities, fatty acids, etc., and the resulting substance is that which he has designated "lanolin."³⁸ In his paper before the British Medical Association at Brighton, he calls attention to the fact that many so-called "lanolins" are on the market not at all answering to the tests of a pure neutral lanolin as obtained by his process. The advantages of lanolin are: That it is neutral, stable, readily miscible with water, highly absorbable by the skin. It is especially valuable as an ointment base for the treatment of skin diseases, and for medication through the skin.

Agnine, a still later product, is from the same source, with essentially the same properties, readily absorbing four times its weight of water.

Robinson — What was the amount of your doctor's bill, *Dumley*? *Dumley* — I paid him two hundred dollars. *Robinson* — Two hundred dollars! That's too much. *Dumley* — He saved my life, you know. *Robinson* — Yes, I know he saved your life. But two hundred dollars, *Dumley*! That's too much. — *New York Sun*.

³⁶ British Med. Jour., 1887, i, 151.

³⁷ Medical Record, December 18, 1886.

³⁸ Therap. Gaz., 1886, 683.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.
SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING Tuesday, May 3d, 1887, Dr. J. C. WARREN in the chair.

Dr. S. J. MIXTER reported a

CASE OF MALIGNANT TUMOR OF THE BREAST,¹

and showed the specimen removed.

He emphasized the importance of thoroughly cleaning out the axilla in all such cases, whether the glands were apparently free from disease or not. In order to avoid the tying down of the arm as a result of such a procedure, he employed a special kind of stitch by which the skin was drawn up into the apex of the axilla, thus obliterating the dead space there, which would otherwise exist. He stated that he claimed nothing especially original for this method, but that he had been prompted to employ it because surgeons had considered the obliteration of the "dead space" in the axilla of so much importance that it had been proposed to fill it in with a special flap cut for the purpose. He thought the axilla should be opened up by an incision made close to the border of the pectoralis major.

Dr. W. F. WHITNEY said that the histological investigation in this case fully corroborated the statement of Dr. Mixter, as to the necessity of a complete removal of the tissue from the axilla, in case of cancer of the breast. For in the apparently normal fat tissue he had often found minute glands, which would escape anything but a microscopic examination, presenting evidences of implication.

In the tissue hardened and stained in the ordinary way the presence of the epithelial cells could only be made out with difficulty, from the much greater abundance of the ordinary lymphoid cells. If, however, a scraping was made from the fresh specimen and examined in a three-quarters per cent. salt solution, they could be readily seen and differentiated. In this earliest stage they apparently lie in twos or threes in the lymph channels, and have not as yet formed the typical alveolated structure.

Dr. INGALLS thought that every conscientious surgeon at the present time must believe that in all cases the axilla should be cleaned out, so as to anticipate, if possible, any recurrence of the disease.

He considered the suture, which was apparently a carefully considered modification of the old "button-suture" well calculated to pull up the skin into the axilla after operation.

Dr. O. K. NEWELL said that he had seen the suture as applied by Dr. Mixter, and was convinced of its efficacy.

The CHAIRMAN said that as a means of getting as little axillary web as possible and thus securing a good range of movement for the arm, he thought the plan of pulling up the axillary skin an excellent one. He had known patients to complain of limitation of movement in cases where no attempt had been made to prevent the formation of an axillary web.

The practice of removing the axillary glands in cases of cancer of the breast is now generally adopted. Though it complicates the operation, it has the advantage

¹ See page 328 of the Journal.

tage of more radically removing the disease. It also prevents incompetent practitioners from attempting the operation.

DR. H. P. BOWDITCH was much interested in the statement of the reader that the tumor had grown rapidly under massage. He said that he could imagine that massage might assist the dissemination of cancer, since passive movements are well known to help the circulation of the lymph.

DR. E. G. BRACKETT then read a paper on the

EXPERIMENTAL VALUE OF THE DOWSE SPLINT.²

The splint itself was shown, and its construction and working thoroughly explained. By means of numerous diagrams taken from instantaneous photographs of the positions of the body in the various stages of walking, Dr. Brackett showed how well the splint was calculated to allow the leg the motions of walking and at the same time to remove pressure from the hip-joint.

DR. E. H. BRADFORD stated that the appliance was not so widely known as it should be. It was as original, as complete an adaptation of mechanical ingenuity to meet surgical indications as Buck's extension or Bigelow's litholapaxy, and as efficient. It was entirely an American invention.

In every case of hip-disease successfully treated, there comes a stage, during which fixation is no longer needed, and extension becomes unnecessary. The joint is practically well, but protection is needed against jar, to prevent relapse. This can be done by means of crutches, but children leave crutches aside if walking causes no pain, and adults need their arms. The appliance shown protects the joint and enables the patient to walk about freely. Theoretically, criticisms have been urged against the appliance that it does not protect the joint. How it actually does, Dr. Brackett has shown, thus demonstrating experimentally the uses of an appliance which clinically has been found of service.

DR. BRACKETT's perineal strap is of great assistance, particularly in adults, relieving the discomfort of a narrower pad. The weight of the splint is its only drawback.

DR. E. O. OTIS read a paper on

INJURIES TO, AND OPERATIONS UPON THE KIDNEY,³

and showed by diagrams the various incisions which had been recommended for operations upon that organ.

DR. JOHN HOMANS referred to two cases of abscess of the kidney in which he had operated, the one by the abdominal and the other by the lumbar incision. In one of the cases several small calculi were removed. Unfortunately, however, the result in both cases was a fatal one.

He thought that an operator contemplating the extirpation of a suppurating kidney, should first thoroughly drain it through an incision in the loin.

DR. H. L. BURRELL said that he recalled two cases that might be of interest in connection with Dr. Otis's paper. The first was that of a woman who had been sent to him to be operated upon for an ovarian tumor; on examining her he found a suppurating movable kidney of the left side. He exposed the tumor through the flank with the intention of removing the whole kidney, but found, owing to the lack of space between

the floating ribs and the crest of the ilium, that this would be impracticable, and consequently he simply drained the pelvis of the kidney. The patient died in twenty-six hours with suppression of urine. The autopsy showed extensive disease in the other kidney. The case illustrated to his mind that in certain cases where nephrectomy was planned, the operative procedure could not be carried out through a lumbar incision. The second case was that of a man who had had symptoms of stone in the kidney for several years, who had been the rounds of the different hospitals, and finally consented to be examined under ether and have the renal area aspirated. As fortune would have it, the first plunge of the needle came down on the stone (this was verified by several gentlemen present in the amphitheatre of the hospital); unfortunately Dr. Burrell had not obtained the patient's consent to remove the stone. Within a few days, after obtaining the patient's consent to the operation, the patient was again etherized and the kidney freely exposed through the usual lumbar incision.

The stone was searched for most diligently, the kidney was explored in all directions by means of a grooved needle, but no stone could be found. Nephrotomy and nephrectomy were considered inadvisable, as the kidney was apparently a healthy one. The patient made a recovery; on the twelfth day he had a sharp secondary hæmorrhage from the sides of the lumbar incision, which was easily controlled by pressure forceps.

Strange to relate, the patient has been greatly benefited by the operation, and the symptoms of stone have entirely disappeared, he having been restored to apparent perfect health.

DR. BURRELL thought that this case illustrated the occasional benefits derived from an unfinished operation. Regarding the expediency of nephrectomy in such cases, he cited a case where Mr. Henry Morris⁴ removed a healthy kidney by lumbar nephrectomy which had imbedded in it a calculus, the size of a marble; even after the removal of the kidney, the locality of the stone could not be made out by pressing the organ between the finger and thumb; nor by pressing the kidney as it lay upon a table. Only after section of the organ was the calculus demonstrated.

DR. F. S. WATSON said that his own experience in operations upon the kidney had been small, being limited to three cases of lumbar incision, twice for perinephritic suppuration, and once for an acute hydronephrosis, due to obstruction from stricture of the ureter. He thought that the incision in cases of calculous nephritis, where the endeavor was being made to extract the stone, should if possible be made through the substance of the organ rather than through the pelvis of the kidney, because thus a better chance of the wound's healing without leaving a urinary fistula, was afforded. Hæmorrhage had been a prominent feature in the cases that he had seen, however, where the tissue of the gland was divided, but of such a character, that it could generally be controlled by pressure from packing the wound.

The choice of the abdominal or lumbar incision depended upon the nature of the case. Where draining a suppurating cavity, or the removal of stone, or the fixing of a movable kidney was contemplated, lumbar nephrotomy seemed to be the best operation. If nephrectomy were intended, the question was more

² See page 321 of the Journal.

³ See page 349 of this number of the Journal.

⁴ *Dis. of Kidney*, Henry Morris, Pl. iv, p. 527.

doubtful, and in spite of the greater mortality of the abdominal operation, it would often be the better one, on account of the greater extent of the field of operation.

It should be remembered that anomalies occasionally occurred in the renal artery, which instead of being always given off as one branch, sometimes came off the main vessel in two or three branches, so that they might not all be secured in the pedicle in a nephrectomy, and give rise to dangerous hæmorrhage before they had been secured.

The operation of nephrectomy seemed of doubtful advantage in cases of malignant growth.

DR. MIXTER believed that in primary operations for suppurating kidney, the question as to whether the kidney should be removed or not, generally settles itself as soon as the kidney is reached. In some cases the interior of the kidney is converted into one large abscess cavity, of which the thinned and atrophied kidney substance forms the wall. Excision in such a case is, of course, impossible.

DR. H. W. CUSHING said that the allusions to the want of sufficient room for operation, recalled the incision first suggested by König, known as the "retroperitoneal lumbo-abdominal" (Lendenbauchschnitt) incision.

The advantages claimed are that it makes the kidney surprisingly accessible, that it can be lengthened if the operation requires, and finally, that the surgeon can perform a postperitoneal or an intraperitoneal operation as the conditions presented indicate through the same incision. It has been claimed that this operation, on account of the extensive division of broad muscular layers was especially subject to subsequent ventral hernia. Dr. Cushing inquired if the reader had seen any reports of this accident having occurred? Dr. Otis replied that he had not.

The CHAIRMAN stated that nephrotomy for stone was becoming a more frequent operation. By this is meant the operation upon the otherwise healthy kidney, and not merely the removal of a calculus from a suppurating kidney. One or two such operations had recently been performed in this country with satisfactory results. As to the best place to make the incision for removal of the kidney, that depended upon the size of the organ. In large tumors the linea semilunaris offered the best opportunity to explore through.

He thought it required considerable experience to decide upon the question of operative interference in tumors of the kidney, and that the majority of cases of malignant disease of the kidney had better not be meddled with.

DR. HOMANS showed several

ABDOMINAL TUMORS,

recently removed.

The first was a large dermoid cyst of the ovary, containing teeth and hair. The latter was matted into a bunch nine-and-a-quarter inches long.

The second was a fibroid of the uterus, weighing seventeen pounds, from a woman forty-five years old.

The third was an ovarian cyst from a woman who weighed over two hundred pounds. The operation was complicated by the unusual depth of incision necessary to reach the tumor, the fat upon the abdominal walls being about six inches thick. The tumor was also extremely adherent. The fluid from the tumor weighed sixty-six pounds.

AMERICAN GYNÆCOLOGICAL SOCIETY.¹

TWELFTH ANNUAL MEETING.

WEDNESDAY, SEPTEMBER 14TH. — SECOND DAY.

AFTERNOON SESSION.

A CASE OF ACUTE DILATATION OF THE STOMACH FOLLOWING LAPAROTOMY,

by DR. JAMES B. HUNTER, of New York.

The patient was a married woman, aged twenty-five years. Had been married four years, but never pregnant. Menstruation was painful, and quite profuse. There was severe pain in the lower part of the abdomen, aggravated by walking. For four years, she had been the subject of right inguinal hernia. There was no emaciation. She had been subjected to long-continued treatment without benefit. Examination showed marked endometritis, with prolapsed and painful ovaries. Tait's operation was decided upon. Previous to operation, the patient was subjected to a careful physical examination, and no organic disease found. There was nothing unusual to direct attention to the stomach. The operation was performed in the usual manner, the pedicles being secured with catgut, and returned to the abdominal cavity. Following the operation, there was continued nausea and vomiting, and the patient died on the ninth day from exhaustion. At the autopsy, the abdominal cavity was filled by the dilated stomach, which extended to within three inches of the symphysis. The stomach contained a gallon of dark, sour fluid. There was no obstruction of the pylorus. The mucous membrane showed evidences of chronic inflammation, and there was marked atrophy of all the coats.

There are cases on record in which acute dilatation of the stomach occurred under almost similar circumstances, but the cause of this condition is very obscure. This patient had an inguinal hernia — which, it has been claimed, may cause dilatation of the stomach by traction on the fundus. This case points to the fact that there should be greater vigilance in searching for other conditions than those in the pelvis. We should carefully exclude diseases of all other organs, diseases which may determine the result in laparotomy.

THE INTRA-UTERINE STEM IN THE TREATMENT OF FLEXURES,

by DR. A. REEVES JACKSON, of Chicago.

The object of the paper was to present the results which he had observed in a selected class of cases, and to explain the details of the method used. A large proportion of flexions of the womb do not need any treatment, others are wholly unamenable to treatment, while others are made worse by attempts at treatment. The author began the use of the stem-pessary in 1870. Previous to that time, he had used dilatation of the cervical canal, and incision of the cervical wall, separately or combined. The results were unsatisfactory. All the cases thus treated relapsed. The single symptom which was regarded as an indication for the treatment of a flexion was dysmenorrhœa.

Details of the method. Having determined the presence of a flexion, a flexible, olive-tipped bougie is introduced, and allowed to remain from two to ten minutes, according to the amount of irritation produced. This is repeated at intervals of from one to three days. The size of the bougie is gradually in-

¹ Continued from page 336.

creased. This treatment is continued until tolerance is induced. Then, at the close of a menstrual period, a soft rubber stem, one-third of an inch shorter than the uterine canal, and of a size that can be readily introduced, is passed into the uterus, and maintained in position by a tampon soaked with glycerine. The tampon is removed after two or three days, and is repeated as long as there is any tendency for the stem to slip out. This soft stem should be worn six or eight weeks, when it should be replaced by a larger stem, and in six or eight weeks, a still larger one. As soon as the womb can be readily straightened, a more rigid stem should be employed. This should be of vulcanite. The pessary should not be such as will stretch the internal os, but above this point, it may, with advantage, have a bulge. In a few cases, it was not found necessary to resort to the stiff instrument.

The hard stem is worn continuously for three months. It is then removed for a week or ten days. If there is then found a tendency to return to the former condition, the stem is again introduced, and worn for another period of three months. The essential principle in this plan of treatment consists in its gradual conduct. The uterus must be coaxed, not forced, into proper shape. Any method of treatment which involves the rapid removal of the flexion is dangerous, and not liable to be of permanent benefit. In no instance has inflammation followed the use of the stem. Where the flexion is maintained by adhesions, or where there is evident inflammation, the stem is not to be employed.

The stem has been used by the author in sixty-seven cases, forty-three married, and twenty-four unmarried. Nine of the former had borne children, and eight of the latter subsequently became pregnant. Forty-one of the cases were cured, five improved and relieved of dysmenorrhœa, and in twenty the result was not known.

DISCUSSION.

DR. OGDEN, of Toronto. I am perfectly in accord with Dr. Jackson's paper. There is no use in trying to straighten the uterus suddenly. When the uterus is accustomed to the presence of a foreign body, the stem-pessary is calculated to do a great deal of good. To retain the stem in position, I use dry, non-absorbent cotton, dusted with boric acid, in preference to the moist cotton. This can be left in three or four days.

PROFESSOR LAURENCE, of Bristol, Eng. In England, intra-uterine stems are in great disfavor. My own plan has been similar to that of Dr. Jackson. I use the stem in selected cases, where the only cause of the dysmenorrhœa is the bent condition of the uterus. I gradually prepare the uterus for the use of a stiff instrument. I would relate the following case: A married woman, aged thirty-five years, was sterile, and suffered with dysmenorrhœa and inter-menstrual hæmorrhage. After wearing the stem for two months, the bleeding ceased, and the dysmenorrhœa disappeared. In six months I removed the pessary, and the woman became pregnant. I have had many such cases. The first thing is to be sure that the trouble is due entirely to the bent condition of the canal. I have dilated canals, and incised them, but never with the results that I have obtained from the intra-uterine stem.

THE TECHNIQUE AND TREATMENT OF UTERINE FIBROMATA BY ELECTROLYSIS,

by DR. G. APOSTOLI, of Paris, France.

The paper was read in French. The author described in detail the method of treating uterine fibroids, which he had recommended. He has found electrolysis successful in checking the growth of the tumor, and in decreasing its size. He does not regard the plan of treatment as dangerous, having lost but two patients out of two hundred cases, and in these instances death was not directly attributable to the operation. He has also used this method for the relief of nervous pain in hysteria, employing the constant current, long continued. This also relieves pain associated with effusion. In four cases, galvano-puncture per vaginam has cured ovarian cysts after the treatment has been continued two years.

DISCUSSION.

DR. JAMES R. CHADWICK, of Boston. I am sorry to say that my results have not been so satisfactory as those of Dr. Apostoli. For the past six months I have employed this method. I must, however, say that the current has not been applied as frequently as has been recommended by the author. I have used this method in from twelve to fifteen cases. The greatest number of applications was seventeen or eighteen. Several cases received seven or eight applications. Others received a less number. In one case of small fibroid, after five or six applications, the length of the uterine canal was diminished from 3.75 inches to 3.25 inches. In a case which received seventeen applications, I could detect no change. In two cases of multiple fibroids, one or two applications were followed by fever and pain, and what might be called metro-peritonitis. Both recovered. In two cases death has followed the treatment. In one case the tumor was smaller than the fist. The patient went home after the application and the next day began to have pain in the pelvis. I saw her on the fifth day. She then had acute metro-peritonitis and died on the eighth day. No autopsy was made. The second case was one of enormous fibroid springing from the posterior lip and filling the vagina. The treatment had been carried on for some time by another gentleman, with good results. The case was then referred to me. I made five applications, in every instance following the aseptic method closely. The fifth application was followed by septic infection. This was followed by profuse suppuration, and at the end of four weeks the patient suddenly died of what I suppose to have been pulmonary embolism.

VENTRAL HERNIA AFTER LAPAROTOMY AND ITS SURGICAL TREATMENT,

by DR. JAMES R. CHADWICK, of Boston.

The history of cases of ventral hernia following laparotomy, shows that the affection does not appear immediately, but usually a year or more, later: The protrusion tends to increase steadily until it may assume enormous proportions. The use of pads and trusses to arrest the progress of the lesion has, as a rule, been of little value. The hernia causes a dragging sensation, colicky pain, meteorism and indigestion. There is liability to inflammation of the sac or to its rupture. Strangulation has not supervened in any case of hernia after laparotomy. The frequency of this lesion is probably greater than is appreciated.

Early operations probably tend to increase the liability to hernia, for the abdominal walls are then more tense than after the removal of a large tumor. The use of the drainage tube may favor its development, and in these cases it was suggested that a suture be placed on each side of the tube and when the tube is removed they can be tightened, thus closing the opening. In regard to the cause of the hernia much stress was laid upon the fact that in the operation, the fascia covering the rectus muscle was cut. The two portions of this fascia at once retract, and if not brought together when the wound is closed, will leave a weak spot. The hernia results from the failure to unite the musculo-aponeurotic layers.

The following case operated on by the author in April, 1887, was described: The patient was a woman, forty-four years of age, of strong, muscular development. In 1872, she had an ovarian tumor, weighing sixty pounds, removed. The abdominal incision was closed with unusual haste on account of the collapsed condition of the patient. The pedicle was secured with the clamp in the lower angle of the wound. Three years later the wound began to bulge. Every form of truss was applied, but the hernia gradually increased. The menstrual periods lasted ten days, one-third of the quantity of blood escaping from the stump. There was severe lancinating pain in the hernia. The skin over the lower portion of the hernia was extremely thin and the patient was in constant fear of rupture. The abdominal walls were loaded with three or four inches of fat. The operation was performed under strict aseptic precautions. The whole sac was laid open. Ten silk sutures were passed through the integument, three inches of fat through the rectus muscle and peritoneum one inch from the edge of the opening, and then through the opposite side. The abdominal tension was very great.

The convalescence was uneventful although there was considerable suppuration in the cellular tissue. The union was ultimately complete and firm. Five months have elapsed since the time of operation.

THURSDAY, SEPTEMBER 15TH.—THIRD DAY.

Discussion of DR. BANTOCK'S paper on

THE TREATMENT OF THE PEDICLE IN SUPRO-VAGINAL HYSTERECTOMY.

DR. A. MARTIN, of Berlin. The principal objection to the dropping of the pedicle is the danger of hæmorrhage. This danger, I think, does not exist. In Berlin, it is the practice to treat the pedicle by the intra-peritoneal method. In performing this operation, I surround the pedicle with Esmarch's constricting apparatus. In removing the body of the uterus, a V-shaped excavation is made in the cervix. The upper portion of the cervical canal is then dissected out, and the lower portion carefully disinfected. The cavity thus formed is brought together with sutures. Next, the two flaps of the cervix are united, and then the edges of the peritoneum are brought together. In this way, danger of hæmorrhage is avoided. I think that the method of fixing the pedicle will have little influence on the development of sepsis. Many of these patients die from the effects of their disease. The intra-peritoneal method of treating the pedicle is certainly the ideal method. In the treatment of ovarian tumors, the intra-peritoneal method was first employed,

and then a great advance was made when it was treated outside, but now the general rule is to drop the pedicle in these cases.

Up to the end of 1886, I had had eighty-four supra-vaginal amputations of the uterus. Of this number, ten died of sepsis, and seventeen died of collapse following embolism. This series includes a number of very unfavorable cases. Of my last thirty supra-vaginal hysterectomies, I have lost three.

DR. A. R. SIMPSON, of Edinburgh. I do not think that we can say that either method of treating the pedicle is the best in all cases. Each case must be decided by the conditions met with in that particular case. I think that, in the treatment of fibroid tumors, the clamp will hold its ground, for the reason that, in this way, the pedicle can be secured in a much shorter time, and this is an important point.

Dr. Bantock has objected to the use of iron. I agree with him that the solution of the perchloride should not be used, for it is difficult to confine a liquid to the desired point, but the persulphate, in the form of a powder, does not offer this objection. I have used this in combination with iodoform and bismuth powder over the stump, with entire satisfaction.

DR. WILLIAM GARDINER, of Montreal. My experience amounts to only five or six cases, but, in these, I have used the clamp, and, so far, I have seen no reason to change my mode of procedure. The best results, so far, have been obtained from the extra-peritoneal method.

DR. H. MARION SIMS, of New York. I have employed the extra-peritoneal method in the hysterectomies which I have performed. I have seen my father employ the intra-peritoneal method with such unfavorable results, that I have feared to try it. I have had eight cases, of which two died of sepsis, the result of sloughing of the stump.

DR. MATHEW D. MANN, of Buffalo. I have had six cases in which I have removed the uterus or fibroid tumors from the uterus. In the first case, where I removed a fibroid tumor weighing fifteen pounds, I encircled the pedicle with a ligature, and dropped it. Six hours later, the woman was in a state of collapse from hæmorrhage. I opened the abdomen, and secured the pedicle with a wire clamp, and the woman recovered. Since then, I have always used the clamp. All my cases have recovered. In the after-treatment of the stump, I have rubbed it with iodoform, packed cotton around it, and left it exposed to the air. In this way, it dries quickly and becomes perfectly hard.

DR. G. G. BANTOCK, of London. I would call attention to the fact that, while my mortality from the extra-peritoneal method of treating the stump has been twelve in seventy-two cases, that of Dr. Martin in the intra-peritoneal method has been twenty-seven in eighty-four cases. The number of cases, however, is not large enough to be of much value. The proportion of septic cases with the intra-peritoneal method was greater than with the extra-peritoneal method. In regard to the use of iron, I believe that it is a mistake to apply anything to the stump. If the pedicle is properly trimmed, it becomes as hard as horn in two or three days. The greatest care should be taken in bringing the edges of the peritoneum accurately together, so that nothing may pass down from the stump.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.¹

SECOND DAY.—MORNING SESSION.

RECENT AND NEGLECTED CASES OF DISLOCATION OF THE RADIUS AND ULNA, UPWARD AND BACKWARD UPON THE HUMERUS.

DR. URI C. LYNDE read a paper with this title. Only neglected cases of dislocation of this kind had come under his observation. When allowed to remain unreduced the deformity was considerable, and the function impaired if not entirely lost. This dislocation became the soonest irreducible. He first considered reduction when recent. The surgeon had to deal with three factors; muscles, ligaments and bones. In all cases in which the brachialis anticus remained intact, it was the chief factor on which the surgeon relied to accomplish reduction. Dr. Lynde thought the mechanism of reduction in these cases depended upon the flexion of the forearm upon the arm, and not upon pressure upon the radius and ulna. There were but two indications to accomplish reduction, the first being to remove the coronoid process from the olecranon fossa, the second, to aid the brachialis anticus to draw the humerus into position. There were two methods, the one by over-extension and traction, the other by flexion and traction. By the first method the coronoid is lifted from the olecranon fossa; by the second it is rolled from it. In both methods, traction from the wrist is practised to aid the brachialis anticus in drawing the humerus into normal position. Should this muscle be torn, traction will be aided by the biceps. Soon after the dislocation the patient is himself able to reduce it, but after some weeks or months reduction is very difficult. Dr. Lynde here gave reasons for this increased difficulty in reduction with the lapse of time. He objected to the practice of over-extension in old cases as it endangered the vessels. Flexion was safe; that is, it did not involve danger to vital parts. If necessary, the triceps might be cut, and some surgeons drilled the coronoid process subcutaneously to weaken and break it. If necessary to retain the parts in place, a splint might afterwards be worn.

DR. E. M. MOORE favored over-extension in the reduction of old cases. He doubted whether there was much danger to the bloodvessels and nerves.

DR. CARMAN, of New Haven, thought it unnecessary to put the knee in the bend of the elbow while practising reduction, as it was equally unnecessary to insert it in the axilla in reducing a dislocation of the shoulder; the thumb answered the purpose as well as the knee.

DR. J. W. S. GOULEY, of New York, then read

AN ADDRESS ON NOSOGRAPHY.

The object of the essay was to urge official adoption of a human nosography founded on a stable basis; to place before the medical profession a criticism upon the nosography of diseases in general, and of affections of the male urinary genital apparatus in particular; to awaken the attention of teachers to the necessity for improving the nomenclature of medicine, pointing out some misused words and proposing others for their consideration; to summarize modern views on the pathoanatomy of urinary genital affections, and indicate methods of diagnosis and treatment considered to be safest and most efficient. Dr. Gouley criticised

the use of the word "system" in the phrase genito-urinary system. It should be discarded for the word apparatus. The same in speaking of the genital and other apparatus, the word system should not be employed. The work of nosographers of the past was reviewed.

The paper was referred to a committee composed of Drs. Carroll, Moore and Cronyn, who were afterwards given power to add to their number.

SECOND DAY.—AFTERNOON SESSION.

DISCUSSION ON TYPHOID FEVER.

DR. ALFRED L. CARROLL opened the discussion with a paper in which he raised the following seven questions, namely:

(1) Does the term typhoid fever properly include all the varieties described by observers; or are there other, still undifferentiated, continued fevers commonly grouped under this head?

(2) Is typhoid fever always the product of a specific contagium from a pre-existing case; or may it arise, *de novo*, from filth-fermentation.

(3) What part is played by micro-organic ferments in the causation of enteric fever?

(4) Is there a disease of the lower animals transmissible to man as typhoid fever?

(5) What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?

(6) What are the complications and sequelæ properly associated with typhoid fever?

(7) What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?

Speaking to the first question, the author thought that some of the described varieties of typhoid fever differed the one from the other as widely as the general group differed from typhus fever. The general experience of the profession had taught us not to place implicit reliance upon the temperature, or other one clinical phenomenon, in diagnosing the disease. Nor was the diagnosis always cleared up by the necropsy. He thought we were justified in speaking of a specific exanthematous fever with local lesions in the intestinal glandular apparatus, apparently developed only from changes which took place in the excreta of a previous existing case, and which might, until a clearer idea of the pathology was obtained, be entitled enteric fever. One attack, as a rule, afforded immunity for the future. There were many well-authenticated cases of adynamic fever occurring in isolated rural districts where no connection with a previous case could be discovered, but it had not been proven that such cases were undoubtedly those of what might be classed as enteric fever. Adynamic fevers, resembling typhoid or enteric fever in the clinical history could be traced to filth-fermentation.

Speaking of the fifth question, he said the most common source of danger was the water. The filtering power of the soil might be over-taxed; nor could implicit reliance be placed in artificial methods of purification. The simplest method was to boil the water half an hour. In public practice, the only wise rule was to see that the water-supply was absolutely uncontaminable by drainage.

As to the seventh question—what are the indications for treatment?—he said purity of air, water, and soil was as essential to recovery as to the preserva-

¹ Continued from page 240.

tion of health. We should try to maintain nutrition. Cold baths might be useful in certain cases, but their routine adoption was to be deprecated. It was a question whether more relapses did not take place when antipyrine was employed.

DR. E. G. JANEWAY, of New York City, discussed the first two questions, but the first he changed as follows: Do we encounter, in this state, a form of continued fever not due to typhoid poison, and liable to be mistaken for typhoid fever?

Every physician having had any experience must admit to having had doubts regarding the nature of the poison which had excited the fever in certain cases. Typhoid fever was no more bound in its course to rigid rules than was pneumonia. The writer had seen, in the course of a single year, as many as twenty cases of typhoid fever, which had been called remittent, typho-malarial, and simple continued fever. He did not think types had changed so much as had the diet and treatment, which latter would account largely for the diminished frequency of diarrhoea.

Those engaged in private practice, and those in the country, where it was difficult to get an autopsy, were the strongest upholders of the view of the divisibility of the cases of typhoid fever. Many cases of true typhoid fever in isolated places were regarded as malarial, typho-malarial, etc. Regarding typho-malarial fever, he was of the opinion that a large proportion of the cases in this latitude were cases of pure typhoid fever. He had seen no reason to credit a cause to be known as a typho-malarial cause of an acute or separate disease process, but certain cases with previous malaria, in which typhoid fever developed, modifying the course of the disease, had given rise to the supposition. It would be wiser to stick to the nomenclature of typhoid fever, and look upon the malarial element as a complication.

As to the second question, he admitted a germ as the original cause of typhoid fever; but when the question was asked — did it always arise from a pre-existing case? — we encountered trouble. That it had often arisen from previous cases could readily be proven, but it was difficult to prove that it was *always* due to a previous case. Dr. Janeway had found but very few recorded cases in which it appeared that the disease had developed in entirely isolated surroundings, such as seemingly to preclude the possibility of contagion derived from another case, and in none, he thought, had the proof been altogether beyond question. He was willing to entertain the possibility of a spontaneous origin, but he could not admit that it had been proven beyond doubt.

DR. HERMANN M. BIGGS discussed the third question. He summed up as follows: There are invariably found in the spleen, mesenteric glands, Peyer's patches, sometimes in the liver and kidneys, in cases of typhoid fever, peculiar, short, thick bacilli. This bacillus is the only organism found in uncomplicated cases of this disease in the internal organs, and is never found in any other condition of health or disease. All experiments thus far to produce typhoid fever in lower animals have been unsuccessful. The bacillus, as present in the stools of typhoid fever patients, has been found, in a few instances, in the water which has been the source of the disease.

D. E. SALMON, D.V.S., of Washington, discussed the fourth question without notes. The facts which came under his observation were necessarily of a one-

sided character. Typhoid and other infectious diseases, in man, he saw only in exceptional cases. He had no reason to suppose that there is a specific disease in animals which produces a specific disease in man attributed to the bacillus just described. The bacillus in the cholera of hogs seemed to be identical, in microscopical appearances, with the bacillus described in typhoid fever of man, and it was similar in its ability to live and multiply in reasonably pure drinking-water. But, in spite of the fact that hog-cholera is so common in this country, no facts had come to his knowledge to show that it had produced a specific disease in man. He hoped that, in the future, we should be able to separate the specific ptomaines produced by the growth of the specific virus of the different contagious diseases, and, by using these, be able to produce a degree of immunity equal to that produced by one attack of the disease. The only way in which we have been able to produce immunity by the use of ptomaines, thus far, has been by hypodermic injection.

He thought that, for the advancement of science, there should be more sympathy of work between those who made a study of the diseases of man and those who studied the diseases of animals.

DR. CHARLES A. LEALE and DR. EVERARD D. FERGUSON discussed the fifth question. The former dwelt considerably upon the disposal of sewage by vegetation on garden-farms, and to the labors in this direction of Dr. Carpenter. He expressed sympathy for the over-worked hospital interne, who was peculiarly disposed to contract typhoid fever when exposed to the poison.

DR. FERGUSON gave the history of two epidemics of the disease in a portion of Troy, in the first of which it was traced to the water-supply from wells which tapped a superficial underground basin; in the second, to the water and air at the time of an overflow.

DR. CHARLES G. STOCKTON discussed the seventh question, and said that the greatest attention should be given to the diet. Only a limited amount could be assimilated, and should be given in the form most easily digested. It should be peptonized. To reduce the temperature, he would try sponging first. The injurious effects of antipyrine, etc., doubtless was often due to their abuse, rather than to the fact that they were contraindicated. It was most important to provide an airy, sunny, quiet room, a large, single bed, and a good nurse, first and last.

(To be continued.)

Recent Literature.

Cyclopædia of Obstetrics and Gynecology. Vol. 6: Gynecological Examinations, Minor Therapeutic Manipulations and Elementary Operations, Operations on the Ovaries. By DR. A. HAGAR and DR. R. KALTENBACH. Vol. 10: Diseases of the Female Urethra and Bladder. By F. WINCKEL, M.D., and Diseases of the Vagina, by A. BREISKY, M.D. New York: Wm. Wood & Co. 1887.

The publishers of these volumes are well known for their enterprise in bringing before the medical profession, each year, a series of works at a moderate price, embracing original monographs and translations, the volumes being issued monthly, and sold only by sub-

scription as a set. This year, instead of a variety of subjects, as has usually been the case, they have confined themselves to obstetrics and gynæcology; and, in the twelve volumes, some of which have already appeared, propose to so well cover the subjects comprised under these two heads, as to warrant the name of Cyclopædia for the completed work.

The two under consideration are the first which have appeared treating of gynæcological subjects. Volume 6 is a translation of the first part of Hegar and Kaltenbach's well-known work on "Operative Gynæcology," which has been a standard book in Germany for many years, and Volume 10 needs nothing more than the well-known names of its authors, Winkel and Breisky, to recommend it. We are heartily glad to see both of these brought within the reach of the large numbers of our profession who cannot read them in the original, and feel sure that who ever subscribes for the complete set will not regret the outlay. It is an opportunity to obtain, at a moderate cost, books which rank among the best that have appeared in Germany. The translation is, in general, very carefully done, and the volumes are issued in a very neat and attractive form.

Anatomical Research in the Human Rectum, and a new Method of Rectal Inspection. By WALTER J. OTIS, M.D. Part First. Leipzig: Veit & Comp. 1887.

This is a very handsome monograph printed in German and English in parallel columns, and illustrated by eight fine plates and one wood-cut. This first part of Dr. Otis's work treats only of the rectum of the male cadaver, the new method of examination in the living being reserved for a future one. Dr. Otis's investigations, begun at the Harvard Medical School, where he was one of the assistants in anatomy, have been continued in Professor Braune's department at Leipzig.

The mucous membrane and the muscular layers of the rectum have been thoroughly studied, and the results clearly expressed. The essential point of the paper is that the rectum is sacculated, like the colon. Many readers will, we imagine, be disposed to think the figures of the folds of the plates exaggerated, but we are convinced from the study of preparations at the Harvard Medical School, made by Dr. Otis, that such is not the case. He does not believe in the existence of the third sphincter. He believes that the gathering together of the circular fibres in the folds of the rectum is for the purpose of expelling the contents, as Dr. Chadwick has already maintained, but he does not explain, as he should, how a system of folds is a help, rather than a hindrance. Dr. Otis states that the lowest fold on the right is the largest, and marks, in a general way, the lowest point of the recto-vesical fold of the peritoneum. He suggests that this be known as the *plica transversalis* of Kohlrausch. In conclusion, we have to thank Dr. Otis for two things: first, that he has omitted an historical chapter; and secondly, that he has given a full bibliography of the subject.

T. D.

—The New York Academy of Medicine recommenced its meetings after the long vacation, on October 6th, with a discussion on "The Modern Method of Treating Syphilis," which was opened by Dr. P. A. Morrow, and participated in by Drs. E. B. Bronson, E. L. Keyes, R. W. Taylor, F. R. Sturgis, and others.

THE BOSTON

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TYPHOID FEVER.

As we are now passing through the season of the year when — whatever the cause or causes may be — typhoid fever ordinarily reaches its maximum prevalence, especially in large cities, the old subject offers its renewed periodical interest, and the latest expression of opinion of those who have given it their study attracts attention.

At the recent meeting of the New York State Medical Association, typhoid fever was assigned, in advance, as the special subject of discussion at one of the afternoon meetings.¹

Discussion was directed to a consideration of the following debatable questions:

(1) Does the term typhoid fever properly include all the varieties described by observers; or are there other, still undifferentiated, continued fevers commonly grouped under this head?

(2) Is typhoid fever always the product of a specific contagium from a pre-existing case; or may it arise, *de novo*, from filth-fermentation?

(3) What part is played by micro-organic ferments in the causation of enteric fever?

(4) Is there a disease of the lower animals transmissible to man as typhoid fever?

(5) What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?

(6) What are the complications and sequelæ properly associated with typhoid fever?

(7) What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?

The first speaker thought we were justified in speaking of a specific exanthematous fever, with local lesions in the intestinal glandular apparatus, apparently developed only from changes which took place in the excreta of a previous existing case, and which might, until a clearer idea of the pathology was obtained, be entitled enteric fever; that one attack, as a rule, af-

¹ See page 364 of the Journal.

forded immunity for the future; that adynamic fevers occur in isolated rural districts, where no connection with a previous case is discoverable; and that such fevers, resembling typhoid or enteric fever in the clinical history, could be traced to filth-fermentation.

Dr. E. G. Janeway thought that a form of continued fever not due to typhoid poison is encountered; he has found very few recorded cases in which it appeared that the disease had developed in entirely isolated surroundings, such as seemingly to preclude the possibility of contagion derived from another case, and in none, he thought, had the proof been altogether beyond question; whilst admitting a germ as the original cause of typhoid fever, he was willing to entertain the possibility of a spontaneous origin, but he could not admit that it had been proven beyond doubt. He rejects the term typho-malarial, very properly, as we think, preferring typhoid fever with malarial complication.

Dr. Biggs, of the Carnegie Laboratory, accepts Eberth's bacillus as a true bacillus of typhoid fever. Dr. Salmon, of the Government Service at Washington, thinks there is no reason to suppose that there is a specific disease in animals which produces a specific disease in man, attributable to this bacillus typhosus.

These are important points, some of which the last few years have tended to elucidate; whilst, in regard to others, we can only reason from analogy, and await an expansion of knowledge before having the means of reaching positive conclusions. The discussion, however, brought out very fairly the best views of the present day.

THE INDEX-CATALOGUE, VOLUME EIGHT.

THE eighth volume of the Index-Catalogue of the Library of the Surgeon-General's office which has just appeared, carries the index to Medicine (Naval). It includes 13,405 author titles representing 5,307 volumes and 13,205 pamphlets. It also includes 12,642 subject titles of separate books and pamphlets, and 24,174 titles of articles in periodicals.

This interesting volume contains an index of the literature of stone from lithectasy through litholapaxy, litholibia, litholysis and lithontriptions to lithotripsy.

Subjects classified under the head *Massachusetts*, are numerous, and contain reports from various public institutions and hospitals, charitable societies of all sorts, etc.

Two hundred and eighty-seven pages are occupied by subjects classified under the general head of *Medicine*, which is interrupted at *Naval Medicine*, by the close of the volume, so that the same general head must occupy a large space in the ninth volume when it appears. Abuses and errors of, and satires on Medicine, cover nearly four pages. Anecdotes, curiosities and facetiae of medicine is a sub-head which covers even more space. Under this heading occurs Sir Kenelm Digby's "A late discourse made in a solemn assembly of nobles and learned men at Montpel-

lier, in France — touching the cure of wounds by the powder of sympathy; with instructions how to make the said powder. Rendered faithfully out of French into English by R. White. 2d edition, London. 1658," and a seventh German edition of the same published at Ratzeburg, 1718; and Fludd, R. "Answer to M. Foster; or the squeezing of Parson Foster's sponge, ordained by him for the wiping away of the weapon salve. Wherein the sponge-bearer's immodest carriage and behavior towards his brethren is detected: the bitter flames of his slanderous reports are, by the sharp vinegar of truth, corrected and quite extinguished, and lastly the virtuous validity of his sponge in wiping away of the weapon salve is crushed out and clean abolished, London, 1631;" "Life (The) and adventures of Don Bilioso de L'Estomac. Mathews (R.), A pretious pearl in the midst of a dunghil, being a true and faithful receipt of Mr. Richard Mathews pill. Presented to the world by Mrs. Anne Mathews amongst many sad complaints of wrongs done to her and the commonalty and her deceased husband. London, 1663."

Military medicine is presented under historical divisions so that we have the Napoleonic wars as a subsidiary heading which opens with a book by Beaufré, "A treatise on the effects and properties of cold; with a sketch, historical and medical, of the Russian Campaign;" and contains among other interesting material a description by Deputy Inspector-General Longmore, of a series of water-color drawings, executed by Sir Charles Bell, illustrative of wounds received at Waterloo.

The War of the Rebellion occupies of course considerable space. The previous wars of the United States made but small contributions to medical literature.

The present volume ought to mark the completion of the first half of the work, though we venture to predict that the growth of the library will extend the second half to more than eight volumes.

A NEW METHOD OF TREATING SEA SICKNESS.

DR. W. SKINNER has written to the *Semaine Médicale* his experience in the treatment of sea sickness.

He regards this affection "as the expression of certain purely functional or dynamic disturbances of the organism." "Some of the symptoms (the abnormal compressibility of the pulse, the oliguria, the chilliness of the extremities, the great pallor of the skin, and certain signs of cerebral and bulbar anæmia) indicate a general fall of the arterial blood pressure." The cause is to be found in paralysis of the vasomotors; "the starting point is probably a reflex inhibition coming from the sensorium (sight, hearing), or from the nerves of the abdominal organs." These organs, he says, are doubtless slightly contused and stretched by the rolling and pitching of the ship, and the terminal fibres of the sympathetic sensory nerves

whole, were surgical. Nine thousand nine hundred and thirty visits, or 21 per cent., were to the Eye Department, and the remaining 37 per cent. were distributed among the various other services.

The tent service in connection with the hospital, which affords fifty-six beds, was in active use and of the utmost advantage, especially for the most serious surgical cases, during the summer months. Its maintenance is comparatively inexpensive, and experience has amply demonstrated the advantages of treatment under these conditions; moreover, opportunity is thus afforded of vacating and renovating in turn the permanent wards.

Since the publication of this report we understand the tent service has been further extended, so that medical patients share in some degree in its benefits.

The training-school for nurses, at the close of its ninth year, continued to work very efficiently, and numbered seventy members. The new Nurses Home gives satisfaction.

The trustees state that the per capita cost of carrying on the Hospital has been brought to the lowest point, \$7.50 a week, which is compatible with the maintenance of a high standard of service and preservation in a large metropolitan hospital devoted to acute diseases and surgery. The trustees also recommend to the Mayor and City Council a further appropriation of \$16,000, in addition to a sum of \$19,000, now on hand, to meet the necessities of the erection of a suitable out-patient building. There are, certainly, less desirable ways of spending the taxpayer's money than in providing for the decent care of the sick poor of the city.

MEDICAL NOTES.

—The Rev. Dr. Maynard, a well-known lecturer on European Travel, a passenger on the *Alesia*, the New-York-bound Italian ship, on which occurred the recent outbreak of cholera, writes, in the daily press, that the death of the first victim, a young Neapolitan, was announced to be due to heart disease. He says: "There was, at the time, no ground for supposing otherwise, and yet, in some unaccountable way, all on board became seized with a misgiving. The funeral of the Neapolitan was a sad and impressive sight, and, if it was possible, it increased the general dejection. Previous to this we were a gay company, the Italian emigrants particularly so. The discomforts attending an emigrant voyage seemed to have no effect upon their spirits. They chatted and laughed, and sang and danced, all day long, and well into the nights, which were made more pleasant by moonlight. But, from the time the Neapolitan died, not a sound of mirth was heard. The dancing was ended. Not a note was sung. I have no doubt that the condition of mind of these people had a good deal to do with the swift headway which the disease made after it began its work. I never saw such a complete surrender to misfortune as these people made. They made no struggle with fate, but sat or moved about listlessly and lifelessly, and seemed

actually to invite death by their dread of it. Strange to say, the disease first struck the Neapolitans, and the proportion of the stricken among them was greater than among those from Palermo, who imparted the disease."

—Inquests have been held in England, during the past week (*British Medical Journal*, September 24th), on the bodies of three children, who, bitten by rabid dogs, died from hydrophobia. Two of the victims, aged respectively eight and nine years, were bitten, in the suburbs of Liverpool, on August 30th. The rabid animal not only attacked other dogs, but several persons were bitten by it, and it was only prevented from doing further mischief by the bravery of Mrs. Atkinson, who, in her successful efforts to protect three children, was herself badly bitten. She has gone to Paris to be treated at the Pasteur Institute. We have already referred to the death of the Kirkham child at Lancaster, which occurred almost immediately after his return from a treatment by Pasteur, whither, it seems, he was accompanied by two other children also bitten, but whether on the same date, we do not learn. Kirkham was bitten July 18th, started for Paris seven days later, remained there a month, had his first symptoms the day of his return, and died two days later.

—The *Medical Register*, of Philadelphia, having stated that the editor of the *Medical News* was the author of the dispatches sent from Washington to the *Philadelphia Press* in regard to the International Medical Congress, the managing editor of the *Press* issues a circular, in which he states that the editor of the *Medical News* was not the author of the dispatches in question, and that he was not in any way responsible for them. They were sent from Washington by two regular correspondents of the *Press*, and he finds, upon inquiry, that the identity of the writers was absolutely unknown to Dr. Hays, who, he adds, is at the present moment quite unknown to him, save by name.

NEW YORK.

—Fifteen of the passengers of the *Alesia* have died of cholera since the vessel arrived, and still there are nine cases of the disease in the Swinburne Island hospital; all of whom, however, are said to be doing well.

—After three trials Dr. C. Fayette Taylor has won a verdict of \$12,000 against the elevated railway for damage to his private hospital by the road, which runs on two sides of it.

—Mr. Cornelius Vanderbilt has added to his other benefactions a handsome and completely fitted up building, situated in the immediate vicinity of the Grand Central Railway Depot, for the accommodation and enjoyment of railroad men. On the first floor are a library containing six thousand volumes, a reading-room, social room, and bath-rooms. On the second floor is a large hall for lectures and entertainments. On the third floor is the restaurant and recreation room, completely fitted up with lounges, and here the men can always obtain hot coffee free of charge. On the top floor is a large room fitted up

with brass bedsteads for the use of railroad men staying in the city over night. The building was formally opened on Monday evening, October 3d, and on this occasion the principal address was made by Mr. Chauncy M. Depew, who, in the course of his remarks, said: "It has been rightly claimed by our Christianity that it infinitely excels all religions and civilizations in humanity. Until Christianity came you never found men looking after the weak and helpless, the sick, aged and infirm. It has created hospitals, asylums, schools. It is the glorious Christian spirit which expands civilization. When the money of the many has gone into the corporation, when the many represented in that corporation cannot know those who work for them, and those who work for the corporation cannot know or meet those by whom they are employed, the strain of relations becomes so tense that, unless some avenue of mutual approach be found, we are upon the brink of those social revolutions, those labor problems, those distinctions of class, that are at once the terror and the sum to be done by the sociologist, the preacher, and the statesman of to-day. This building, with its appointments and completeness, stands now as one of the many signs pointing out how the chasm, which never shall be bloody, can be bridged, and we, of all conditions of life, recognize in our common humanity, all our responsibilities to one another."

—The Board of Education decided at its last meeting to give Public School Trustees the option of testing manual training. The subject has been a long time under consideration and the Committee on Course of Study and School Books, gave the matter careful and deliberate investigation, the result of which was embodied in a report submitted last June, and discussed at meetings since then. The initiation is provided for in the following way: On application of any Board of Trustees to the Committee to introduce manual training into any school, the committee may authorize the substitution in such school of the course of study and provisions prepared by them in place of the usual course of studies, and the proper committees shall authorize the expenditures necessary therefor, provided that, until further action is taken by the Board, such course shall not be introduced into more than six male and six female grammar schools, and the primary departments and schools connected with them. A mixed grammar school shall be considered, as to this provision, as one male and one female grammar school. In no case are the studies of German and French to be interfered with. The test of the plan will, it is estimated, cost \$13,000.

Miscellaneous.

THE DEAD FAILURE, LIMITED.

MR. EDWARD GARRAWAY, in the *Edinburgh Medical Journal* for August, in an amusing, but most interesting paper, sets forth his intention to establish a new medical journal, for which it seems to us the sole

remaining unoccupied niche in medical journalism remains open. He says: "The title of my venture would be 'The Dead Failure, Limited.' Ignoring the maxim that 'Dead men tell no tales,' my book would be made up of nothing but dead men's tales.

"The journals of the day teem with the triumphs of medicine and the exploits of surgery. Everybody records his successes and narrates his victories, till at length one begins to wonder how it comes about that anybody ever dies: People, nevertheless, do die, apparently from sheer perversity, or, as our transatlantic brethren might more pertinently put it, from 'pure cussedness.' Certainly, if we believe, it is no more the fault of the medicine men of the present generation than it was in the days of the celebrated Dr. I. Lettsom, who, you may remember, in allusion to his unhappy patients, is said to have written:

'I physics, bleeds, and sweats 'em;
If after that they chance to die,
It's not my fault — I. Lettsom.'

Now 'The Dead Failure, Limited,' is intended to search out 'the reason why.' It will have nothing to do with cures and recoveries. Defeats and disappointments, whether brought about by negligences and ignorances, sins of omission or commission, errors in judgment, or deficiency in tact — no matter from what cause — unsuccessful cases will alone be admitted. Ah! what rocks, what shoals, what quicksands we might avoid, if every man would raise a beacon where he has suffered shipwreck, instead of glorifying himself, as is his wont, when he has ridden through the storm, or favorable gales have wafted him into port! One prominent and valuable feature of the contributions would be their emanating from the Nestors only of our profession, the most diligent inquiries amongst young practitioners serving but to show that *they* never *do* meet with failures, and never make mistakes."

Following this are some "specimen pages" from such a journal, describing, for instance, errors in the diagnosis of eruptive diseases, especially small-pox.

Of the other instances of mistaken diagnoses we have room for but one, namely stone in the bladder.

"Who," asks our author, "cannot diagnosticate stone in the bladder? Who does not know the characteristic 'clink'? But does everybody know that the clink may be there without the stone? A young lady got retention of the urine. Of course in young ladies the element hysteria has always to be taken into account, and one should be slow to introduce the catheter for the first time, for who can say where or when such a proceeding may end. All other measures failing the patient must needs be relieved. On passing a silver catheter, a click was heard and a concussion felt as its point entered the bladder. Not hastily convinced, I waited till the next day, when the retention recurring, I audibly and sensibly struck the calculus. The young lady's friends were apprised of the nature of the malady and of my hope that without any operation the stone might be removed. Dilatation of the urethra was gradually effected until the forefinger could be swept over the whole internal surface of the bladder, and behold that viscus was empty. Then, and not till then, did it occur to me how often, in turning off the water at my surgery tap, I had heard and felt precisely the same concussion. The conditions were analogous. As the catheter entered the full bladder, the urine came down the tube with a rush, giving a

shock as it impinged upon the head of the stillette at the other extremity. Some balm was dropped upon my wounded pride by afterwards hearing from my friend, Professor Lund of Manchester, that he had been similarly deceived, and went so far as boldly to cut into the bladder, and more boldly and bravely still, to publish his mistake in his valuable Hunterian lectures of the following year.

"Well, now for the sequel, irrelevant, perhaps, but amusing and edifying withal. Incontinence, you will say, resulted from my uncalled-for proceeding. Nothing of the sort. That young lady and I and the catheter kept company for a year and a half; at first twice a day, after a time once, then every other day, every third day, and so on, till at the end of sixteen months I managed to get her sent away from home,

retention at that time recurring but once a week; and it was understood that every Tuesday morning I should travel eighteen miles by rail and three across country to the relief of my patient, take luncheon, and return.

"What confounded humbug! some will exclaim. Well, it was confounded humbug, but assuredly not of my creating. Very early in the case I protested, at length became obdurate, refused to pass the instrument, leaving the unhappy girl for two days and two nights. At the end of this period she plunged into a convulsion, during which the urine escaped, and from which she emerged with paralysis of the right arm—hysterical, of course—but paralysis nevertheless. The friends scarcely forgave my inhumanity, and the catheter routine went on as before."

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 1, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	677	277	23.55	15.90	9.30	1.95	7.20
Philadelphia	993,801	356	139	17.36	12.04	4.20	4.20	7.00
Brooklyn	745,108	333	145	20.70	12.30	5.40	.60	9.60
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	153	61	18.55	13.00	4.50	1.30	6.05
Boston	400,000	176	57	25.65	14.25	6.30	4.05	4.50
New Orleans	242,750	115	32	22.62	14.75	14.79	—	3.48
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	103	41	16.49	16.49	4.85	4.85	2.91
Pittsburgh	210,000	82	34	23.18	12.20	6.10	9.76	6.10
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	62	30	30.59	4.83	9.66	6.44	4.83
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	6	30.45	17.40	8.90	13.05	—
Charleston	60,145	33	9	9.09	—	3.03	3.03	3.03
Portland	40,000	17	2	11.76	17.64	5.88	5.88	—
Worcester	68,383	17	10	35.28	23.52	11.76	5.88	11.76
Lowell	64,051	21	3	14.28	4.76	9.52	—	4.76
Cambridge	59,660	26	14	15.40	15.40	3.85	—	7.70
Fall River	56,863	33	13	30.30	15.15	12.12	3.03	—
Lynn	45,861	20	—	25.00	5.00	—	10.00	—
Lawrence	38,825	18	6	11.11	22.22	5.55	5.55	—
Springfield	37,577	12	2	25.00	25.00	8.33	8.33	8.33
New Bedford	33,393	13	4	46.14	7.69	7.69	7.69	30.76
Somerville	29,992	13	3	30.76	15.38	30.76	—	—
Salem	28,084	11	5	36.36	18.18	18.18	9.09	9.09
Holyoke	27,894	11	4	27.27	—	—	18.18	—
Chelsea	25,709	10	5	30.00	20.00	20.00	10.00	—
Taunton	23,674	8	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	0	—	66.66	—	—	—
Brockton	20,783	6	1	16.66	33.33	—	16.66	—
Newton	19,759	4	1	25.00	25.00	25.00	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	9	4	11.11	11.11	—	—	—
Waltham	14,609	3	0	—	—	—	—	—
Newburyport	13,716	4	0	25.00	—	—	25.00	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,373: under five years of age 912; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 510, consumption 422, acute lung diseases 198, diarrhoeal diseases 166, diphtheria and croup 151, typhoid fever 76, malarial fevers 46, scarlet fever 29, cerebro-spinal meningitis 17, measles four, erysipelas three, small-pox (New York) one. From malarial fever, New York 15, New Orleans 11, Brooklyn eight, Baltimore four, District of Columbia three, Milwaukee and Nashville two each. From scarlet fever, Brooklyn eight, New York and Boston seven each, Baltimore two, Philadelphia, Milwaukee, Cambridge, Fall River, and Fitchburg, one each. From cerebro-spinal meningitis, New York and Fall River four each, Lynn three, Philadelphia, Boston, District of Columbia, Pittsburgh, Worcester and Holyoke one each. From measles, New York three, Philadelphia one. From erysipelas, Baltimore two, Brooklyn one.

In the 28 cities and larger towns of Massachusetts with an estimated population of 1,131,336, the total death-rate for the week was 19.26 against 23.31 and 22.04 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,241,099, for the week ending September 17th, the death-rate was 18.0. Deaths reported 3,186: infants under one year of age 971; acute lung diseases (London) 142, diarrhoea 296, scarlet fever 116, whooping-cough 84, fever 48, diphtheria 37, measles 34, small-pox (Sheffield nine, Liverpool and Cardiff one each) 11.

The death-rates ranged from 15.0 in Derby to 27.0 in Preston; Birmingham 18.5; Bradford 23.0; Hull 17.0; Leeds 17.8; Leicester 17.5; Liverpool 18.3; London 15.7; Manchester 25.8; Newcastle-on-Tyne 21.6; Nottingham 18.4; Sheffield 20.1; Sunderland 22.1.

In Edinburgh 16.3; Glasgow 19.2; Dublin 34.3.

The meteorological record for the week ending October 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Oct. 1, 1887.																			
Sunday,...25	29.98	44.0	57.0	46.0	75.0	50.0	66.0	64.0	W.	W.	W.	10	18	6	C.	C.	C.		
Monday,...26	30.01	43.0	58.0	42.0	70.0	48.0	67.0	62.0	W.	W.	S.W.	10	12	6	S.	S.	O.		
Tuesday,...27	30.10	46.0	56.0	40.0	65.0	73.0	73.0	70.0	W.	W.	S.W.	12	8	6	S.	S.	S.		
Wedges,...28	30.15	52.0	67.0	50.0	78.0	55.0	80.0	71.0	W.	W.	W.	4	10	11	O.	O.	C.		
Thursday, 29	30.10	57.0	62.0	55.0	86.0	100.0	100.0	95.0	S.W.	E.	0	7	7	0	O.	R.	F.		
Friday,...30	30.13	55.0	61.0	55.0	91.0	94.0	67.0	94.0	N.	E.	E.	5	13	6	F.	F.	F.		
Saturday, 1	29.98	57.0	60.0	54.0	100.0	100.0	100.0	100.0	S.E.	E.	0	6	13	0	R.	R.	R.	33	70
Mean, the Week.			60.0	49.0															

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 1, 1887, TO OCTOBER 7, 1887.

CARTER, E. C., captain and assistant surgeon. Leave of absence further extended fifteen days. S. O. 231, A. G. O., October 4, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Relieved from further duty in connection with the competition of "Team of Distinguished Marksmen," at Bellevue Rifle Range, to take effect October 1st, and will return to his station, Fort Omaha, Neb. S. O. 95, Department of Platte, September 27, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Will be relieved from duty at Fort Omaha, assigned to temporary duty with Battalion 6th Infantry in the field, October 1, 1887.

BORDEN, W. C., first lieutenant and assistant surgeon. Will be relieved by officer commanding troops, upon arrival of Assistant Surgeon Cabell, and will return to his station at Fort Douglas, Utah. S. O. 98, Department of Platte, October 1, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 8, 1887.

MARTIN, WM., assistant surgeon. Detached from Hospital Norfolk, and granted sixty days' leave.

BATES, N. L., medical inspector. Detached from Naval Dispensary, and to Examining and Retiring Board.

PRICE, A. F., surgeon. Ordered to the Naval Dispensary, Washington, D. C.

WAGGENER, J. R., surgeon. Ordered to the Receiving Ship "Minnesota."

FITZSIMMONS, PAUL, surgeon. Detached from "Minnesota," and to "Morion," 15th October.

ATLEE, LOUIS W., assistant surgeon. Detached from Receiving Ship "Vermont," and to the "Morion," 15th October.

RUSH, W. H., passed assistant surgeon. Detached from coast survey Steamer "Blake," and to the Navy Yard, New York.

BERRYHILL, T. A., assistant surgeon. Detached from "Minnesota," and to the "Blake."

DRENNAN, M. C., surgeon. Detached from Naval Academy, and wait orders.

SOCIETY NOTICE.

FIFTEENTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.—The American Public Health Association will meet at Memphis, Tenn., Tuesday, November 8th, at 10 o'clock, A.M., and continue four days. The meetings will be held in Young Men's Hebrew Hall. The Executive Committee have selected the following topics for consideration at said meeting: I. "The Pollution of Water-Supplies." II. "The Disposal of Refuse Matter of Cities." III. "The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements." IV. "Animal Diseases Dangerous to Man."

DEATHS.

Died in West Roxbury, Mass., October 3, 1887, George Otis Allen, M.D., M.M.S.S., aged forty-eight years.

Died in Boston, October 8, 1887, David McCaire Parker, M.D., M.M.S.S.

OBITUARY.

GEORGE OTIS ALLEN, M.D.

Dr. George Otis Allen died suddenly at his residence in West Roxbury, October 4th. He was born at Norton, October 25, 1838. He spent one year in the medical department of Bowdoin College, Brunswick, Me., and then became a member of the Harvard Medical School. Soon after the breaking out of the civil war he received the appointment of medical cadet in the army, and spent a year in Louisville, Ky., in that capacity. He then returned to the Harvard Medical School to finish his studies. After being graduated he was appointed volunteer assistant surgeon in the navy in the Mississippi squadron. At the close of the war he was for some time in the Naval Hospital, Chelsea, and was also on the "Franklin," the flagship of the European squadron, for three years. On his return to this country he was again stationed at the Naval Hospital, Chelsea. He resigned his position in the navy, 1872, to enter into private practice, and had lived in West Roxbury since 1874. He had been a member of the Massachusetts Medical Society since 1866.

RICHARD QUAIN, M.D., F.R.C.S.

Dr. Richard Quain, the editor of "Quain's Dictionary of Medicine," and well known as a physician and writer on medical subjects, died in London, England, September 16, 1887. He was born in Malrow, in 1816, and became an articled pupil to a surgeon-apothecary at Limerick. At the age of twenty he went to London and entered University College. Distinguishing himself in the classes, he was appointed house-surgeon to the College Hospital, and subsequently house physician to the same institution. He was elected a Fellow of University College in 1843, a member of the Royal College of Physicians in 1846, and a Fellow of that College in 1851. His life was full of professional cares and honors. He was one of the founders of the Pathological Society and was a member of a great number of learned societies. The "dictionary," above referred to, was published in 1882, and is the standard work of its kind in the English language. Among his many other writings was a monograph to the Royal Medico-Chirurgical Society, in which the true nature of fatty degeneration, especially in connection with the walls of the heart, was first described.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Luzerne County Medical Society for the Year ending March, 1887.

University of Pennsylvania. Veterinary Department, Catalogue and Announcement, 1887-88.

Surgical Relations of the Ileo-Cæcal Region. By J. McF. Gaston, M.D., of Atlanta, Ga. 1886. (Reprint.)

Membranous Enteritis. Fiske Fund Prize Dissertation, No. XXXVII. By James B. Field, M.D., of Lowell, Mass. 1887.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-ninth Annual Session held at Baltimore, Md., April, 1887.

Etudes Cliniques sur Le Morrhœol (Extrait de l'Huile de Foie de Morue brune.) Par E. Chazeaud, Docteur en Médecine de la Faculté de Paris. Paris, 1887.

The Delusion of Tonics. By George H. Taylor, M.D., Author of "Health by Exercise," "Health for Women," "Pelvic and Hernial Therapeutics," etc. New York: John B. Alden. 1887.

Original Articles.

THE IMPORTANCE OF RE-EXAMINATIONS AS TO THE ACCURACY OF VISION OF RAILROAD EMPLOYEES AND MARINERS.

BY HENRY W. WILLIAMS, A.M., M.D.,
Professor of Ophthalmology in Harvard University.

AFTER the enactment of the law requiring that tests should be made as to the accuracy of perception of colors, and as to the sharpness of vision of mariners and of railroad men, who are required to readily distinguish signals, obstructions, or other intimations of danger, the railroad officials of Massachusetts manifested a willingness to at once comply with the demands of the Statute, so far as a first examination of their employees was concerned, although the managers of, at least, one road, seem to have deemed it sufficient if danger-signal flags or lanterns could be distinguished from those denoting safety, when displayed, one after another, at certain distances — a test which all experts know to be fallacious, as it *does not* prove an ability to distinguish signals when unexpectedly shown, or when they are soiled, or faded, or dimmed, since, especially in these circumstances, those who are color-blind readily mistake one for the other.

These Statutory examinations give a result similar to those obtained on a very large scale in this and other countries, showing that, as an average, about four per cent. of males have dangerously imperfect ability to distinguish red from green, the colors of most frequent use in signalling. They also demonstrated what is of yet more grave importance, that, in a still larger proportion, defects of visual acuteness existed in men who were supposed by others, and often by themselves, to have good sight.

These demonstrated facts, and the occurrence of such instances as the running over and killing of a brakeman holding a red danger-signal on the track in front of his train, by an engineer who was afterwards found to be color-blind, would seem to be sufficient to satisfy the observant officers of railroads, and owners of ships, of the necessity of the required tests for all entering their service who were to fill positions where prompt recognition of signals, and quick and accurate perception of objects, is required; and this not only as an imperative duty towards the persons whom they undertake to transport in safety, but also as being necessary as a safeguard for their property, in avoiding the enormous costs of accidents, and the exemplary damages which would be awarded where it was proved in court that an accident had resulted from the color-blindness or defective sight of an employee.

As regards the men themselves, their rejection, if found to be visually defective, cannot be reckoned as a hardship, since it is especially for their advantage that they should turn to other avocations, rather than assume positions which imperil their own safety, as well as the lives and property of others; or, at least, that they should be assigned to duties for which their natural or acquired visual defects do not disqualify them.

The importance of the elimination of incapacitated men from the marine and railroad service, as shown and insisted on, especially, by Professor Holmgren, of Sweden, and Drs. Thomson, of Philadelphia, and Jeffries, of Boston, has lately been brought prominently before the public by a riotous resistance to examina-

tion, as to their visual capacity, by the 42,000 employees of one of the large American railroad corporations; which, for a time, threatened a total suspension of traffic upon this road. As regards this event, Dr. William Thomson, who acted as an expert in deciding the controversy, says (*Medical News*, August 13th): "The conflict is nearly over, since demonstrations of the optical defect in engineers, made before a committee appointed by the employees, have satisfied them of the propriety of the testing, and that the safety of the public demands the removal of all color-blind persons from positions where their optical defect might be the cause of distressing accidents. In the recent demonstration, I was able, at my office, to show that an engine-man declared a red danger-signal, made by placing red glass in front of a large gas-light, at the distance of two feet away, to be a green glass. He was not only unable to distinguish a red from a green flag within six feet, but he failed to classify the flags, white, red, green, and blue, properly, even when allowed to take them in his own hands." Instances such as these cited are constantly met with by ophthalmological experts.

Attention has also lately been called to this matter by articles in some of our newspapers, referring to the disturbances above mentioned; giving certain statistics of the results of examinations on the Pennsylvania Railroad, which seemed to be misleading, as being inconsistent with those previously obtained on this road, and with the usual average of imperfect color-perception and of visual defects, as observed in various European nationalities.

These statistics were as follows:

Total number examined on lines east of Erie, . . .	25,158
Color blind,	481
Defective vision	661
Defective hearing	158

In reply to questions regarding these tables, Dr. Thomson writes to me as follows:

"In 1884, the examinations of men who had to do with signals amounted to about 13,000. When the total increases to 25,000, and comprises many men coming into the service, the percentage must be smaller. The apparently small percentage of color-blind in this table may be ascribed to the non-application of men who know their deficiency, and to the fact that men in the service knowing their defect, would leave the road before examination, and thus escape detection, and be enabled to gain employment on other roads, where no examinations are required. New men would present a small ratio of those below the standard, since men conscious of color-blindness or poor sight would not apply."

There is reason to believe that, even in Massachusetts, the provision of the Statute which calls for re-examination of employees at stated intervals has been but negligently fulfilled. Admitting that those once found to have good power of distinguishing colors seldom lose this ability, and scarcely require as frequent re-examinations, the same is not true as to other visual deficiencies. Sharpness of sight is not a fixed quantity, and lessening of visual acuteness may occur at any time, and from many and various causes, in those whose sight had been found to be perfect at a former examination. Normal changes of visual power occur at different ages, and, although these, as well as some abnormal conditions of the refraction and accommodation of the eye, may, perhaps, be remedied by the use of glasses, yet the necessity of wearing glasses

is, in itself, an important disability, inasmuch as spectacle-glasses are liable, especially in cold weather, to be suddenly obscured by a puff of steam or smoke, or by fog in the atmosphere, and the wearer is thus rendered *pro tempore*, and perhaps, again and again within the space of a few minutes, virtually blind, until the glasses can be removed and wiped. But vision may also be gravely impaired, at first gradually, and perhaps, nearly imperceptibly to the person himself, by the development of cataract, of Bright's disease, of various slowly-advancing brain lesions, etc., as well as by numerous forms of disease of the internal parts of the eyes not discoverable by external inspection. These constitute a grave danger, especially as the afflicted person, even if conscious that he sees less distinctly, clings to the hope of an improvement, and is reluctant to give up his means of support.

Doubtless the omission to comply fully with legal requirements, and the neglect of self evidently necessary precautions, has arisen from inattention in a matter which is even yet a comparatively new subject to the railroad authorities; but the frequent revelation of cases of greatly depreciated sight in employees whose vision had been found to be good no longer ago than two years, proves the need of vigilance to *discover* these defects by re-examination, before they become a source of disaster. If scrupulous exactness should ever be insisted on, it should be in the use of every precaution where the safety of great numbers, or of vast property, may depend on the clear vision of one man.

What can be said of the false economy and culpable negligence existing in some States, where, because no Statute compels examinations as to the perfection of sight and hearing of employees, the managers of railroads feel justified in dispensing with them. They thus incur the risk, not only of having the usual average of about four per cent. of color-blindness, and ten per cent. of imperfect sight, among their employees, but also of making their roads asylums for many discarded men, who have been elsewhere tested and found wanting in the essential qualifications of good vision.

A not unimportant element of this question is the ease with which complete security can be obtained. As stated by Dr. Thomson: "The officers needed a system that could be employed on each division of the road, quietly and confidentially, and at the convenience of the men, without compelling them to lose much time. These and other considerations led me to the invention of an instrument for an examination of the color-sense, which could be used by any intelligent, instructed official, and a record of the examination permanently kept for the information of the officers, and as a guide for any expert to whom the road might wish to refer any doubtful cases." This system has been in use for more than five years on the Pennsylvania Railroad, with its now 7,000 miles of track, and over 100,000 employees.

— A case is recorded by Dr. C. R. Eckhardt of carcinoma uteri (diagnosis established by histological examination) in a virgin, aged nineteen. It is said that thus far only three cases have been recorded of this disease occurring before the age of twenty. The growth was removed with a galvano-cautery snare by Fränkel.

A CASE OF ACUTE RED ATROPHY OF THE LIVER.¹

BY A. F. HOLT, M.D., OF CAMBRIDGE.

At one o'clock in the morning of November 13th, Mrs. M. came to the police station to make a complaint against her husband for beating her. She claimed that he had choked her until she was unconscious, that while he held her on the floor, he jumped on her chest on his knees, and it was only with the greatest difficulty that she escaped from him and ran to the police station, a half-mile or more away, clad only in her night-dress and stockings. The husband was arrested, and at the trial, the following morning, the wife testified that her husband had only held his hand over her mouth. The wife, after the assault, went to the house of her mother, instead of returning to her own home, and there she remained until her death, nine days after. For the next four days, she was about the house and the street, and a part of the time, at least, was under the influence of liquor. During these days, she called on Dr. Church once for examination as to the injuries which she had received from the assault by her husband. At this interview, she complained of soreness in the right chest. Physical examination showed nothing, except a few scratches and a small black-and-blue spot near the sternum. Her pulse and temperature were normal.

The afternoon of the 19th, Mrs. M. was seen by Dr. Bryant, the city physician, at the office of the Overseers of the Poor, and from him I obtained the following history: Age, twenty-nine years; there is a black-and-blue spot about the left eye, whites of both eyes jaundiced, and the skin of the chest and abdomen is yellow. She is constipated, has a slight cough, and complains of great weakness. One gramme of calomel was ordered, to be taken at once.

November 21st. Saw her at her mother's house at 10 o'clock, A. M. She was in bed, and very restless. Hands and feet cold, and the pulse 108; complained of constant nausea, and had vomited a great many times since last seen. Liver-dulness about normal; bowels moved slightly yesterday. One gramme of calomel, to be given in two doses; mustard to stomach, and ice-pills.

4 o'clock, P. M. Has not vomited since morning; has not spoken since one o'clock. Bowels have not moved. She is unconscious, but very restless. Brandy and milk every hour, and an injection of warm water.

At 7 o'clock, P. M., saw the patient, with Dr. Church. She is still very restless. No discharge from the bowels. Temperature slightly subnormal, pupils respond to light, slight, crepitant râles at the base of both lungs, and the liver-dulness has disappeared. Pulse rapid and feeble; has passed no urine for twenty hours. Hands and feet and end of nose cold; skin everywhere deeply jaundiced. The patient continued to fail, and died at one o'clock the following morning, or about eight hours after the doctor last saw her. The claim was at once made that death was the result of injuries received at the hands of her husband, and he was arrested to await an investigation. The autopsy was made thirty hours after death, and the following is the record:

Body fairly well nourished; pupils a little dilated. There is a black-and-blue spot under the left eye, but

¹ Read at a meeting the Boston Society for Medical Observation, May 2, 1887.

no other external marks of violence. Skin everywhere of a bright-yellow color. On opening the great cavities, the tissues are seen to be of the same yellow color. The stomach is greatly dilated, and it and the small intestine are distended with gas. On removing the sternum, on its upper third there is seen a large, red spot, caused by the infiltration of blood generally. The tissues in the anterior mediastinal space are also infiltrated with blood. The pericardium is normal in appearance. The right side of the heart is moderately full of blood. There are a number of hemorrhagic spots beneath the pericardium, along the line of junction of the right auricle and the right ventricle. Two or three of these are of the size of the finger-nail, the others are smaller. Section through one of these spots shows the clot to be of a yellowish color, firm, and nearly the third of an inch thick. The right auricular-ventricular opening admits three fingers. The left side contains a small, black clot. The mitral opening admits two fingers. The valves of the organ are healthy, and the cavities are of a normal size, and the walls of normal thickness. The muscular substance is of a yellow color, and the cut surface appears opaque. Microscopic examination shows this tissue to be very granular, and also, that it has nearly lost its striated appearance.

The left lung is slightly adherent at the top. It is very heavy, and its blood-vessels are full of black blood. A quantity of frothy, bloody fluid can be squeezed from the cut surface. The bronchi are also partly filled with frothy fluid. The right lung is like the left, except it is not adherent, and a frothy fluid flows from the cut surface. In the pleura, covering the chest along the spine from the second to the sixth ribs, on the right side, are a number of black spots, some of which are more than an inch square, but irregular in outline. Section shows these to be due to an effusion of black blood beneath the pleura. Also, beneath the pleura, covering the diaphragm of the right side, there are a number of spots of the same character. The pleura of the left side is everywhere of the same color, and clear and glistening. The tissues about the trachea are infiltrated with blood. Its mucous surface is smeared over with a red, frothy mucus. The mucous membrane of the œsophagus is of a pale, grayish color.

Spleen large, of a uniform bluish color, and a little soft. Left kidney of a bluish color, capsule strips off readily, the cortical portion a little thicker and a little paler than normal. Right kidney like the left, except the pelvis is a little dilated, and the loose tissues about it are infiltrated with blood. Bladder contains about eight ounces of urine. Vagina rather large, and its walls are flabby. The mucous surface is a pale, reddish color.

The os uteri is irregular in outline, and it has two deep fissures, one extending wholly across the neck, the other part way. These are covered with mucous membrane. The cavity of the uterus is two-and-one-half inches deep, and this organ, as well as the ovaries and tubules, are healthy.

The large intestine contains a few small, fecal masses. The liver is found lying in the back part of the abdomen. No blood flows from the cut vessels. On removal, it is seen to be about half the usual size, and very flabby. It is of a uniform, dark-red color. The cut surface is of a lighter red, and after a few moments' exposure, it has a glazed appearance. None

of its structure can be made out with the unaided eye. It looks very soft, but it is fairly firm to the touch. Microscopical examination shows the liver-cells destroyed, and replaced by minute, shining granules and molecular detritus.

The gall-bladder contains an ounce of dark, thick bile. The stomach is distended with gas, and contains about three ounces of fluid, in which are some solid pieces of food. Its tissues are of a grayish hue. The duodenum and small intestine contain a quantity of light, slate-colored matter. The portal vein and tissues about it are normal. The pancreas is of a uniform, grayish-white color, of the usual size and appearance. The dura is of normal thickness, and clear and glistening on its inner surface. The pia is transparent. Its vessels, as well as those of the surface of the brain, are moderately full of blood. On removing the brain, there is a quantity of bloody fluid left in the basis crani. Vessels at the base of the brain moderately full of blood, and there is a soft, grayish clot in the basilar artery. This is not adherent, and is easily removed. Section of the brain and great ganglia shows nothing abnormal.

This case is interesting for the reason that it is a typical one, both in its history and pathological appearances as revealed at the autopsy, of a fatal disease and also a very rare one, as only about two hundred cases of acute yellow atrophy have been observed, as the red atrophy it supposed to be a later stage of the yellow, of course a very much less number of this form of the malady have been studied. The cause of this fatal disease is not well determined. Most of the authors the reader has consulted, give mental emotion and the shock that comes as a result of such a disturbance, as one of the causes, while others are inclined to the belief that it should be classed as an acute infectious disease; in support of this theory Klebs claims that he has found micrococci in the hepatic veins; this view is also sustained by the pathological changes that take place in other organs, changes such as are found in most acute infectious diseases. This question of cause became a very pertinent one in the case just related. At the judicial hearing in the case of the husband the following question was asked the medical examiner: If great mental emotion is one of the usual causes of this disease, may not the shock sustained by this woman, resulting from fear and the severe exposure to cold and wet immediately after the assault have been its cause in this case? The opinion given was: That this was not the cause of the disease, and the reasons for this opinion were, that the mental emotion referred to by authors as the cause of this malady, if in fact it is ever the cause of it, were the severe forms of grief or fear that produce well-marked effects, such as coldness of the surface, feeble pulse, etc., and this woman at no time showed any such symptoms of shock. There was some question by the physician who saw the autopsy, as to whether the hemorrhages about the trachea and beneath the pleura, were not the result of mechanical violence. I am convinced from their extensive distribution as well as their general appearance they were not, but were the result of the disease of the liver. This left the cause, as I have said, a vital one, for if the fatal illness was the result of the brutal treatment of the husband, then he must stand accused of murder; if not, that was the end of the case legally. The pathology of acute atrophy of

the liver, all authors agree, is a rapid fatty degeneration of the liver cells, but whether the so-called red atrophy is a later stage of the yellow atrophy can I think be fairly questioned, and for these reasons: The cases of red atrophy are, I believe, the most acute, and run the most rapid course. In this case Dr. Bryant saw the patient the afternoon of November 19th, and she died the night of the 21st. In the cases of yellow atrophy when the liver has been reduced to one-half or even one-third of its normal size it still preserves its yellow color or at most only presents red patches. It would seem the more probable that the pathological changes in both the red and yellow atrophy are the same, but in the former the disease is the more active and severe, overwhelming the organ at once and destroying its function, while in the yellow atrophy the secretion of bile is not wholly stopped at once, but goes on for a time, and as it is imprisoned in the smaller passages by the swelling, it is reabsorbed and thus the organ is stained. The marvellous shrinking that takes place in the later stage of the disease is undoubtedly due in part to the absorption of the fatty matter, and in part to the absorption of water in the parts of the organ where the circulation has ceased.

INJURIES OF AND OPERATIONS UPON THE KIDNEY.¹

BY EDWARD O. OTIS, M.D.

THE majority of the nephrectomies have been done through the loin, the extra-peritoneal operation. It is generally the ovariotomists and gynecologists who favor the abdominal method. For instance, Knowsley Thornton maintains that the abdominal incision does not add much to the risk of the patient, if the surgeon will make his abdominal exploration thoroughly aseptic. Mr. Lawson Tait²⁸ says he does not think it matters much whether the organ be attacked by what is called the abdominal method, or the lumbar. The general surgeon, however, favors the extra-peritoneal operation, and thus far, the statistics show a much less mortality. The advantages of the abdominal operation are a larger field of operation, with all that means, which is, of course, of immense importance, and an examination of the diseased organ and its relations, as well as the other kidney, if possible, if the conditions of the case render this important.

I will briefly sketch the technique of the lumbar operation: The latero-abdominal position is to be chosen, and a cushion or pillow placed under the flank, so as to make prominent the field of operation. Simon's original incision (Fig. 1, A B), largely in use now, was made along the outer edge of the quadratus lumborum muscle, two-and-a-half to three inches from the spinous processes of the lumbar vertebrae, extending from the superior border of the eleventh rib to the middle of the space between the twelfth rib and the iliac crest. Many surgeons²⁹ have modified this: Bruns, Czerny, Clement Lucas, Morris, Kleinenberger, Polaillon, and others. Vertical, oblique, and curved incisions have all been made. Weir says a vertical incision (Fig. 1, C D) from just below the twelfth

rib to the crest of the ilium, about three inches from the spine, affords ample room for a nephrectomy of a normal kidney. The incision which would seem to be the most satisfactory, as affording the most room, is the inverted L one thus, Γ (Fig. 2, E F), which is made as follows:

First, an oblique incision, like that for colotomy, within about one-half an inch of the last rib, and parallel to it, is made, about four-and-a-half inches long. A second incision runs vertically down from the first, beginning at or near its posterior extremity, along the outer edge of the quadratus lumborum muscle, and extending to the iliac crest. Mr. Morris advises leaving the second incision until the kidney has been exposed, and then it can be made by cutting from within outwards with a probe-pointed bistoury, steadied by the index finger of the left hand. Polaillon's incision, which is recommended, is the reversed L one, thus J, the vertical incision being the outer one, and the transverse branch directed forwards, parallel to the iliac crest. The next step in the operation is laying bare the kidney, and the third, separating the organ from its surroundings. The last, which Simon says is the hardest and longest, is tying the pedicle and cutting loose the kidney, which Mr. Lucas also says is the chief difficulty in the operation. Whether the pedicle is to be tied *en masse* or by separate ligatures, must depend upon circumstances and the creed of the surgeon.

The operation accomplished, the cavity is to be washed out with an antiseptic fluid, a chloride-of-zinc solution, for instance, one or two drainage-tubes inserted, the wound closed, and an antiseptic dressing applied. The accidents of the operation are injury of the peritoneum, hæmorrhage, cut or tear of the colon, and wounding of the pleura. In suppurative affections, also, there is great danger from adherence to neighboring organs, as terribly illustrated in a case of Billroth's quoted by Guyon,³⁰ where the inferior vena cava and right renal vein were ruptured, even with the more ample room of an abdominal incision.

Peritonitis and septic peritonitis, Guterbock³¹ says, are unknown as sequelæ to lumbar nephrectomy, but pyæmia and septicæmia are more frequent than after abdominal nephrectomy.

Nephrotomy (lumbar) is substantially an incision into an abscess sac or cyst, often a preliminary operation to nephrectomy. If there is a tumor in the loin, this will be the guide for the incision, which is similar to that for lumbar colotomy, only a little posterior to it. It is slightly oblique in the ilio-costal interspace, beginning over the outer border of the erector spinæ, and continued forward for three or four inches. The operation is an extremely easy one, says Mr. Tait. The table of statistics shows that it is a less dangerous operation for suppurative lesions than nephrectomy; and, being first done in this class of cases, robs a subsequent nephrectomy of much of its danger.

Marchetti's³² celebrated case, fairly well substantiated, which happened way back in the seventeenth century, about 1683, might, I suppose, be called in modern nomenclature, a case of nephro-lithotomy. Besides the interest which the case itself excites, it is so attractive in its quaint style, as related

¹ Continued from page 353 of the last number, in which the figures here referred to will be found.

²⁸ Birmingham Medical Review, September, 1885.

²⁹ Le Dentu, Technique de la Nephrectomie. Revue de Chirurgie, No. 1, 10 Janvier, 1886.

³⁰ De la Taille Rénale. Annales des Maladies des Organes Génito-Urinaires, March, 1887.

³¹ Centralblatt für die Med. Wiss., November 21, 1885.

³² A Contribution to the History of Nephro-Lithotomy, by Howard Downes. Medical Times and Gazette, 1, 1885, p. 238.

by Charles Bernard, and incidentally in the glimpses of character of both surgeon and patient, that I will give an abstract or two. It was the case of a Mr. Hobson :

"This gentleman, who was consul for the English at Venice, having been afflicted with a stone in the kidney" (how he arrived at his diagnosis the account does not state), "was at length attacked with a fit of that duration and violence, that it reduced him almost to desperation ; and, finding no relief from any means that had been used, he determined to apply himself to Dominicus de Marchetti, at Padua, a famed and experienced practitioner there, the son of Peter, both well known to the learned part of their profession. To this person, Mr. Hobson, under the greatest extremity of pain imaginable, addressed himself, imploring of him that, having made use of all conceivable means, and the best advice that was to be had in Venice, without success, he would be pleased to cut the stone out of his kidney, in his belief that no other method remained capable of relieving him, adding that he was not insensible of the danger, but that death itself was infinitely more eligible than a life in that misery under which he had long, and did then groan. Marchetti seemed very desirous to have declined it, representing not only the extreme hazard, but, as he feared, the impracticableness of the operation, that 'twas what he had never attempted, and that to proceed to it was, in fact, to destroy him. But, Mr. Hobson persisting that, if he refused it, he would never desist 'til he found out one who would do it. Marchetti was at length, by his resolution and importunity, prevailed upon to undertake it ; and, having prepared himself as he thought convenient, he began with his knife, cutting gradually upon the region of the kidney affected so long, till the blood disturbed and blinded his work so, that he could not finish it at that attempt, wherefore, dressing up the wound till the next day, he then repeated and accomplished it by cutting into the body of the kidney, and taking thence two or three small stones, he dressed it up again. From this instant, he was freed from the severity of his pain, and, in a reasonable time, was able to walk about his chamber, having been in no danger either from flux of blood or fever. Marchetti continued to dress the wound for a considerable time, but was not able to close it up, it soon becoming fistulous from the continual flowing of the urine through the sinus ; but, being in all other respects restored to health and vigor, and the matter discharged being little, he took leave of the Professor, and returned to Venice under the care and management of his wife, who, one morning, as she was dressing the sore, fancied she felt something hard and rugged as she wiped it, upon which, examining a little more carefully with her bodkin, which served her instead of a probe, she found it to be a stone of the figure and magnitude of a date-stone, which, being removed, he never after complained of the least uneasiness in the part."

When, through the irritation of the calculus, an abscess is formed, and a tumor appears, and we have calculous pyelitis, "then, indeed," said this same Charles Bernard, "the necessity and reason of the operation are so obvious, and the difficulty so little, that no man ought to decline it." But an operation before the calculus³³ "has occasioned destructive changes, which are liable to terminate in the death of the pa-

tient, whether he be abandoned to nature's efforts, or be afforded a chance by a resort to the knife." That is to say, an operation, as a preventative measure, is the thing to be desired. But here comes in, alas ! the difficulty in diagnosis, which, in the majority of cases, is conjectural only.

The signs of renal calculus which warrant a lumbar exploration of the kidney, says Mr. Chavasse,³⁴ are : (a) blood in the urine ; (b) unilateral pain passing down the ureter towards the testes ; (c) pain elicited by deep-seated pressure in the lumbar region, between the last rib and the iliac crest, just external to the erector spinae muscle ; (d) the presence of uric-acid and oxalate-of-lime crystals in the urine. Moreover, he adds, the surgeon is justified in an exploration in those cases of chronic nephralgia depending on uncertain causes, which milder means and medicine have failed to remedy ; and, even if no stone is detected, instances have been recorded in which prolonged relief has been obtained.

Paroxysmal lumbar nephralgia and hæmaturia, both aggravated by exercise, pain shooting from loin to groin, and testes, with retraction of the testes, is a classical group of symptoms of great reliability, says another.³⁵ In still another case operated upon, the symptoms were occasional acidity of the urine, appearance and disappearance of pus, pain in the region of the left kidney, and hæmaturia.

Mr. Owen³⁶ operated and found a calculus in a case where the symptoms were pain in region of the spermatic cord, running down the thigh, with urine often thick and bloody.

In Mr. Morris's first case, the symptoms were attacks of renal colic and hæmaturia.

Dr. Gross³⁷ says the best diagnostic symptoms of renal calculus are intermittent attacks of renal colic, with tenderness on pressure ; the presence of blood ; and, perhaps, a little pus in the urine, with frequency of micturition. "This group of symptoms being present," he says, "the surgeon is certainly warranted, after the failure of ordinary remedies to relieve them, in cutting down upon the kidney, through the loin, with a view to its exploration with the finger, a needle, and, if needed, by an incision of the kidney-substance itself, through which the finger can be carried into the calices and pelvis of the organ."

The position of the calculus in the kidney, whether in the pelvis or substance, has been thought³⁸ to make a difference in the symptoms, which would seem natural. 'If the calculus were in the pelvis of the kidney, there would probably be pus in the urine, and the symptoms would be more severe and more constant than if the stone were in the substance of the organ. As the dangers from nephro-lithotomy are not great — in sixty-three examples of attempted and accomplished nephro-lithotomy, there were only three deaths, or 4.76 per cent.³⁹ — it would seem to be sound surgery to cut down upon, and explore the kidney, whenever the symptoms are such as to give reasonable expectation of finding the calculus. Suppose the surgeon does find himself deceived in his diagnosis, he has caused his patient no great risk, for, in twenty-

³⁴ Renal Surgery. *Lancet*, (London), February 26, 1887.

³⁵ Gordon Lloyd. *Practical Observations in Kidney Surgery*. Birmingham Medical Review, December, 1886.

³⁶ British Medical Journal, 1885, II, p. 701.

³⁷ Transactions of American Surgical Association, Vol. III, 1885.

³⁸ Nephro-Lithotomy, by J. Chiene. *British Medical Journal*, February 7, 1885, Vol. I.

³⁹ Gross. *Philadelphia Medical News*, December 18, 1886:

³³ Philadelphia Medical News, April 25, 1885, Vol. 46, p. 459.

nine cases collected by Dr. Gross,⁴⁰ in which the kidney was cut down upon, and in four of which it was cut into, and no stone found, all recovered.

That surgeons are more and more following the lead of Mr. Morris every day, is manifest from the increasing number of recorded cases; and, in the future, it is to be hoped that they will be eager to relieve their patients, through operative interference, from the intolerable agony of renal colic from calculus, and not wait to be implored by them in desperation, as Mr. Hobson did Marchetti. "The wise surgeon," says Mr. Morris, "will not wait too long, watching the *vis medicatrix naturæ* — a force which, with renal calculus disorders, as with so many others, too often ends by handing over the patient to the sombre solicitude of the undertaker."

The incision for nephro-lithotomy (Fig. 2, H I) has

⁴⁰ Ibidem.

generally been made parallel to the last rib, from one-half to an inch-and-a-half below it, beginning at the edge of the erector spinæ muscle, and extending four to four-and-a-half inches. This incision may be supplemented by a vertical one, as in nephrectomy, if more room is desired, or the simple vertical incision alone may be sufficient. When all hæmorrhage is stayed, the edges of the wound being held widely apart with retractors, the perineal fat is to be torn through; and, when the kidney is reached, the finger carefully explores the posterior surface of the organ, the abdominal walls of the patient, meantime, being well supported by an assistant, or pillow. If nothing indicates the presence of a stone on the posterior aspect, the anterior surface is to be explored next, the kidney being pressed backwards by the finger which is exploring the front surface. If the result is negative, a fine needle is to be passed into the renal substance in va-

INJURIES OF THE KIDNEY — 1879-1887.

No.	Injury.	Reference.	Reporter.	Result.	Remarks and Symptoms.
1	Bruise of right kidney.	Southern Clinic, Richmond, 1879, i, 130-132.	Oscar J. Coskery.	Recovery.	Hæmaturia for four days.
2	Lacerated kidney from fall of a load.	Cincinnati Lancet and Clinic, 1879, N. S., iii, 411.	Wm. Judkins.	Death.	Bladder contracted and empty. Right kidney lacerated almost beyond recognition.
3	Rupture of kidney from fall.	Cincinnati Lancet and Clinic, 1879, N. S., iii, 411.	R. R. Davy.	Recovery.	Hæmaturia ceased on the morning of 2d day. Nearly well on 19th day.
4	Possible rupture from fall.	British Med. Journal, Sept. 1, 1879.	J. Ward.	Recovery.	Hæmaturia and pain; was well in eleven days.
5	Rupture of right kidney from fall.	Lancet, 1880, i, 90.	Charteris.	Death.	No hæmaturia; on autopsy the kidney found ruptured along its transverse diameter below its centre; the upper fragment having attached the ureter and renal vessels.
6 7 8	Three cases of ruptured kidney.	Lancet, 1880, i, 91.	Dunlap.	Death.	In two cases symptoms not noted. Hæmaturia in the third, autopsies in all showed rupture.
9	Rupture together with that of liver.	Dublin Journal, Med. Science, 1880, lxi, 61-64.	W. T. Stokes.	Death (from other causes.)	No hæmaturia, kidney extensively torn, but not extending into the hilus.
10	Laceration of kidney from fall.	Dublin Journal, Med. Science, 1880, lxx, 164-167.	E. H. Bennett.	Death.	Hæmaturia.
11	Laceration, fall from horse.	St. Louis Cour. Med., 1880, iv., 237-239.	J. S. Eastman.	Death.	Hæmaturia. On autopsy the left kidney found badly lacerated.
12 13 14	Three cases of probable rupture.	Maryland Med. Journal, (Balt.), 1880-81, vii, 318-320.	O. J. Coskery.	3 recov., 1 subsequent death perh. from the accid't.	Hæmaturia in all; in one very severe.
15	Complete rupture of left kidney.	Progrès Med., Paris, 1881, ix, 41.	Duplay.	Death.	No hæmaturia; phenomena of internal hæmorrhage.
16 17 18	Three cases of wounds or contusions of the kidney.	Journal Med. de Bordeaux, Aug. 3, 1883.	Sebillseau.	Unknown in one, recovery in one, death from other causes in 3d.	Hæmaturia in two cases; absent in one.
19	Rupture of kidney and liver.	Medical Annual, Albany, 1882, iii, 185.	S. B. Ward.	Death.	No hæmaturia; upper portion of left kidney found ruptured.
20	Rupture of liver and kidney from fall.	St. Bartholomew Hospital Reports, 1881, xvii, 243-247.	W. H. Jessop.	Death.	Hæmaturia. Right kidney ruptured in two places.
21	Bullet wound of abdomen with extensive hæmorrhage from left kidney.	Gaillard's Med. Journal, N. Y., 1882, xxxiii, 122-124.	J. J. Gorham.	Recovery.	Late hæmaturia. Collapse and almost death from hæmaturia on 25th day.
22	Severe injury of right kidney.	Lancet, 1882, ii, 566.	H. Lupton.	Death.	Bladder also ruptured.
23	Contusion and tear of kidney.	Rev. Med. de l'Est, Nancy, 1884, xvi, 598-601.		Recovery.	
24	Rupture.	Med. Times and Gazette, London, 1885, i, 9.	Jas. Spence.	Death.	Continued hæmaturia. Death from secondary hæmorrhage on the forty-seventh day after the accident.
25	Tear of kidney.	Rev. Med. de Toulouse, 1885, xix, 449-455.	Ripoll.	Recovery.	
26	Tear from pressure.	Rev. Chir., Paris, 1885, v, 418.	Maunoury.	Recovery.	Hæmaturia. Suppuration. Incision.
27	Rupture from fall of a heavy body on patient.	Lancet, March 13, 1886.	G. Y. Eales.	Death.	Hæmaturia. Upper half of right kidney smashed to a pulp.

In these twenty-seven cases there were eleven recoveries and sixteen deaths, and of these sixteen, death occurred in two from other causes.

Hæmaturia was present in seventeen cases, absent in five, and in five it is not known whether or not it was present.

rious directions, so as to puncture the calices of the kidney.

Finally, an incision may be made into the calices, and the interior of the kidney explored with finger or probe. The stone, being found, is best removed by the finger, if possible; if not, by forceps. The operation completed, a drainage-tube is to be inserted, the wound closed, and an antiseptic pad or dressing applied. The dangers—not great—of the operation to be kept in mind are hamorrhage, cellulitis, renal abscess, and fistula. Healing is generally rapid.

In conclusion, I desire to express my sincere thanks to Dr. Chadwick for the loan of much valuable literature upon the subject.

MORTALITY STATISTICS OF NEPHRECTOMY AND NEPHROLITHOTOMY.

Lumbar Incision.				Abdominal Incision.			
By whom collected	No. of Cases	Deaths	Per cent.	Authors	No. of cases	Deaths	Per cent.
Gross	111	41	36.93	Gross	120	61	50.83
Brodeur	125	47	37.60	Brodeur	110	55	50.00
Harris	50	19	38.00	Harris	46	23	50.00
Czerny	36	13	36.11	Czerny	28	16	61.54
Marduel	24	7	29.16	Marduel	28	18	64.28
Otis	18	2	11.11	Otis	8	4	50.00
Average per cent., 31.48.				Average per cent., 54.44.			

NEPHRO-LITHOTOMY.

Authors	No. of cases	Deaths	Per cent.
Gross	21	2	9.52
Brodeur	36	8	22.22
Otis	21	2	9.52
Average per cent., 13.75.			

NOTE.—The same cases are probably included in many of the lists, but this does not make so much difference where only an estimate of the mortality in each operation is desired and the average of all the per cent. is taken.

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REPORT ON PROGRESS IN SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

OSTEOPLASTIC RESECTION OF THE MANUBRIUM STERNI.

In a very interesting article by Bardenhauer¹ are presented the indications for the above operation: which are caries of the sternum and to render accessible the contents of the mediastina, for example, trachea, pleura, lungs, tumors, large vessels and other retro-sternal strictures. Lack of space forbids an exhaustive review of this valuable article, but the principal points may be thus briefly reviewed. For the ligation of the innominate artery Bardenhauer recommends a preliminary resection of the manubrium with a transverse resection of the sternal ends of the clavicles and upper ribs. This operation certainly renders the parts more accessible, but cannot always be necessary, for success has followed the ligation of this vessel by Helfrich with the head in the Roser position. Bardenhauer has performed this operation three times in order to render more easy the removal of tumors projecting into the thoracic cavity; with two fatal results from collapse.

For ligation of the sub-clavian in its first operation, Bardenhauer recommends as a preliminary operation, resection of the sterno-clavicular articulation, the first rib, and half the manubrium. He regards any unintentional injury of important strictures due to lack of operative technique. Bardenhauer has performed resection of the sternum four times to expose retro-sternal abscesses, exclusive of eight cases of abscess dependent upon caries of the sternum. For removal of a carious sternum Bardenhauer now performs a very thorough operation, and has thus far had better results than by trephining. The after-treatment consists of a thymol gauze packing. As end results there have been observed the approximation of the clavicles and ribs to the median line, a moderate anterior projection of the shoulders, and a slight degree of kyphosis, (in unilateral resections scoliosis), the interspace is filled with bony tissue from the preserved periosteum. The term "osteoplastic resection" is reserved for cases where the sternum is practically made a temporary door which is hinged at one border by uninjured soft tissues. This "door" can be opened, the cavity of the mediastina inspected, and the "door" again closed and fastened by sutures in

¹ Osteoplastische Resection des Manubrium Sterni, Mittheilungen aus dem Kölner Bürger-hospital, 1 Heft, 1886.

its original position. This operation has never been performed.

The wounding of the plura is claimed to be free from danger if it at once be closed by an antiseptic tampon.

AORTIC ANEURISMS TREATED BY GALVANO-PUNCTURE.

Olelar² has treated a case of aneurism in the first part of the aorta. Great pain existed, soon a tumor was noticed over the second left costal cartilage, and dysphagia appeared.

A Spamer battery of twenty cells was used. The needles were inserted about one inch apart. The current was gradually increased from two to ten cells, and then gradually lowered to two cells again. The séance lasted ten minutes. The patient complained of burning pains in the sac and in the left chest for some hours after each operation.

The tumor became harder and pulsated less; the dysphagia was relieved and the general condition improved; the pains however continued. The tumor after the lapse of a month began to enlarge and pulsate.

Brancaccio³ recorded a case of aneurism of the ascending aorta cured by electrolysis. The patient recovered and died three years later—of double pneumonia. The post-mortem appearance of the cured aneurism are recorded.

THE RESULTS OF PYLORECTOMY AND GASTRO-ENTEROSTOMY.

A recent résumé⁴ gives some valuable information concerning the former operation, first introduced by Pean and Billroth, in 1879. The opinions as to its real value and beneficial results have varied, much as the number of reported cases have increased. Sufficient clinical data, however, have now been collected to enable one to form a just opinion of this remarkable operation.

The indications for the operation are carcinoma of the pylorus, cicatricial stenosis and gastric hæmorrhage, or perforation.

A majority of the cases of pylorectomy have been cases of cancer, mortality seventy-five per cent. The mortality in cases of cicatricial stenosis either from ulcer or ingestion of caustic liquids is about fifty per cent. Richter's table (August, 1886), gives a mortality of seventy-two per cent. for one hundred and three cases of all kinds, while Billroth's death-rate (1880 to 1886), shows only fifty-five per cent.⁵

There is also a great difference in the final results in operations for cicatricial stenosis and cancer, as well as in the mortality of these two sets of cases. In cancer of the pylorus there is no case on record in which a radical cure has been effected, death occurring from recurrence, either in situ or metastatic, in from four months to five years.

Of fifteen cases which survived the operation

2 lived	4 months.
2 " "	6 "
(1 death from pneumonia).	
1 " "	8½ "
1 " "	10 "
3 " "	12 "
1 " "	15 "
2 " "	2½ years.
1 " "	3 "
1 " "	5 "
1 alive at end of 2 years. End not known.	

In four or five cases patients were restored to a state of tolerable usefulness, the gastric distress relieved and normal digestion obtained for more than two years, and about an equal number for twelve to fifteen months. To offset this relief enjoyed by a fortunate few, is the high death-rate attending the operation. That the condition of the patient warrants the risk involved by such an operation depends much on the individual case. The chances are strongly against a successful result.

Resection for non-malignant stenosis has a much more favorable record. Here, a successful operation means a permanent cure. Rydygier's results show two cases alive and well at three and six years after the operation. A case of Billroth's is reported in perfect health at the end of three years. Rydygier goes so far as to advise pylorectomy for pyloric ulcerations. Excision for ulcers not pyloric, is also possible. But notwithstanding this, the favorable results and lower death-rate of Loreta's digital division in cases of cicatricial stenosis deserves earnest consideration before a patient is subjected to the more dangerous operation. In regard to recurrence, results vary. Kocher has seen marked symptoms of recurrent stenosis in two cases, one of which survived the operation six months, the other three years, while Wölfler's patient survived extirpation of the pylorus five years, without stenosis.

The value of pylorectomy may be stated as follows: The death-rate in cases of carcinoma is seventy-five per cent. and of the surviving twenty-five per cent. death from recurrence occurs in sixty per cent. In view of this result, the operation of gastro-enterostomy demands consideration as a palliative operation, which, if it does not cure, has satisfactorily relieved, a result which equals that obtained in many cases by pylorectomy. Cicatricial stenosis with fifty per cent. permanent recoveries are apparently the cases in which this operation appears in its most favorable light.

The most thorough review of the subject of gastro-enterostomy is that of Rockwitz,⁶ of Strassburg. His conclusions are based on a careful investigation of twenty-one cases. Fisher's⁷ case, already fully reported, and also Billroth's,⁸ where gastroenterostomy was combined with pylorus, resection being excluded.

This table shows seventeen cases of stenosis due to cancer, and four of cicatricial stenosis pyloric duodenal. Total number of recoveries nine, six of which were carcinomatous. Total mortality 57.2% of cancer 64.7%. Eleven died directly from the operation as follows: eight from collapse or exhaustion in less than three days after the operation. One from internal hæmorrhage from the wound; one from peritonitis on the fourth day; one from exhaustion (on the tenth day) due to vomiting caused by a spur which obstructed the afferent portion of the attached loop. One also died from marasmus at the end of four weeks. The remainder survived free from trouble. The above is the results from the full table, but at Strassburg, Lücke has operated eight times, two for stricture and six for cancer, with one death, while the record from Billroth's Klinik shows eight cases, with five deaths directly due to the operation. The rate, therefore, of mortality in these two hospitals is very different. Rockwitz's article is too elaborate to be more than

² *L. Siglio Medica*, Feb. 27, 1887.

³ *Rev. Internat. di Med. e. Chir.*, No. 2, 1884.

⁴ *Med. News*, edit. 1887. Vol. II, 103.

⁵ *Ueber die Magenoperationen an Prof. Billroth's Klinik*, 1880, bis März, 1886, von Hacker.

⁶ *Deutsche Zeitschr. f. Chir.* Vol. xxv. 502.

⁷ *Deutsche Zeitschr. f. Chir.* Bd., xvii.

⁸ *Die Magenoperationen an Prof. Billroth's Klinik v. Hacker* Wien, 1886, S. 25.

alluded to here, but a careful perusal is recommended to those interested in this subject, or at least, the interesting review recently published.⁹ In brief, the difference in results obtained at Strassburg and Vienna, is apparently due to the class of cases and method of operating. The Vienna¹⁰ cases were, seven patients with unoperable pyloric carcinoma and one with a tuberculous stricture. Three recovered from the operation and were living at the end of one, two and four months afterwards. The high mortality is attributed to the debilitated condition of the patients at time of operation, and that the operation was often done only after fruitless attempts to excise the pylorus, which prolonged greatly the operation and necessitated additional exposure and manipulation of sensitive tissues.

On the other hand, Lücke's cases all recovered save one, and lived at least several months in comparative comfort, fourteen months in one case. Both cases of non-malignant stricture were permanently relieved; a mortality of 12.6% against Billroth's 63.6%. The post-mortem condition of Lücke's cases was, as a rule, satisfactory, with one exception, in which a cicatricial contraction occluded the efferent loop of intestine.

Rockwitz's conclusions state that gastro-enterostomy is indicated in cases of pylorus or duodenal stenosis if resection is impossible. Also, all cases of carcinoma with extensive adhesions or glandular metastasis. Conversely that pylorectomy is contra-indicated if adhesions exist between the tumor and the pancreas or liver, where glands are extensively involved or the patient is in an exceedingly weak state.

The following points are of importance with reference to the operation:

(1) All preliminary breaking down of adhesions, isolation of the tumor or unnecessary manipulation of the abdomen, are especially to be avoided. They increase the danger of infection and weaken the patient.

(2) The linea alba is the best site for the abdominal incision.

(3) It is not necessary to find the first coil of jejunum as taught by Wölfler. It is more advantageous to select a coil of intestine which is easily accessible. The afferent end may be recognized by arousing its peristaltic action (vide Nothmangle test). This simplifies the operation, and diminishes the danger of compressing the colon with the reflected mesentery.

(4) The direction of peristaltic action of the stomach and intestine should correspond; that is, its direction should be from left to right.

(5) The kind of suture is not so important as its accurate application.

(6) When disturbance of peristaltic action occurs, the stomach pump or tube is of value.

DRAINAGE OF PELVIC ABSCESES.

Rinne,¹¹ at the Fifteenth Surgical Congress in April, 1886, reported two cases of pelvic abscess of very long duration, which had rapidly recovered after trephining the ileum, and thus establishing a direct system of drainage. The bone was exposed by an antero-posterior incision at a point three fingers breadth above the trochanter. The ileum was then chiselled through, giving an opportunity for the explo-

ration of the abscess cavity with the finger, and thoroughly draining it after curetting. This method is not dangerous, and is valuable for the treatment of abscesses situated in the iliac fossa, which have resisted obstinately the ordinary treatment.

THE "KÖNIG" INCISION FOR OPERATIONS ON THE KIDNEY.

König, after an investigation by dissections and operations on the living subject for the purpose of ascertaining the most advantageous method of exposing the kidney, has decided in favor of the following operation.¹² The primary incision is started at the twelfth rib, at the external border of the erector spine muscle, and continued downwards along the border of this muscle to within a few centimetres above the iliac crest. From this point it is curved forwards towards the umbilicus, terminating at the external edge of the rectus muscle. If necessary, it can be continued even to the navel. It is often advantageous to give the first part of the incision an oblique rather than a perpendicular direction, so that it forms with the transverse portion a moderate curve (Czerny). The tissues are divided to the peritoneum, the cut edges of the individual muscles being marked by knotted sutures, so that they can afterwards be identified and united.

This incision, König claims, makes the kidney surprisingly accessible, especially if the peritoneum is separated with the hand from behind and pushed forward. He proposes to call this method the "retro-peritoneal lumbo-abdominal incision." If, on account of insufficient space for diagnostic or operative purposes, it is necessary to obtain access to the tumor through the abdominal cavity, this can be readily accomplished by incising the peritoneum in the line of the transverse incision. It should, however, be reunited by suture before any infective material is evacuated from the kidney; as, for example, the removal of a suppurating kidney or an incision in case of a putrid pyelo-nephritis. The author closes with a report of two cases, one a large renal calculus, the other suffering from pyelitis, operated on in this way, with satisfactory results, and emphasizes the importance of preventing abdominal hernia, by dividing muscles in the direction of their fibres and accurately suturing their edges. The sutures should remain for three weeks after the operation and the patient should remain quiet in bed for at least four weeks.

SUPRA-PUBIC LITHOTOMY.

Thomas Annandale¹³ summarizes the new method of performing supra-pubic lithotomy as follows, and considers that it is not only applicable to children, but also to adults:

(1) The gradual and thorough dilatation of the bladder by the injection of some antiseptic fluid.

(2) The introduction of a lithotrite, and the seizing and fixing of the stone in its blades.

(3) The depression of the handle of the lithotrite, so as to press the stone against the abdominal wall, immediately above the pubes, in the median line.

(4) Cutting down through the abdominal wall, in the middle line, upon the pubes, and immediately above it, in the usual way, until the bladder is reached,

(5) Depressing the handle of the lithotrite still more

⁹ Med. News, Vol. li., 187, 144.

¹⁰ Deutsche Zeitschr. f. Chir., Rockwitz, Bd. xxv, S. 307.

¹¹ Centralbl. f. Chir., 1886, No. 24, Beilage.

¹² Centralbl. f. Chir., 1886, No. 35.

¹³ British Medical Journal, October 9, 1886.

so as to stretch the wall of the bladder over the stone, and make it prominent at the wound.

(6) Incising the stretched bladder-wall upon the stone to a sufficient extent, in a downward direction, and then protruding through the opening the stone and the blades of the lithotrite.

(7) Gently opening the blades of the lithotrite and removing the stone, and, in withdrawing the lithotrite, catching one end of an India-rubber catheter in its blades, and bringing it out through the urethral orifice, the other end of the catheter being left in the bladder.

(8) Stitching the wound in the abdominal wall, and introducing a drainage-tube at its lower end. If the wound in the bladder be small, Annandale considers it better not to stitch it, if large catgut sutures may be inserted. The dilatation of the rectum he regards as only a complication to the operation.

FRACTURE OF THE ULNAR IN THE UPPER THIRD, WITH DISLOCATION OF THE RADIAL HEAD.

The rarity of this injury, its limited literature, and great practical importance, has led Dr. Hans Doerfler (Nüremberg)¹⁴ to make it the subject of an especial investigation. After reporting four cases which had come under his personal observation, he analyzes a group of nineteen cases, which he succeeded in collecting. It was caused by direct violence in five, and by combined, for example, as from a fall, in eleven. A majority of cases were between the ages of three and fifteen. All others after thirty-five. From experiments on ten cadavera, he concludes that both injuries can occur simultaneously, but that the fracture is primary, and the dislocation secondary, and cannot occur if the ulnar is fractured below the upper third. After describing the symptoms of this injury, the writer proceeds to the discussion of the prognosis and treatment. When treatment is begun at once, or even within the first six weeks, the prognosis is good. After two months, capsular degeneration diminishes the hope of a successful termination; but, as a new capsule soon forms at the point where the radius rests, its function may be to an extent restored if the ulnar unites. Arthritis deformans may be a late result.

The prognosis of paralysis is unfavorable. As regards treatment, it is of great importance to consider the possibility of radial dislocation in all fractures of the ulnar. If present, this should be reduced by extension and direct pressure from below. The elbow is then flexed at an acute angle (to relax the biceps), the forearm semi-pronated, and a stiff bandage applied, which should be undisturbed for from four to six weeks. Semi-supination is to prevent the new-forming callus from reproducing a displacement. In old cases, resection of the capitulum radii is indicated if reduction fails. Osteo-palinalclasis of the ulnar may be, at times, necessary.

ANTISEPTIC IRRIGATION OF THE KNEE-JOINT.

A very interesting article has been published by Dr. Robert F. Weir,¹⁵ in which this method was strongly recommended. The treatment is considered indicated in (1) subacute or chronic synovitis, where the usual treatment has failed after a fair trial; (2) hydrops articuli, at once; (3) threatened pyo-arthritis, at once; (4) obstinate cases of gouty synovitis.

It can be also used in cases of acute synovitis with

painful distension, hæmorrhosis, and pyo-arthritis. The details of the procedure are carefully described. The fluid for irrigation is usually a three to five per cent. carbolic solution, but, in cases of threatened purulent synovitis, a one-tenth per cent. sublimate solution is substituted.¹⁶ In ordinary cases, the reaction is moderate, lasting twenty-four hours. The dressing is changed after seven to ten days, the patients recovering promptly, with few exceptions, and invariably without toxic symptoms. In cases of "Hydrops Articulii" with excessive relaxation of ligaments, three to four injections, at intervals of several weeks, has caused sufficient shrinkage and thickening of the capsule and ligaments to steady the limb (Volkmann).

MALGAIGNE'S HOOKS IN THE TREATMENT OF FRACTURE OF THE PATELLA.

Mr. Frederic Treves¹⁷ considers that the use of Malgaigne's hooks is the most satisfactory treatment of fractures of the patella. The failure of the hooks depended upon the danger in their use; but, to-day, Mr. Treves tells us that he has used them under antiseptic precautions, for the past twelve months, in all his cases, and has never had reason to regret their use. He applies them in the following manner: No anæsthetic is required; the limb is securely fixed on a back-splint, which keeps the knee fully extended, a foot-piece preventing any shifting. The surface of the knee is antiseptized. The borders of the patella are mapped out by pencil, and the points for the introduction of the hooks indicated. The hooks should enter the bone at equal distances from the median line. Four punctures are now made with a sharp tenotome at the points where the hooks are to enter. The two upper punctures open the synovial cavity, and through them the fluid in the joint is easily evacuated. The two lower punctures are external to the joint. When all fluid has escaped, the hooks are applied. They should be aseptic. The two parts of the apparatus must be separated, and each portion applied by itself, it being better to apply the lower hooks first, since there is often difficulty in applying the upper ones. Finally, after the hooks have secured a good hold on the bone, they are screwed together, so that the fragments are brought into close contact. The upper fragment tends to "ride." The four punctures are then covered with iodoform, and the limb is placed on an inclined plane.

This completes the dressing, the hooks being always in sight. In the cases so far treated, there has been neither rise in temperature, pain, suppuration about the punctures, nor trouble in the joint. The hooks are removed at the end of six weeks.

J. D. Rushman¹⁸ has recently read a paper on the treatment of fractured patella at the New York Surgical Society, which deals with the subject comprehensively. He concludes that the best treatment is by Malgaigne's hooks.

A NEW METHOD OF PERFORMING EXCISION OF THE KNEE-JOINT.

Herbert Allingham¹⁹ brings forward an operation for excision of the knee-joint, which, he believes, is new, and which is said to have the following advantages:

¹⁶ Schede, *Klin. Vorträge*, No. 251, 1885.

¹⁷ *Brit. Med. Jour.*, July 24, 1886, p. 153.

¹⁸ *Medical News*, February 5, 1887.

¹⁹ *British Medical Journal*, January 15, 1887, p. 106.

¹⁴ *Deut. Zeitsch. f. Chir.*, Bd. 23, Hft. 3 and 4, 1886.

¹⁵ *New York Medical Journal*, XLVII, No. 8, February 20, 1886.

The attachments of the fascia lata, the lateral ligaments, and the prolongation of the vasti to the tibia and fibula are not divided.

Above the patella, the synovial pouch is well opened, and the synovial membrane can be thoroughly removed.

The joint and the ends of the bone can be thoroughly examined.

The undivided quadriceps is a strong antagonist to the ham-string muscles, and dislocation of the tibia backward, or tilting of the femur, which commonly occurs after the operation, is thus prevented.

Progression is greatly improved, the attachment of the quadriceps being neither divided, nor the muscle shortened. This is, of course, of great importance, if one hopes for a movable joint.

The operative procedure is as follows: A vertical incision is made from two to three inches above the patella, and prolonged over the patella down to the tubercle of the tibia. All the soft tissues are thus split down to the bone; the patella is vertically sawn in two. These lateral flaps have half the quadriceps' tendon, half the patella, and half the ligamentum patellæ, and are retracted to each side.

The crucial ligaments are divided; then, the leg being flexed, the condyles of the femur are pushed forward on the head of the tibia, and a slice of bone is removed. Now the leg is completely flexed, and the internal lateral ligament is carefully separated from the internal semi-lunar cartilage. This is very important, as this attachment prevents the head of the tibia from coming forwards. The tibia is then pushed forwards on to the femur, and, in order to avoid dividing the lateral ligaments, a thin slice is removed with a strong knife or chisel. The joint is then cleared of synovial membrane, and drainage is made at the posterior-lateral aspects of the cavity.

The patella is shelled out if it is diseased; or, if not, is united by wire. The joint is then closed, all the parts being sutured independently, and an antiseptic dressing applied.

(To be continued.)

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

E. O. OTIS, M.D., SECRETARY, *pro temp.*

MEETING May 2, 1887, DR. C. F. FOLSOM in the chair.

DR. A. F. HOLT read a

CASE OF ACUTE RED ATROPHY OF THE LIVER.¹

Dr. Holt, in beginning his paper, remarked that, although this case occurred to him while performing his official duties as medical examiner, it was for its medical interest that he reported it, and that he did not refer particularly to its medico-legal aspects.

DR. H. I. BOWDITCH said that this was one of the most interesting cases he had heard in a long time, and asked the reader if, from a microscopic examination of the blood, one could tell when the extravasation took place — whether, for instance, one or three days previous to the examination. He further remarked that he confessed to some misgivings as to the inno-

cence of the husband in the case, and he could not help thinking that he killed his wife, although one ought to be very cautious in judging.

DR. HOLT said that he did not feel entirely satisfied that the attack of the husband had nothing to do with the disease.

DR. DERBY asked what the result of the judicial inquiry was.

DR. HOLT replied that the man was acquitted.

DR. J. J. PUTNAM desired to know some of the other causes of the disease.

DR. HOLT replied that the causes were obscure. Those commonly given were certain mental conditions, such as anger, fear, grief, and the acute infectious diseases.

DR. C. P. PUTNAM asked when the jaundice appeared.

DR. HOLT replied, three days before death.

DR. PUTNAM further desired to know if Dr. Holt had had the patient under careful observation from the time of the maltreatment by her husband until her death.

DR. HOLT replied that she had been carefully watched during this time, and again referred to the exceeding rapidity of the atrophy. In the morning, the liver was apparently normal, and in the evening it had disappeared.

DR. PRINCE asked if there could have been any possibility of phosphorous poisoning.

DR. HOLT said this had been thought of, but there was no evidence to show that such was the case.

DR. MCCOLLOM asked if cases of this disease were often as rapid as this one.

DR. HOLT said that some of them are of exceeding rapidity. Dr. Holt, in conclusion, also said that specimens had been submitted to both Drs. Fitz and Whitney, and they were agreed as to the nature of the disease. Dr. Whitney also reported the finding of blood-crystals.

DR. WADSWORTH read the second paper, upon

A CASE OF RECURRENT PARALYSIS OF THE THIRD NERVE.²

In the remarks which followed, DR. DERBY asked if the headaches increased in frequency.

DR. WADSWORTH said they did not, in his cases.

DR. DERBY also asked if there was any especial change during the catamenia.

DR. WADSWORTH said not.

DR. J. J. PUTNAM asked if it was only the third pair that was affected in this way.

DR. WADSWORTH replied that this was the only nerve thus affected so far as he knew, but he would not say positively that others were never affected.

DR. PUTNAM further asked: Supposing the pathological condition is an organic one, what is the cause of the headache and its periodicity? is it congestion about the lesion, or what?

DR. WADSWORTH replied, it was hard to say. It might be periodic attacks of congestion, which caused greater pressure. One author supposed that in a case of tubercular tumor there was a periodical increase in the formation of tubercles which pressed upon the nerve, and caused the paralysis; and, as the patient became habituated to the condition the nerve resumed its function.

¹ See page 374 of the Journal.

² Reserved for publication.

DR. PUTNAM referred to an interesting case which came under his observation. It was that of a young girl of fifteen years, who, during the winter, had much headache and other singular symptoms, possibly hysterical. She was unable to hold her water, and her teacher sent her home from school because her eyes looked strangely, and troubled her. Then she had difficulty in using her hands, first the right, and then the left, from ataxia and numbness. She had, also, almost complete paralysis of the third nerve of the right eye. The interesting point in the case was the rapid improvement during the last month, the affection of the third nerve having almost entirely disappeared. She had been taking iodide of potash, but whether or no this had anything to do with the improvement he did not know. This case would not come under the head of any of the recognized affections of the third pair. It might be an anomalous case of the kind reported by Dr. Wadsworth.

DR. WADSWORTH said that, in all the cases reported, there was no paralysis of any other nerve.

DR. PUTNAM thought it curious that no other symptoms appeared.

DR. PRINCE asked how long the intervals were between the attacks of headache.

DR. WADSWORTH said that, with one exception, the longest interval was a year.

DR. DRIVER asked the opinion of Dr. Wadsworth upon a case which happened in his practice. A young girl at the seashore went on a boating party, which got left by the tide, and she was obliged to wade ashore late at night, arriving home much exhausted. Within twenty-four hours, there was confusion of vision, and some paralysis of the muscles of the right eye. Under iodide of potash and nux vomica, these symptoms soon disappeared.

DR. WADSWORTH thought this was one of those cases called rheumatic.

DR. PRINCE exhibited a new

VERTICAL GALVANOMETER,

comparing it with other instruments of the kind. Both horizontal and vertical galvanometers were described. The disadvantage of the horizontal instrument is that it is affected differently at different places by the earth's magnetism, and hence, does not give the same reading in one place as another. The vertical galvanometer, on the other hand, gives the same reading everywhere.

The ordinary galvanometer is, in reality, a galvanoscope, and does not indicate the strength of the current. For the physician, the galvanometer to be desired is one with large readings, which will quickly come to a standstill, not oscillating, and which is absolutely accurate. This last qualification, however, Dr. Prince did not think so important. In the galvanometer exhibited, air was used as a cushion to stop the oscillations.

AMERICAN GYNÆCOLOGICAL SOCIETY.¹

TWELFTH ANNUAL MEETING.

BATTEY'S OPERATION: ITS MATURED RESULTS,

by DR. ROBERT BATTEY, of Rome, Georgia.

In August, 1872, the author performed his first operation for the removal of the functionally active ova-

ries for the relief of otherwise incurable troubles. Up to the present time, there have been no statistics as to the ultimate effect of the operation. Reports have been given showing the immediate results, but none showing the results on the affection for which the operation was performed. All the cases reported in this paper had been traced carefully up to the present time. They were all the subjects of a complete Battey's operation, and had all been operated on a year or longer. The name "Battey's operation" was retained, as it expressed the idea of the induction of the change of life artificially for the relief of disease, and this idea is included in none of the other terms, such as spaying, oöphorectomy, etc. Fifty-four cases were reported in the present article. Of these, thirty-three were cured, eight were much improved, five were slightly improved, and eight were not at all improved. In fifty of these cases, a complete menopause was induced, and in four there was a continued pseudo-menstruation. The detailed histories of a number of typical cases were then given. The following conclusions were then presented:

(1) The change of life is the most important factor in securing the complete result of this operation.

(2) In exceptional cases, the cure almost at once follows the operation, but, in the vast majority of cases, the patient must pass through the ups and downs incident to the change of life before the restoration to health is complete.

(3) The length of time required to pass through the nervous and physical perturbation attendant upon the change of life is variable. It may be one year, or it may be three or five years.

(4) Of the cases operated on, a few were no doubt badly selected, and the proper selection of cases is a problem yet to be solved.

(5) Patients who have become addicted to the habitual use of morphia, opium, chloral, or alcohol cannot be restored to health until the pernicious habit is abandoned.

(6) Cases which are the proper subjects of this operation, if allowed to suffer, eventually reach a stage where they become absolutely incurable by any operation.

(7) In a number of cases, the patients were in no wise benefited by the operation. In several of these, the indications seemed clear and unmistakable.

(8) In some cases, neuralgic pain remained. How much this was due to an unabsorbed ligature, was a question to be considered.

(9) A careful analysis of the cases seems to show that the removal of the tubes with the ovaries had no influence in the establishment of the menopause, the only effect of their removal being on the disease of the tubes themselves.

(10) The operation is not an infallible one. The percentage of failures recorded is a notable one, but when it is remembered that the cases included are only those otherwise incurable, each case cured is a positive gain. A like percentage of cures in cases of cancer of the uterus, or of cancer of the breast, would be an achievement of the greatest magnitude.

The discussion of this paper was postponed until after the reading of a paper entitled

THE INFANTILE UTERUS,

by DR. A. W. JOHNSTONE, of Danville, Ky.

The author called attention to the fact that the

¹ Concluded from page 363.

uterus was composed of two distinct portions, the body and the neck, the relation between the two being almost the same as that between the stomach and pylorus. The non-development of the uterus may result from various causes, such as injury, etc. The growth and function of the endometrium was referred to at length. The author had discovered a branch of the sympathetic nerve entering the uterus near the attachment of the Fallopian tube, and he thought it probable that it was through this nerve that the uterus received its physiological orders. He held that it was not the removal of the ovaries and tubes that brought on the change of life, but it is the neurotomy which the removal of these organs necessitates. From this, he argued that the arrest of the growth of the uterus was in all probability due to interference with this nerve-supply. An acute neuritis may often pass unrecognized. One of the most marked symptoms in these cases is pain, resulting from the efforts of the endometrium to perform a function for which it is not capable. In the management of these cases, it seems that, in some of the simpler ones, a certain amount of benefit is derived from the use of stem-pessaries, and from galvanism. In the majority of cases of corporeal deficiency, he considered it undesirable to induce the menopause; but, in some cases, where the ovaries remain large and tender, this operation may be resorted to. In conclusion, the author said, if we wish to have a clear idea of the physiological position of the uterus, we must emancipate it from the thralldom of the ovaries, in whose secure grasp it has been held for the last fifty years.

DISCUSSION.

DR. R. S. SUTTON, of Pittsburg. I would ask if Battey's operation consists in the removal of the ovaries alone, and if in the fifty-four cases reported, the removal of the ovaries alone brought on the menopause in fifty cases?

DR. THEOPHILUS PARVIN, of Philadelphia. Does Dr. Battey find the ovaries invariably diseased, and how often is there associated disease of the tubes?

DR. LLOYD ROBERTS, of Manchester, England. I would ask Dr. Battey as to the condition of the uterus in the cases reported.

DR. WILLIAM M. POLK, of New York. I would ask what is the condition of the ovaries that demands removal? Can we after the abdomen is opened, tell by the appearance of the ovaries whether they should be left or removed.

DR. G. G. BANTOCK, of London, England. I have always understood that Battey's operation consisted in the removal of perfectly normal ovaries. I would ask if this is the correct idea?

DR. ROBERT BATTEY, of Rome, Georgia. In reply to the various questions asked, I would say that I do not restrict the term Battey's operation to the removal of the ovaries. The removal of the ovaries is not a necessary constituent of the operation. Battey's operation consists in the induction of the menopause, no matter in what way it is brought about. The removal of the ovaries does not always bring about the menopause, the removal of the ovaries plus the tubes does not invariably cause the menopause, the removal of the ovaries plus the tubes plus the uterus does not always bring about the menopause. In my experience the ovaries are always diseased, but this is simply an accident of the operation, the operation is not done

for the removal of diseased ovaries. Battey's operation is not normal ovariectomy; I entirely repudiate that term. As a rule, I remove only the ovaries, but in a small proportion of cases I remove the tubes, but only when the tube is the seat of positive disease, such as pyo-salpinx or hydro-salpinx. The condition of the uterus varies in each case. I do not insist upon visible changes in the ovary to justify its removal. I rest for my justification on the urgent necessities of the case, and on the fact that nothing else effective has been proposed. I do not operate until all other measures have failed.

A BRIEF NOTE ON THE IMPORTANCE OF THE USE OF ANTISEPTICS IN PRIVATE OBSTETRIC PRACTICE,

by DR. THEOPHILUS PARVIN, of Philadelphia.

The question as to the necessity for the use of antiseptics in hospital practice has been settled, but in private practice their use is often omitted chiefly perhaps on account of the trouble and expense involved in their use. The puerperal woman should be as carefully treated in private practice as in the hospital ward. While an obstetrician may attend many cases of confinement without a death from septicæmia, yet he may have had many cases in which the woman has been crippled, as a result of this affection. The day is coming when if a case of puerperal septicæmia occurs in the practice of an obstetrician who does not employ these precautions, he cannot escape the censure of his professional brethren or of his own conscience.

In order to facilitate the use of these agents, the author had prepared a small case containing articles often required in the treatment of a case of confinement. The case contains corrosive sublimate tablets, strong silk for ligating the cord, antiseptic cat-gut, laudanum, ergot, carbolic acid, and tablets of persulphate of iron. There is also a flexible catheter tenaculum, laryngeal tube, needle-holder, scissors, lancet, needle and silk-worm-gut for closing tears of the perineum and within the vagina.

DISCUSSION.

DR. LAWRENCE, of Manchester, England. The plan which I pursue is as follows: During the progress of the labor the vagina is several times washed out with a warm solution of carbolic acid, 1 to 200. Within half an hour after the removal of the placenta I insert a suppository of iodoform containing twenty-five grains. This is then used night and morning, and the discharges remain inoffensive. If they should become offensive I know that the trouble is within the uterus, and proceed to wash it out.

DR. A. R. SIMPSON, of Edinburgh. The most important thing is that the practitioner should have perfectly clean and odorless hands. I rise to call attention to the value of turpentine in cleaning the hands. Even after the examination of a case of cancer, the use of turpentine will render the hands perfectly clean.

DR. REED, of Glasgow. I never examine a woman without using antiseptics. I carry in my pocket papers containing ten grains of the bichloride of mercury, and dissolve one of these in a pint of water and use it for washing my hands. As a lubricant, I use a preparation which was, I think, first suggested in Germany, consisting of three parts of pure soft soap, one part of glycerin, and five per cent. carbolic acid. It is to be kept in collapsible tubes such as painters use.

DR. HOWARD A. KELLY, of Philadelphia. I am in the habit of carrying corrosive sublimate put up in gelatine capsules, each containing seven grains. This will readily dissolve in hot water, or the capsule may be opened and the corrosive sublimate added to the water.

EXTRA-UTERINE PREGNANCY AND ITS TREATMENT BY ELECTRICITY,

by DR. ELY VAN DE WARKER, of Syracuse.

The following case was reported. Mrs. X., aged twenty-seven years, was married at the age of twenty-four. In 1885, she had an abortion at three months. July 25th she had her last menstruation, and August 28th she was taken with severe pain beginning in the pelvis and extending over the abdomen. There was slight collapse which disappeared under the use of morphia. The next day what was taken for menstruation came on. The attacks of pain continued to recur, and on September 17th the decidua was passed. On examination a small tumor was detected to the right side of the uterus and slightly posterior to it. This was about three inches long and one and a-half inches in diameter. Extra-uterine pregnancy was diagnosed. Severe paroxysms of pain continued to recur and on October 6th, the electrical treatment was commenced. This consisted in the use of the faradic current, a strong induction coil being used. The patient was given ten treatments of half-an-hour's duration, one electrode being pressed against the tumor in the vagina and the other applied externally. At the end of this time there was no apparent change in the pelvic mass, and the pain continued. On October 20th, the treatment was continued one hour, and this was repeated on following days until three applications were made. After the first of these applications the tension of the cyst was found to be less. This was regarded as a sign that the fœtus was destroyed, and was believed to be a sign easier of recognition than a diminution in the size of the tumor. The paroxysmal pain also ceased as soon as the tension diminished. In using electricity for this purpose, the applications should be repeated until the subjective and other evidences of pregnancy disappear. In this case the patient recovered completely, but it was seven months before all traces of the tumor had disappeared.

DISCUSSION.

DR. JOHN C. REEVE, of Dayton, Ohio. I have reported one case of extra-uterine pregnancy cured by electricity. Twenty years ago it was pointed out that sudden and violent attacks of pelvic pain attended with gushes of hæmorrhage almost certainly indicated extra-uterine pregnancy. We have since learned that the expulsion of a deciduous membrane is pathognomonic. In the diagnosis of this condition the first thing to do is to determine the probable existence of pregnancy. An important point in diagnosis is that the tumor in the pelvis manifests signs of activity in its circulation, and it grows rapidly. In my case some six or eight applications were made, the current being as strong as the woman could bear. The first sign of its effect was the diminution in the activity of the circulation of the cyst. In my case it was months before all signs of the tumor disappeared.

DR. P. MARION SIMS, of New York. In a case under my care four years ago, treatment by electric

shock was resorted to. The patient was anesthetized and twenty or thirty shocks from fifteen freshly charged cells were passed through the fœtal mass. Eight or ten applications of this kind were given at intervals of two or three days. At the end of this time there was noticed a decided lessening in the tension of the sac. The use of electricity was then stopped. At the end of one year there was still some thickening of the cellular tissue. The patient's health has been perfect since the operation.

DR. JAMES R. CHADWICK, of Boston. One year ago I had a case of extra-uterine pregnancy which I treated with the constant current constantly interrupted. This was continued three or four weeks before the symptoms ceased. Five weeks later the fœtus protruded into the vagina and was removed.

DR. MARTIN, of Berlin. I have operated on sixteen cases of extra-uterine pregnancy. The treatment by electricity has not met with much favor in Germany. Tubal pregnancy is the most common form of this accident, and this can be easily diagnosed and easily operated on. I have operated on nine cases of tubal pregnancy, and all but one have recovered. In this case the tube had burst and the abdomen was filled with blood before the operation was done. Death resulted from the great loss of blood. The treatment of the other forms of extra-uterine pregnancy will depend upon the symptoms and the course. In these cases the chief objection is the danger of hæmorrhage from the placenta, but I have experienced no difficulty in dealing with the placenta.

DR. MATTHEW D. MANN, of Buffalo. The electrical treatment of these cases has advantages over all other methods of treatment. The dangers connected with the use of electricity where puncture is not made are very slight. If this method fails we can still perform laparotomy.

DR. APOSTOLI, of Paris. Where a case of extra-uterine pregnancy has been diagnosed in its earliest stages, the use of electricity should be tried before resorting to any operative procedure. The faradic current is not to be depended on. I have accidentally used the faradic current on the womb in cases of pregnancy, not knowing that the condition was present, and no abortion has resulted. On the other hand, I have accidentally used the galvanic current under these circumstances and abortion has been induced. I would recommend the introduction of one electrode into the sac, while the other is applied externally and in this way if a strong current is used, the death of the fœtus is assured at one sitting.

DR. JANVRIN, of New York. Last year I reported a case of extra-uterine pregnancy, in which galvanism was employed. The patient died from bursting of the tube after the third application. I have become convinced that the condition of collapse and colicky pain observed in cases of tubal pregnancy, is not due to distension of the sac, but to the rupture of small vessels in the peritoneal covering of the tube. The treatment of these cases is not galvanism, but as soon as we have made our diagnosis, we should on the first evidence of shock and colicky pains, at once remove the tube by laparotomy, and thus give the woman a chance of being a well woman.

DR. ELY VAN DE WARKER, of Syracuse. It has been shown that the use of electricity is not dangerous and if it fails we can resort to laparotomy. If Dr. Janvrin's view is right, we should have hæmatocele,

but in my case where there were repeated attacks of pain, there was no evidence of hæmorrhage. With reference to the recommendation of Dr. Apostoli, I think that the introduction of an electrode into the sac would be as dangerous as laparotomy.

AFTERNOON SESSION.

VAGINAL INJECTIONS IN SIMS' POSTURE,

by DR. FRANK P. FOSTER, of New York.

The value of large vaginal injections of hot water in the treatment of inflammatory conditions of the pelvis is now recognized. Even when the rules ordinarily laid down are faithfully carried out, it is possible that the efficiency of this measure may be still further increased. The main desiderata are the penetration of the water to a position closely contiguous to the seat of disease and its application in a quantity sufficient to secure the maximum action of the heat. To fulfil these requirements the speaker had used the injections with the patient in Sims' posture or rather in a posture somewhat more prone than that of Sims'. With the woman in the dorsal position the quantity of water in the vagina at one time is decidedly smaller than that which is required to fill the canal when it is distended by atmospheric pressure, as occurs on opening the introitus with the patient in Sims' posture. It seems reasonable to suppose that the effect of a large quantity of water in the vagina will be greater than that of a small quantity. When the injection is concluded this large quantity of water can be retained for some time. The greatest advantage is, however, the gravitation of the abdominal contents towards the diaphragm, thus bringing the hot water in closer relation with the diseased parts. With the ordinary appliances there is some objections to this procedure, but with the vaginal douche, described some years ago by the author, no difficulty is experienced.

A NOTE ON THE TREATMENT OF PUERPERAL ECLAMPSIA,

by DR. CHARLES JEWITT, of Brooklyn.

The object of the paper was to call attention to the value of veratrum viride in this class of cases. Its use in convulsive affections has been known for many years, but has not been generally recognized. Veratrum viride, if a reliable preparation is employed, is a safe, prompt and efficient remedy in convulsions. Its value in eclampsia seems to depend on its effect on the vaso motor tonus. Used with proper precautions veratrum viride is perfectly safe. A careful search of the literature reveals no death due to its use in the treatment of convulsions. It is important that the patient should be kept in the recumbent position while taking the drug. The fluid extract of the rhizome is the best preparation. Hypodermic injections of the drug is the only reliable way of bringing the circulation promptly under its influence. The average dose is ten to twenty minims. The smaller dose repeated in half an hour will usually suffice. The guide to the use of the drug is the frequency of the pulse. Experience has shown that no convulsion will occur if the system is sufficiently under the influence of the drug to hold the pulse under sixty per minute. The average time required to develop the effect of a single dose of the drug is half an hour. The average quantity given does not exceed twenty or thirty minims in all. Twenty-two cases were reported in which this plan of treatment had been employed. Of this num-

ber six died, three by complication, and three from the eclampsia. In the fatal cases from twenty-four to thirty convulsions had occurred before the treatment was begun. In most cases other remedies, such as chloroform and hydragogues were employed in addition to the veratrum viride. The most unpleasant effect noticed has been nausea and depression, but these were only transient.

DISCUSSION.

DR. KING, of Washington. I suggested the use of this remedy on theoretical grounds some twenty years ago. At that time, I endeavored to account for the convulsions of pregnancy by the pressure of the gravid uterus on the aorta and its branches and the consequent excess of arterial blood in the brain. In primiparæ, in whom this condition occurs most frequently, it is usual for the head to descend below the brim of the pelvis some time before full term is reached. In multiparæ it is the exception for the head to so descend. I would suggest that the difference, or the liability to eclampsia between primiparæ and multiparæ is due to this difference in the position of the head.

DR. JEWITT, of Brooklyn. The correctness or falsity of Dr. King's views could be demonstrated in a case of this kind by performing version by external manipulation, thus removing the head from the brim of the pelvis. For myself, I have been favorably inclined to the theory that the convulsions are due to anæmia of the brain, resulting from acute spasm of the cerebral vessels. If that theory is true, we can readily see how veratrum viride acts by relieving the spasm.

OFFICERS FOR THE ENSUING YEAR.

President, Dr. Robert Battey, of Rome, Georgia. Vice-Presidents, Dr. James R. Chadwick, of Boston, and Dr. A. Reeves Jackson, of Chicago. Secretary, Dr. Joseph Taber Johnson, of Washington. Treasurer, Dr. Matthew D. Mann, of Buffalo. Council, Drs. Frank P. Foster, of New York, C. D. Palmer, of Cincinnati, James B. Hunter, of New York, and R. Stansbury Sutton, of Pittsburgh.

The following new members were elected: Drs. Howard A. Kelly, of Philadelphia, Cornelius Kollock, of South Carolina, Bache McE. Emmet, of New York, and H. T. Hanks, of New York.

The report of the Committee of Conference with reference to the formation of a Congress of American Physicians and Surgeons was received, but the recommendations of the joint committee were not adopted.

The next meeting of the Society will be held in Boston, beginning the third Tuesday of September, 1888.

The Society then adjourned.

NEW YORK STATE MEDICAL ASSOCIATION.¹

THIRD DAY.—MORNING SESSION.

The Treasurer, in his report, said there was a balance of \$240, in addition to a building fund of \$465.

ADDRESS ON MEDICINE.

DR. JOHN CROXYN, in this address, took a general view of the field of medicine, referring to the part played by special departments in bringing it to its

¹ Concluded from page 365.

present degree of perfection. It were well if those who entered upon the study of medicine were selected from among those who had already been trained in letters and arts. They should be inspired with a deep reverence for their profession, and a keen sense for its awful responsibilities.

COLD AS A THERAPEUTIC AGENT.

DR. B. L. HOVEY made brief allusion to the use of cold as a therapeutic agent in the past, and recited some cases of different affections in which he had found it of value, especially in asthenic fevers. The practitioner should be extremely cautious in selecting his subject, and the stage of the disease, for its trial. The temperature of the bath, when the bath is employed, should vary; but, as a rule, it should not be less than 65° or 70° F., and, in general, the patient should not be kept in it more than seven to ten minutes. Among the affections in which he had employed cold in some form with benefit, were typhoid fever, heat-stroke, gastritis, hæmatemesis, external hæmorrhage, uterine hæmorrhage, Bright's disease, etc.

THE SMALL-POX IN BROOKLYN; DEFECTIVE ISOLATION AND DEFECTIVE VACCINATION.

DR. NELSON L. NORTH said, in this paper, that the whole recent epidemic of small-pox in Brooklyn, extending over a period of more than one year, had been the result of one concealed case, in the person of a Polish emigrant who had landed at Castle Garden. In criticising the Brooklyn system of vaccination and isolation, it was not because he considered it worse than others, but because he was better acquainted with it. Unfortunately, politics sometimes meddled with sanitation. As remedies, he suggested the passage of more exact and definite laws having reference to the control of patients with contagious diseases, as well as universal and stringent enforcement of laws and ordinances already in existence. Treat small-pox patients more humanely, banish the small-pox hospital, which he regarded as an element of barbarism. There could be isolation, with good nurses, good physicians, well enough paid that they could stay by their patients, take care of them, give them rational treatment, and not leave them to live or to die, as the case might be. The records showed that a greater proportion of those sent to the hospital died than of those who took the risks, concealed themselves, and remained at home, and people believed that some were sent to these pest-houses who had not the disease, there acquired it, and died. It was no wonder that friends tried to conceal their sick from the officers of the law.

Dr. Nelson then discussed the importance of thorough vaccination with pure, fresh matter.

DR. HENRY C. VAN ZANDT then read a paper entitled

SPECIALISTS,

in which he deprecated the tendency for physicians to limit their practice and their knowledge to a single class of diseases. The general profession, he said, had to bear all the sins of all the specialists. It was too common for the unsuccessful general practitioner to become a specialist.

REPORT OF THE NOMINATING COMMITTEE.

The Committee on Nominations reported, for President, Dr. John Cronyn; also a Vice-President and a member of the Council from each of the several dis-

tricts. The report was accepted, and the gentlemen named elected.

DR. THOMAS MANLEY, of New York, then read a paper on

EPITHELIOMA OF THE VULVA.

The books scarcely referred to epithelioma of the vulva, yet he thought the affection could not be so rare, for he had seen two cases within five years. In both he had operated, with the result of limiting the progress of the disease.

THIRD DAY. — AFTERNOON SESSION.

DISCUSSION ON PLACENTA PRÆVIA.

DR. GEORGE TUCKER HARRISON, of New York, opened the discussion with a paper, in which he, first, alluded to the importance of the study of the behavior of the cervix in the latter part of gestation, and during labor. The older views seemed to have been established on solid basis, but, recently, the arguments brought forward by Bandl seemed to overthrow these in considerable part. The uterus was differentiated into the contracting and thickening upper part, and expanding and thinning lower uterine segment and cervix. During labor, the lower uterine segment was essentially passive, the upper part exhibiting active contractions, the boundary between the two being denominated by Schroeder as the ring of contraction.

The all-important symptom of placenta prævia was, of course, the hæmorrhage, the source of the bleeding being the placental site, and the cause being the separation of the placenta. In treatment, the important problem to solve was to guard the patient against two dangers: bleeding, first; sepsis, second. The special liability of women who were the subjects of placenta prævia to septic infection was explained by the lower situation of the placenta, and by the lacerations so frequently concomitant to this condition, the agent of infection being the examining finger of the accoucher. Anæmia further favored septicæmia.

In treatment, the bipolar method of version introduced by Braxton Hicks was advocated as the best means of fulfilling all the theoretical indications. Zweifel's method of avoiding perforation of the placenta in central implantation was especially commended.

The problem of the future should be to diminish the terrible sacrifice of the child. Zweifel's method might here help, as well as improvements in antiseptic procedures, enabling us to use the vaginal tampon, and rupture the membranes without perforation of the placenta.

IN CASES IN WHICH THE PLACENTA IS PRÆVIA, WHAT ANATOMICAL AND PHYSIOLOGICAL FACTS EXPLAIN THE HÆMORRHAGE OCCURRING DURING PREGNANCY, AND WHY IS HÆMORRHAGE UNAVOIDABLE DURING MISCARRIAGE OR LABOR?

This question was discussed by DR. C. C. FREDERICK and DR. ISAAC E. TAYLOR.

Regarding the anatomical and physiological facts to account for hæmorrhage in placenta prævia, Dr. Frederick reviewed prevalent opinions on the subject including those of Bandl, and said that as to hæmorrhage being unavoidable during labor or miscarriage, he thought it was not.

DR. TAYLOR said the obstetrician based his views upon the demonstrations of the anatomists and upon his own experience by touch during delivery. He had expressed his views based on observation in a brief

paper read before the New York Academy of Medicine, in 1862. He demonstrated by touch alone that the cervix uteri did not coalesce with, or become absorbed into the body of the uterus during the progress of gestation. The cervix had no special physiological function as had the body; it was passive, and remained so until the time of labor. It was prepared physiologically to dilate and expand to admit of delivery of the child, as the body of the uterus was prepared to contract and accomplish the delivery. The placenta is not physiologically related in the circulation of the cervix. The body of the uterus is the only true habitat for the placenta during gestation. The hæmorrhage taking place during labor when the placenta was before the head of the child occurred during diastole, and not during contraction of the uterus, and was from the uterus.

DR. DARWIN COLVIN and DR. S. B. W. McLEOD discussed the second question.

IN THIS ANOMALY, WHAT IS THE SOURCE OF HÆMORRHAGE, AND WHAT IS THE MECHANISM OF ITS ARREST?

DR. COLVIN said authors differed in opinion as to the source of the hæmorrhage; he had no definite views, and would not devote much space to its consideration. He had had five cases of placenta prævia, and from his experience therewith, drew conclusions as to the proper treatment, which he thought should be to bring on labor, and not risk the life of the mother with the possible hope of saving the child. The responsibility was too great to temporize. He believed the life of the child was entirely secondary to that of the mother, and that an effort to save both in not bringing on labor, would oftener prove fatal to both.

DR. McLEOD said, in answer to the question proposed, that the source of the hæmorrhage was either the placenta, the uterine sinuses, or branches of the uterine artery or vein, or both, or all combined; but authors differed in their views on this subject. As to the mechanism of its arrest, not treatment, he confined himself to a few points. First, that the partial separation of the placenta be converted into total separation, and the hæmorrhage would then generally cease, the idea being to cut off the blood-supply from the uterus; it also gave opportunity for contraction and closure of the uterine sinuses. The tampon, by obstruction, could only temporarily delay the bleeding. Then there were hæmostatics, such as cold, ergot, etc.

DR. W. T. LUSK discussed the question

IF PLACENTA PRÆVIA BE DIAGNOSTICATED DURING PREGNANCY, IS THE INDUCTION OF PREMATURE LABOR INDICATED?

If pregnancy had advanced to the seventh month, we should, as a rule, proceed to deliver, for the next hæmorrhage might prove fatal. Previous to the seventh month hæmorrhage usually leads to abortion, the management of which does not differ from the management of abortion occurring without placenta prævia. If hæmorrhage begins before the child is viable, there is little hope of saving it by delay. In most cases the first hæmorrhage is slight it should serve, as a warning. If the physician's suspicions are confirmed he should not leave his patient until she is secure. The practical results of the induction of labor in the

hands of its advocates, speak effectually in its behalf. Strict antisepsis is a condition of success. Version is attended by serious loss of infantile life.

DR. ROLLIN L. BANTA and DR. JOHN SHRADY discussed the question

DURING LABOR, WHEN THE PLACENTA IS PRÆVIA, WHAT MODE OF TREATMENT BEST SUBSERVES THE INTERESTS OF THE MOTHER AND CHILD RESPECTIVELY? IS THAT PLAN OF TREATMENT WHICH BEST CONDUCE TO THE PRESERVATION OF THE MOTHER'S LIFE, INCOMPATIBLE TO A CERTAIN DEGREE WITH THE CHILD'S INTERESTS?

DR. BANTA favored the method of Braxton Hicks, which had been most effectual in saving the mother's life in his practice. He had found less danger from hæmorrhage than from infection, although in his cases antisepsis was observed.

DR. SHRADY thought the statistics which gave the percentage of maternal deaths as one in three, had been overstated, while that of the infantile deaths had been underestimated: it should be eighty rather than sixty-five per cent. He could recall but four cases; they certainly did not belong to cases of central implantation. The watchword, deliver at all hazards, seemed in the days of his pupilage, to have been passed all along the lines of the profession. The best chances of the mother were in the direction of parturition, but in a given number of cases of cervical lateral attachment, the hæmorrhage may cease spontaneously. The interests of mother and child in no sense conflict.

DR. JOHN G. ORTON and DR. W. H. ROBB discussed the fifth question

AFTER CHILD-BIRTH, IN PLACENTA PRÆVIA, WHAT THERAPEUTICAL MEASURES WILL MOST CERTAINLY GUARD AGAINST THE DANGERS OF HÆMORRHAGE AND SEPTIC INFECTION?

DR. ORTON called particular attention to the benefit derived from friction over the nipples, in the arrest of uterine hæmorrhage.

DR. ROBB would remove pillows from under the patient's head, secure firm and continued contraction of the uterus, would give by hypodermic injection fifty minims of Squibb's fluid extract of ergot; if this failed, throw hot carbolized water into the uterus. In two cases he was enabled to keep the uterus contracted only by faradization. In such a case he would suspect laceration of the cervix, and if the patient's condition admitted would repair it. To prevent infection thoroughly empty the uterus, secure firm contraction; it might be necessary to inject hot carbolized water; after this, pass iodoform up to the fundus. Lacerations should be disinfected.

ACUTE MANIA.

DR. J. C. HANNAN read the history of the case in which the question of diagnosis was difficult. The patient was a young man, and had rheumatic symptoms.

DR. CHARLES S. ALLEN then related

A CASE OF INTRA-RECTAL LARVÆ, WITH GASTRITIS, IN AN INFANT.

The author gave the patient's symptoms, and said that in the passages were found peculiar objects, which on microscopical examination, resembled the larvæ from the blow-fly. He thought the source must have been the food ingested.

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MEMBRANOUS OR PSEUDO-MEMBRANOUS
ENTERITIS.

This disease is looked upon as one of the curiosities of clinical medicine, not only from its uncertain etiology and pathology, but because, while not a common affection, it is, on the other hand, not so rare but that almost every practising physician, sooner or later, meets one or more cases of it. The unusual number of synonyms for it (some students of medical literature have found as many as thirty-six) is accounted for by the fact that, as it did not receive systematic description till the paper of Powell (1818), and each observer, more or less unfamiliar with what had been seen by others, gave a name of his own choice to what was practically his own independent discovery.

With all the cases that have been described of recent years, sufficient to put the tolerably constant symptomatology of the affection fairly upon clinical record, we are, unfortunately, ignorant as to the direct causation and pathology of the disease. That it occurs usually in women of a more or less neurotic tendency, and usually of middle age, is established. Of one hundred cases referred to by Wales in Pepper's "System of Medicine," four only occurred in males, of which two were children. He finds it alike rare in children, and in persons over forty-five years of age. Dr. J. B. Field, of Lowell, in a monograph which well reviews the subject up to the present date, has collected one hundred and eleven cases, in one hundred and six of which the sex was stated. Of these, twenty-one were males, eighty-five females. Of sixty-nine patients, the ages were given, and, of these, the following number belonged respectively to each consecutive decade of life: six, three, seven, eighteen, twenty, twelve, two, one, the greatest frequency, as will be seen, being from forty to fifty years of age.

Dr. Wales, while failing to throw light on the pathology of the disease, yet destroys some previous theories as to its morbid anatomy. His chemical tests showed the exfoliated membranes to be devoid of both fibrin and albumin, and to consist essentially of mucin, in which respect they differ from ordinary

croupous and diphtheritic exudates. The microscopical, as well as the chemical characters of the membranes, show them to differ from the exudates of other diseases of the alimentary mucous membrane, and to consist of a production of the muciparous glands (follicles of Lieberkühn).

Are we to consider, as did some of the older observers, that the enteric exudate is the product of a merely local inflammation? or may we look upon it as a derangement of secretion, having its cause in some undefined derangement of the nervous system? That the latter is more likely to be the case seems to us to be shown by certain coincident affections that are observed. We have ourselves seen a patient presenting, at various times, membranous discharges from bowels, bladder, and womb. Now, although the anatomical constitution of the exudate in membranous dysmenorrhœa is entirely different from that in enteritis (as, indeed, must be the case from the difference in the nature of the lining membrane from which are thrown off the two exudates), yet there is reason for supposing that the uterine exudate is a decidua in some way analogous to that of pregnancy, and influenced by the same nervous supply as the ovaries; and it is certainly remarkable, in view of the infrequency of both affections, that six of the cases of membranous enteritis collected by Dr. Field presented, also, uterine casts, or pseudo-membranous dysmenorrhœa.

Indeed, may we not go a step further, and suppose that the roughness of skin so often seen in ill-nourished neurotic patients, and noted by Wales as an accompaniment of this very affection, is dependent on a derangement of the same centres of nervous supply as, by their impairment, have caused the exfoliation in the intestine and the uterus? This view coincides with that of several of the most recent authorities on the subject, Da Costa saying, for instance, that the "depressed general condition, the severe pain, the recurring character and obstinacy of the complaint, the frequent association with uterine disease; the constancy of signs of disordered nervous manifestation, the association, often, with *similar discharges from other outlets*, point to a deeper, more general cause than an enteritis or morbid condition of the intestinal mucous follicles."

If membranous enteritis, then, is an intestinal neurosis, we can understand something of the failure of treatment, so much of which has been directed to the local lesion. Unsatisfactory as all treatment has usually proved hitherto, we have a hint of possible value in the neurotic nature of the affection.

GASTRALGIA.

GASTRALGIA (*cardialgia, gastrodynia, stomach-ache*) is generally regarded as a neurosis affecting the gastric nerves. Romberg distinguished two forms: one, which he called *gastrodynia neuralgia*, he held to be a hyperæsthesia of the gastric branches of the vagus nerves; the other, which he called *neuralgia cœlica*,

he regarded as a hyperæsthesia of the solar plexus. Hænoch, however, regards this distinction as one that is inapplicable, and worthless in practice. Sawyer, in the *Lancet*, August 13, 1887, would call a case of gastralgia "one in which pain, deep-seated and paroxysmal, in or about the stomach, of a neuralgic or quasi-neuralgic character, is the leading symptom." This pain "must be unaccompanied by gastric or gastro-hepatic catarrh, or physical signs of structural disease either in the stomach or in its neighborhood." A diagnosis of gastralgia (which, of course, is only a symptomatic diagnosis) can only be continued "when repeated physical exploration fails to reveal any other coarser interpretation of the patient's suffering."

Romberg's description of an attack of gastralgia in its severest form has been regarded as typical: "A violent, contracting pain at the pit of the stomach supervenes suddenly, or after being preceded by a sense of oppression; it generally extends to the back; there is a sense of fainting; the face is fallen in; the hands and feet are cold; the pulse is small, cramped, and intermittent. The pain attains such a pitch as to cause the patient to scream out. The region of the stomach is either swelled and distended, like a ball, or, as is more frequently the case, it is drawn in, and the abdominal parietes are tense. It is common to find pulsation at the epigastrium. Pressure is not only well borne, but the patient frequently forces the pit of the stomach against some firm object, or compresses it with his hands. (This Dr. Sawyer regards as a very important diagnostic sign.) Sympathetic sensations occur in many instances in the thorax, under the sternum, or in the pharyngeal branches of the pneumogastric, while they are seldom met with in the superficial parts."

Gastralgia may occur at any age, though it is rare at the extremes of life, and it is most commonly met with in middle life, and in connection with the nervous temperament. Women are more subject to gastralgia than men, and, in the former, it is often due to anæmia, hæmorrhages, or prolonged uterine discharges. In man, gastralgia may be the result of overwork, sexual excesses, or masturbation.

In the treatment of gastralgia, Dr. Sawyer urges the pre-eminent utility of arsenic, which he alleges to be generally curative of this affection. He gives one-twenty-fourth of a grain of arsenious acid, made into a pill, with two grains of extract of gentian, thrice daily, between meals. The use of this remedy must be continued for a few weeks. In a case of moderate severity, he says, no other medicinal treatment is necessary. The gastralgic pains become less frequent and less severe, and recovery is steadily and surely attained. In severer cases, he uses some form of counter-irritation to the epigastrium, the volatile liniment, for instance. In the severest cases, vesication by a fly-blister is of service. The blistered surface to be kept raw with savine ointment. The diet should be generous. A dyspeptic regimen makes a case of gastralgia worse.

Dr. Sawyer gives some hints as to diagnosis which are worth remembering: "(1) Gastralgia is not a wasting disease. (2) It is not safe to diagnosticate cancer of the stomach till you can *feel* the cancer. (3) Do not diagnosticate ulcer of the stomach till you have *seen* blood from the stomach, either in hæmatemesis or melæna. You may take it as a clinical truth that pain arising in the stomach, when the organ is empty and relieved, by the ingestion of food, is almost pathognomonic of its nervous origin and nature."

THE VITAL STATISTICS OF MASSACHUSETTS FOR THE YEAR 1886.¹

THE Forty-Fifth Registration Report of Massachusetts, the first since the sanitary interests of the State were entrusted to a board of health, lunacy and charity, comes to us edited by the restored State Board of Health.

It appears that the year 1886 has been one in which the public health showed a marked improvement over that of the previous years since 1879, the birth-rate being greater and the death-rate less than those of any year within that period. During the year there were recorded 50,788 births, 18,018 marriages and 37,244 deaths, or 1,998 more births, 966 more marriages and 850 less deaths than in 1885. The excess of living births over deaths was 13,544, which is 2,848 more than that of 1885, and also greater than the increase of any year since 1860, except that of 1874. The approximate rates for the year were birth-rate, 25.69; marriage-rate (marriages), 9.12; death-rate, 18.85; excess of births over deaths, 6.84, or one child born alive to 39 persons, one person married to 55, and one death to 53 living persons, and a daily average of 139 births, 49 marriages and 102 deaths.

As compared with other countries we have a high marriage-rate, a low birth-rate and a low death-rate, the rates being smallest in the small country towns.

The average ratio of males to females among living births in Massachusetts, for a period of thirty-three years (105.7), corresponds quite closely with that of all Europe. The excess of children born of foreign parents over those of native parentage was 1,227, which was 316 greater than that of 1885, and also greater than that of any year since 1876, when the excess of births of foreign parentage was 1,800. The number born of mixed parentage was 9,299, which was 427 greater than that of 1885, and also greater than that of any previous year.

There were 1,796 still-births. The 1,034 illegitimate births indicate a ratio of 20.3 per 1000 as compared with 64 (from 29 in Russia to 152 in Bavaria) in Europe.

¹ Forty-Fifth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth, for the Year ending December 31, 1886. Together with the Reports relating to the Returns of Libels for Divorce and to the Returns of Deaths investigated by the Medical Examiners, for the Year 1886. Prepared by the Secretary of the Commonwealth. With Editorial Remarks by Samuel W. Abbott, M.D. Boston: Wright & Potter Printing Co., State Printers. 1887.

The marriage-rate for 1886 was .63 lower than the average for the past twenty years, and .71 higher than the average for the past ten years. Comparing the statistics of the last two decades, the rate for the former proves to be 2.69 greater than that of the latter period. There has been a decrease in the marriage-rates of nearly all European countries during the past twenty-five years, and also in four New England States having registration, — Massachusetts, Rhode Island, Connecticut and Vermont.

The whole number of divorces granted during the year was 601, which was 45 less than the number granted in 1885, and 105 more than the yearly average of the twenty years ending with 1886. Of the whole number, 125, or 20.8 per cent., were granted on account of adultery; for desertion 45.7; for intoxication 16.3; for extreme cruelty 5.3; for cruel and abusive treatment 10.3; and for neglect to provide maintenance 1.2. Four hundred and twenty-one, or 70.0 per cent. of the whole number, were granted on complaint of the wife. Of the divorces decreed on account of adultery, 53.6 per cent. were granted to women; for desertion, 61.1 per cent.; for intoxication, 85.7 per cent.

The infant mortality, 21.07 (percentage of deaths under one to total deaths) was greater than that of any year since 1875 (22.04) and also greater than the average of fifteen years from 1872 (20.94). The average age of all persons at death was 34 years, the extremes, excluding the two small island counties, being 48.63 in Barnstable County and 30.29 in Suffolk.

There has been, since 1876, an almost steady decrease in the ratio to all deaths, of deaths from so-called zymotic diseases (from 28.6 to 18.5). In constitutional diseases the change has not been so marked, 25.1 to 24.2; while in "local" diseases, there has been a nearly constant increase from 31.7 to 42. the more striking changes being shown in the first two of the following tables. The population increased from 1875 to 1885 by census from 1,651,912 to 1,945,141.

From 1867 to 1886, the reported death-rate from pulmonary consumption has decreased from 3.25 to 2.98 per 1000 of population, while from cancer in the same time, it has increased from 0.29 to 0.56. The very striking increase in mortality from brain disorders for the last six census years is shown in the third of the following tables:

DEATHS FROM PROMINENT "ZYMOTIC" DISEASES.

Years.	Dysentery.	Typhoid Fever.	Whooping-Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small-pox.	Total.
1877	580	814	369	544	2,634	135	467	1,927	26	7,496
1878	602	679	400	583	1,934	305	404	1,573	2	6,482
1879	372	637	302	559	1,734	19	850	1,349	8	5,830
1880	395	882	230	625	1,769	236	574	2,118	38	6,867
1881	360	1,072	217	677	1,706	230	397	1,661	47	6,567
1882	398	1,079	265	491	1,280	68	318	2,159	45	6,103
1883	336	860	137	530	1,091	321	575	1,941	5	5,796
1884	254	875	410	562	1,084	75	627	2,081	3	5,971
1885	253	768	181	520	1,003	313	587	1,852	19	5,199
1886	243	800	271	505	1,053	130	331	1,931	0	5,264

DEATHS FROM PRINCIPAL LOCAL DISEASES.

Years.	Apoplexy.	Paralysis.	Insanity.	Convulsions.	Heart Diseases.	Bronchitis.	Pleurisy.	Pneumonia.	Peritonitis.	Bright's Disease, Nephritis and other Kidney Dis.
1877	544	843	112	596	1,391	397	82	1,972	126	546
1878	562	805	152	562	1,509	348	80	2,171	164	634
1879	663	932	118	612	1,608	690	90	2,647	228	711
1880	746	933	142	705	1,822	780	98	3,076	270	723
1881	718	998	129	691	1,937	843	88	3,065	284	843
1882	706	1,047	153	687	2,025	867	102	3,332	307	900
1883	784	1,056	183	737	2,153	934	104	3,045	339	987
1884	857	1,119	166	732	2,117	949	63	3,045	307	1,032
1885	1,003	1,132	188	721	2,227	1,131	138	3,468	350	1,128
1886	973	1,173	151	799	2,469	1,020	100	3,836	320	1,161

Mortality-rates per 10,000 from —	1860.	1865.	1870.	1875.	1880.	1885.
Apoplexy,	1.93	2.08	2.70	2.78	4.19	5.12
Softening of the brain, . . . .	.36	.33	.58	.59	.68	.65
Paralysis,	3.26	3.78	4.32	5.43	5.23	5.82
Insanity, . . . .	.58	.59	.71	.71	.71	.96
Cephalitis and brain disorders,	5.93	7.61	6.04	6.91	6.19	7.46
Totals,	12.06	14.39	14.35	16.42	17.00	20.01

From ague and remittent fever the number of deaths reported in 1886 was 32, of which number 20, or 62.5 per cent., occurred in the five western countries having but 26 per cent. of the population. The greatest number, 8, occurred in Hampden county. Although serious epidemics have occurred in eastern Massachusetts in 1884, 1885 and 1886, they have thus far had but little effect upon the death-rate.

It is gratifying to learn that the improvement of later years in the proportion of deaths without reported causes of death continues, having reached, in 1886 the lowest percentage, namely, 1.21 of all deaths.

The returns of the medical examiners indicate that 1,378 cases were examined in 1886 as compared with 1,278 in 1885. There were 202 autopsies. Of the 1,378 deaths investigated 47 were from homicide, 157 from suicide, 678 from accident or negligence, 233 from apoplexy and heart disease, 54 from alcoholism. It is one of the small advantages of the new method that there is a considerable less expense involved in it than in the old coroner system.

The report is larger than usual, from additions to the editorial portion, and will well repay careful study.

MEDICAL NOTES.

—Private letters, published in New York, from Colon, state that there have been many deaths from yellow fever in the latter city, and the disease still prevails. Absolutely no precautions are taken to vents its spread. The city is filthy to a degree. Despite the constant presence of yellow fever, certain consuls grant clean bills of health to steamers trading with or touching at American ports. Advices from Belize,

British Honduras and Livingston, Guatemala, report several cases of yellow fever at both places.

Eighty cases of yellow fever had been treated at Tampa, Fla., up to October 14th, with twelve deaths. The citizens are aroused, and have organized and equipped a hospital. The case of fever at Palatka was that of a Tampa fugitive. There are no other cases in the place.

The Marine Hospital Bureau has received a dispatch, October 14th, from Dr. Porter, President of the Key West Board of Health, reporting his arrival at Tampa with four nurses. He says that the customary tests prove beyond all question that the disease is yellow fever. Deputy Collector Spencer telegraphs, under the same date, "There were three deaths last night, and several new cases to-day. The local authorities are at last acting and taking measures to disinfect."

—The local Health Councillor of Carlsruhe published under date of February 28, 1887, an analysis of "Warner's safe cure," which appears to have found a place in the shops of Germany. "It is," he says, "an infusion of liverwort flavored with oil of wintergreen, and containing a small quantity of saltpetre, glycerin and alcohol; to be taken along with this are pills made of aloes and coated with sugar."

—The Ameer Abdul Rahman is not a pleasant patient, at least according to the stories told in some of the Indian bazaars. It seems that that magnate has been recently suffering from an ulcer in the back. His physician prescribed some application, which, as is not infrequent in medical practice, had the result, for the time being, of increasing the pain. After a night of enhanced agony, the Ameer arose, sent for the luckless doctor, and had his head struck off there and then.

—Bardach, in the *Annales de l'Institut Pasteur*, as quoted by the *Medical Press*, relates the case of a woman who was bitten by a rabid wolf. After the bite she ceased to suckle her infant. A small quantity of the milk was taken from the mother's breast and injected into the cranial membranes of dogs and guinea-pigs. All the animals injected were seized with the typical madness. The mother died, but the child that was taken from the breast after the bite still lives and appears perfectly healthy.

—We learn from the *Indian Medical Gazette* that a renewed attempt is to be made to grow ipecacuanha on the Nilgiri Hills, as this medicine is largely used in India for dysentery and other diseases, and a London medical paper reports that the stock in first hands in London, the chief emporium for the drug, was very low and would probably all be taken out of the market at an early date. The price also had risen very considerably, and it had become a matter of doubt whether the Government would be able to purchase the quantity annually required for India. Experiments have been made for some years in the growth of the plant in the Botanical Gardens at Utkamund and elsewhere, which have shown that, though

not difficult to propagate, it is by no means easy of culture, and can only be successfully grown in a limited area, possessing suitable climatic conditions. It is considered improbable that the cultivation would be taken up to any extent by private individuals, although its price would make it very remunerative. The Government has, therefore, on the recommendation of the Surgeon-General and the Government Botanist, decided to take up the cultivation on its own account on a comparatively small scale, and the Government Botanist has been directed to plant out at Nilambar all the plants which he can procure at present. Before, however, undertaking the cultivation on a larger scale, the Government hope that private enterprise may be induced to come forward.

BOSTON AND NEW ENGLAND.

—The Berkshire District of the Massachusetts Medical Society, celebrates by a dinner October 27th, the one hundredth anniversary of the formation of an association for the improvement of the art of Physick. The dinner occurs at the American House, Pittsfield, Mass., October 27th, at 1.30 p.m.

—The extra-hospital training school for nurses at Waltham, Mass., of which an account has already appeared in our columns, has developed into a hospital, to be known as the Waltham Cottage Hospital. It was formally opened October 10th. Patients received will secure the best of care at a very small price, and, when the circumstances are known to require it, a still smaller sum will be charged, and, indeed, nothing at all, if it shall seem advisable to the Trustees. The services of the physicians connected with the hospital are furnished, but, if a patient shall so desire, those of any other physician may be had. The hospital and training school will be, as in the past, under the immediate care of Miss May Hackett, to whose zeal and energy much of its already great success is due. The support of the institution will still be, in large part, dependent upon contributions from those benevolently inclined. Collections in aid of the hospital were taken in most of the local churches the last two Sundays.

—A large number of horses in Cambridge were, some days ago, adjudged by the Cattle Commissioners to be affected with glanders. A veterinary employed by the Railroad Company declares that the disease is not glanders, but "malaria," induced, he says, by the conditions obtaining in the low flats adjoining the stables. Other veterinaries employed by them, while not agreeing with the malaria theory, are said not to believe that at most over a dozen of the 169 horses confined as being suspicious cases, have glanders. One day, last week, the Cattle Commissioners examined ninety-five horses in the Summer Street (Somerville) stables of the Cambridge Railroad Company, and confined eleven of them. The next day, they re-examined the horses confined, and also the horses quarantined in the Eighth Street (East Cambridge) stables of the Company, and kept them nearly all in confinement.

NEW YORK.

— The twelfth annual commencement of the Training School for Society of the Charity, Maternity, and Infant's Hospitals, on Blackwell's Island, was held October 12th. There were sixteen graduates, and the diplomas were presented by Dr. Alexander W. Stein, President of the Medical Board of Charity Hospital. Dr. Thomas H. Allen presented the prizes, and addresses were made by the Rev. Alexander Mackay-Smith, Dr. Robert W. Taylor, and others. An informal reception and luncheon were given their guests by the pupils of the school, and in the evening a social entertainment, with dancing and refreshments, took place under the auspices of the Medical Board.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held October 14th, Dr. F. N. Brill read a paper entitled, "Pasteur's Fiasco, and the British Parliamentary Report," in which he narrated the experiments made by himself and Dr. Spitzka, in which it is claimed that all the symptoms of rabies produced by Pasteur's inoculations in the rabbit and dog, can be caused by injecting various innocuous substances under the dura mater of these animals.

— Dr. H. G. Piffard has devised a method of taking instantaneous photographs at night by the light of a flash of a pistol charged with gun-cotton and powdered magnesium, and gave a practical demonstration of its use at a meeting of the Society of Amateur Photographers held October 11th.

— Dr. Henry Cook, the oldest and one of the most prominent physicians in Suffolk County, died at Sag Harbor, Long Island, October 9th. He was born in England, in 1814, but for more than forty years has resided in Sag Harbor, where he was most highly esteemed by the entire community.

— No new cases of cholera have developed among the *Alesia's* passengers quarantined on Hoffman's Island, since October 7th. The quarantine is still very strictly enforced, and will not be raised until all danger of infection is over.

Miscellany.

BOSTON DISPENSARY.

The statistics of this institution for the year ending September 20, 1887, are as follows:

The number of new patients treated at the central office is 19,139, classified as follows:

Medical Department.—Men, 2,722; women, 3,991; children, 2,690; total 9,403.

Surgical Department.—Men, 1,398; women, 810; children, 525; total, 2,733.

Skin Department.—Men, 465; women, 382; children, 207; total, 1054.

Department for Diseases of the Nervous System.—Men, 398; women, 377; children, 64; total, 839.

Department for Diseases of Women.—Women, 553; total, 553.

Department for Diseases of the Throat and Nose.—Men, 504; women, 557; children, 425; total, 1,486.

Department for Diseases of the Eye.—Men, 66; women, 151; children, 118; total, 335.

Department for Diseases of the Ear.—Men, 130; women, 167; children, 171; total, 468.

Department for Diseases of the Genito-Urinary System.—Men, 769; women, 3; children 2; total 774.

Department for Diseases of the Rectum.—Men, 67; women, 46; children, 3; total, 116.

Orthopedic Department.—Men, 14; women, 20; children, 74; total, 108.

Dental Department.—Men, 276; women, 397; children, 597; total, 1,270.

The number of visits made by patients, old and new, at the Central office is 42,489, classified as follows: Medical, 18,160; surgical, 24,329; total, 42,489. The number of patients treated in the Districts is 13,072, including 315 cases of midwifery, classified as follows: Men, 1,997; women, 4,527; children 6,548; total, 13,072. The results of treatment in the Districts are as follows:

Discharged, cured or relieved	11,759
Removed to Hospitals	967
Died	331
Remaining under Treatment	66

13,123

Under treatment at last annual report 51

13,072

The number of patients treated at the Central Office and in the Districts is 32,211

Number of cases of midwifery attended during the year 315

Number of cases of midwifery attended since July, 1856 5,039

Whole number of patients since October, 1796 963,555

Whole number of patients since July, 1856, 844,752

Average daily attendance at Central Office 138

Largest number present any one day, May 9th 242

Smallest number present any one day, December 7th 55

Number of recipes put up at Central Office during the year 46,572

Number of house recipes 38,198

Number of district recipes 8,374

Largest number of recipes put up in one day, May 9th 280

Smallest number of recipes put up in one day, December 5th 66

Number of paid recipes 43,510

Number of free recipes 3,032

Number of paid dental patients 1,152

Number of free dental patients 93

The list of medical officers for the ensuing year is as follows:

Surgeons: Drs. J. Foster Bush, George H. Monks, Edward O. Otis, William M. Conant. Physicians: Drs. Robert Disbrow, Joseph P. Oliver, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Harold Williams, James J. Minot, George M. Garland, Edward M. Buckingham, Vincent Y. Bowditch, William

C. Emerson, Robert B. Dixon, Russell Sturgis, Rufus A. Kingman, Thomas F. Sherman, James S. Howe, Howard M. Buck, Frederic M. Briggs.

Department for Diseases of the Skin.—Physicians: Drs. Francis B. Greenough, Abner Post. Department for Diseases of the Nervous System.—Physicians: Drs. William N. Bullard, Philip C. Knapp. Department for Diseases of Women.—Physicians: Drs. Francis H. Davenport, John W. Elliot, John B. Swift, George G. Hayward. Department for Diseases of the Throat and Nose.—Physicians: Drs. Thomas A. DeBlois, John W. Farlow, Edward W. Warren, Frederick M. Turnbull. Department for Diseases of the Eye.—Physician: Dr. William D. Hall. Department for Diseases of the Ear.—Physicians: Drs. George A. Leland, Henry L. Morse. Department for Diseases of the Genito-Urinary System.—Physicians: Drs. George H. Tilden, Francis H.

Watson, Hayward W. Cushing, Gardner W. Allen. Department for Diseases of the Rectum.—Physicians: Drs. Walter J. Otis, William D. Hodges.

Obstetric Department.—Physician: Dr. Charles M. Green.

Orthopedic Department.—Physician: Dr. Royal Whitman.

Dental Department.—Dentist: Joseph E. Waitt, D.M.D.

District Physicians: No. 1. Dr. Willis B. McMichael. No. 2. Dr. Henry Jackson. No. 3. Dr. Charles W. Townsend. No. 4. Dr. George G. Sears. No. 5. Dr. John A. Jeffries. No. 6. Dr. George E. Richards. No. 7. William F. Temple. No. 8. Winifred B. Bancroft. No. 9. George Haven.

Apothecary: Frederick H. Dudley. Assistant Apothecary: Joseph S. Lang.

WILLIAM H. H. HASTINGS, M.D., *Supt.*

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 8, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	—	—	—	—	—	—	—
Philadelphia	993,801	362	121	14.00	12.88	3.92	3.08	5.32
Brooklyn	745,108	296	116	22.78	11.22	5.78	2.72	9.86
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	126	48	22.78	11.22	5.78	2.72	8.86
Boston	400,000	182	72	12.75	16.60	3.85	3.30	4.95
New Orleans	242,750	97	22	15.00	—	—	—	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	78	20	15.36	15.36	5.12	3.84	3.84
Pittsburgh	210,000	81	32	31.98	10.07	4.52	4.92	18.45
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	56	35	23.36	5.34	8.90	1.78	5.34
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	7	38.88	11.11	16.66	5.55	—
Charleston	60,145	40	14	15.00	15.00	7.50	2.50	2.50
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	29	12	6.90	20.70	6.90	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	23	12	34.80	13.05	21.75	8.70	4.35
Fall River	56,863	29	13	30.09	10.35	24.15	3.45	3.45
Lynn	45,861	12	2	25.00	16.66	8.33	8.33	8.33
Lawrence	38,825	12	5	16.66	16.66	8.33	—	8.33
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	18	8	16.66	5.55	—	5.55	11.11
Somerville	29,992	14	7	42.94	7.14	—	7.14	7.14
Salem	28,084	9	3	44.44	11.11	11.11	11.11	22.22
Holyoke	27,894	7	0	14.28	14.28	14.28	—	—
Chelsea	25,709	7	5	28.56	—	—	—	—
Taunton	23,674	7	0	14.28	28.56	—	14.28	—
Haverhill	21,795	7	3	—	—	—	—	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	6	1	—	16.66	—	—	—
Newton	19,759	5	1	20.00	20.00	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	5	0	20.00	20.00	20.00	—	—
Waltham	14,609	8	0	12.50	12.50	—	—	—
Newburyport	13,716	7	0	—	14.28	—	12.50	—
Northampton	12,896	3	1	—	66.66	—	—	—

Deaths reported 1,551: under five years of age 562; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 284, consumption 186, lung diseases 125, diphtheria and croup 100, diarrhœal diseases 89, typhoid fever 43, malarial fever 23, scarlet fever 14, whooping-cough nine, cerebro-spinal meningitis five, measles one. From malarial fever, New Orleans seven, Brooklyn and Baltimore five each, District of Columbia two, Philadelphia, Nashville, Charleston and Newton one each. From scarlet fever, Brooklyn six, Somerville and Chelsea two each, Philadelphia, Boston, Baltimore and Nashville one each. From whooping-cough, Philadelphia four, Brooklyn, Baltimore, Pittsburgh, Nashville and Somerville one each. From cerebro-spinal meningitis, Baltimore, Pittsburgh, Milwaukee, Somerville and Haverhill one each. From measles, Milwaukee one.

In the 23 cities and larger towns of Massachusetts with an estimated population of 1,029,379, the total death-rate for the week was 20.71 against 19.26 and 23.31 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending September 24th, the death-rate was 16.2. Deaths reported 2,872: infants under one year of age 765; diarrhœa 185, scarlet fever 72, whooping-cough 61, fever 54, diphtheria 35, measles 29, small-pox (Sheffield) four.

The death-rates ranged from 10.0 in Derby to 26.4 in Blackburn; Birmingham 14.5; Bradford 15.8; Hull 19.3; Leeds 16.9; Leicester 13.8; Liverpool 18.7; London 14.4; Manchester 23.5; Newcastle-on-Tyne 20.9; Nottingham 13.5; Sheffield 19.1.

In Edinburgh 17.3; Glasgow 17.7; Dublin 30.6.

The meteorological record for the week ending October 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Oct. 8, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 2	29.82	61.0	69.0	57.0	94.0	76.0	91.0	87.0	W.	S.W.	W.	6	10	6	O.	O.	C.	2 5	.05
Monday, ... 3	29.70	58.0	69.0	53.0	91.0	97.0	97.0	95.0	W.	S.W.	S.	8	10	3	O.	R.	T.	5	.08
Tuesday, ... 4	29.55	59.0	70.0	51.0	97.0	53.0	85.0	98.0	W.	S.	S.	3	14	6	G.	C.	O.	1 1/2	.02
Wednes... 5	29.69	54.0	64.0	50.0	84.0	75.0	91.0	83.0	W.	S.	S.W.	10	5	3	C.	F.	C.		
Thursday, ... 6	29.92	57.0	66.0	48.0	83.0	58.0	71.0	71.0	N.W.	N.W.	W.	12	8	8	C.	F.	O.		
Friday, ... 7	30.04	64.0	73.0	55.0	77.0	86.0	60.0	74.0	W.	W.	N.W.	14	14	11	C.	F.	F.		
Saturday, ... 8	30.04	61.0	73.0	51.0	69.0	54.0	76.0	66.0	N.W.	W.	S.E.	8	6	1	C.	F.	F.		
Mean, the Week.	29.823	59.1						82.0										8 1/2	.15

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 8, 1887, TO OCTOBER 14, 1887.

ALEXANDER, CHARLES T., lieutenant colonel and surgeon. Relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., and ordered for duty at Fort Meade, Dak. S. O. 235, A. G. O., October 8, 1887.

CUNNINGHAM, T. A., captain and assistant surgeon. Died October 12, 1887, at Fort Lewis, Col.

CHANGE OF STATION.

HALL, WM. R., captain and assistant surgeon. From Davids Island to Fort Custer, Mont.

PRICE, C. E., captain and assistant surgeon. From Fort Custer to Fort DuChesne, U. Ter.

SUTER, WM. N., first lieutenant and assistant surgeon. From Washington Barracks to Fort McKinney, Wyo.

WEISEL, D., captain and assistant surgeon. From Fort McKinney to Fort Sill, Ind. Ter.

HORTON, S. M., major and surgeon. From Fort Riley to Fort Adams, R. I.

BACHE, D., major and surgeon. From Fort Adams to Fort Riley, Kans.

KIMBALL, J. P., major and surgeon. From West Point to Fort Elliot, Tex.

NEWTON, R. C., captain and assistant surgeon. From Fort Elliot to David's Island, N. Y. H.

HEIZMANN, C. L., major and surgeon. From Fort Ontario to West Point, N. Y. S. O. 232, A. G. O., October 5, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING OCTOBER 8, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for twenty-five days, October 5, 1887.

GUTTERAS, JOHN, passed assistant surgeon. Granted leave of absence for seven days, September 28, 1887.

NORMAN, SEATON, assistant surgeon. Upon expiration of leave of absence to rejoin station, New York, October 4, 1887.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY.—A stated meeting will be held at Rockland Hall, 2443 Washington Street, Roxbury, on Tuesday, October 25, 1887, at 2 P.M. The Board of Censors will meet at 1 P.M. Order of Business: Reading of Records; Reports from Committees; Election of Nominating Committee; Incidental Business; Communications.

S. ALLEN POTTER, M.D., Secretary.

DEATH.

Died at Duxbury, Mass., October 15, 1887, James Wilde, M.D., M.M.S.S., aged seventy-five years.

BOOKS AND PAMPHLETS RECEIVED.

Surgical Relations of the Ileo-Cæcal Region. By J. McF. Gaston. (Reprint.)

Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M.D. (Reprint.)

Persistent Vomiting during Labor Relieved by Anæsthesia. By Samuel C. Busey, M.D., of Washington, D.C. 1887. (Reprint.)

Transactions of the American Otological Society, Twentieth Annual Meeting. Pequot House, New London, Conn., July 19, 1887. Vol. 4, Part 1.

Transactions of the Medical Society of the State of West Virginia. Twentieth Annual Session, held at White Sulphur Springs, July 13, 14, and 15, 1887.

The Burton Case. By W. Thornton Parker, M.D. (Munich), Newport, R. I., Medical Examiner 3d District, R. I., Member of the American Public Health Association, etc. 1887. (Reprint.)

Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M.D., Professor of Surgery, Southern Medical College, Atlanta, Ga. 1887. (Reprint.)

Ovarian Tumors, and Remarks on Abdominal Surgery with the Results of Fifty Cases. By Edward Borek, A.M., M.D., Professor of Surgery, etc. Second Revised Reprint Edition. St. Louis, Mo. 1887.

A Paper on Imported Carlsbad Mineral Waters and Sprudel Salz. By A. L. A. Toboldt, M.D., Assistant Demonstrator of Pharmacy, University of Pennsylvania, Editor of the "Medical Clippings and New Chemicals," etc.

Biology of Tumors. A Lecture delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M.D., Ph.D., Professor of Principles and Practice of Surgery and of Clinical Surgery in the College. 1887. (Reprint.)

Massage: Principles and Practice of Remedial Treatment by Imparted Motion. Mechanical Processes. By George H. Taylor, M.D., Author of "Health by Exercise," "Health for Women," "Pelvic and Hernial Therapeutics," etc. New York: John B. Alden. 1887.

Successful Removal of Two Osteomata of the Orbit: One originating in the Frontal, and the other in the Ethmoidal Cells; with a History of Osteomata of the Neighboring Pneumatic Cavities of the Orbit. By Joseph A. Andrews, M.D., Ophthalmic Surgeon to Charity Hospital, New York. 1887. (Reprint.)

Differential Diagnosis. A Manual of the Comparative Semiology of the more Important Diseases. By F. DeHavilland Hall, M.D., Assistant Physician Westminster Hospital, London. Third American Edition thoroughly revised and greatly enlarged. Edited by Frank Woodbury, M.D., etc. Philadelphia: D. G. Brinton. 1887.

N. W. Ayer & Son's American Newspaper Annual for 1887, containing a carefully prepared List of all Newspapers and Periodicals in the United States and Canada, arranged by States in Geographical Sections, and by Towns in Alphabetical order. Giving under this head the name of the paper, the issue, general characteristics, year of establishment, size, subscription price and circulation, also the names of Editors and Publishers, and the street address (when known) in all cities of above 50,000 population. Enumerating the various Press and Editorial Associations throughout the United States and Canada, together with lists of their Officers, etc.

Original Articles.

CONGENITAL TALIPES EQUINO-VARUS.¹

BY CHARLES L. SCUDDER.

DESCRIPTIVE ANATOMY.

CASE I. The fœtus from which this specimen was obtained was born at term, measured forty-eight centimeters in length, weighed three thousand, nine hundred and forty grammes, and presented the following pathological appearances: A posterior hydrancephalocele, three small supernumerary spleens, a fleshy knob upon the end of the tongue, a cleft uvula and epiglottis, a fibrous appearance at the edge of the liver, six fingers upon each hand, six toes upon each foot, clubbed hands, and double talipes equino-varus.

EXTERNAL CHARACTERS.

Six toes are present. The anterior portion of the foot is turned downward and inward. The sole of the foot looks inward, and a little backward and upward. The inner border looks upward. The outer border looks backward. The heel is pointed and slightly raised. The tuberosity of the os calcis can be felt with difficulty. The internal malleolus is less prominent than usual. The external malleolus is also less distinctly marked than in a healthy foot. The length of the foot is a little shortened. The dorsum of the foot is more or less irregular. The foot cannot be restored to its natural form and position by manipulation.

CHANGES FOUND UPON DISSECTION.

The bones. — *Os calcis.* This bone occupies an oblique position, the tuberosity being drawn upward by the muscles of the tendo Achillis, so that it is in close proximity to the fibula side of the leg. Adams describes a lateral change in direction, the anterior extremity of the bone being directed obliquely forwards and inwards, and its tuberosity inclined, also, toward the fibula side of the leg. It seems unnecessary that there should be any such lateral deviation in order to put the tuberosity of the os calcis in close proximity to the fibula. The astragalus is displaced from its articulation forward, and thus carries the os calcis with it. The normal position of the tuberosity of the os calcis is almost directly behind the fibula. Therefore, when carried forward by the displaced astragalus, it must be brought into closer proximity to the fibula.

I notice a slight tendency to arching of the os calcis in the direction of its length, the convexity being outwards. The articulating surface, with the cuboid, is unaltered in direction.

The astragalus. The neck of the astragalus is turned inward, instead of being straight.

The external lateral articular facet is extended forward a little out of the joint.

I cannot state as to the relative degree of development of the internal and external facets, for the bones are articulated.

The Italian anatomist, Scarpa, in 1803, describing the changes in the bones in his memoir upon congenital club-foot, does not admit any malformation of this bone, other than that arising from a persistence of the deformity through several years' use.

Dr. Little, an English anatomist and surgeon, after the dissection of thirty specimens of varus, agrees,

¹ The Boylston Prize Paper of the Boylston Medical Society of Harvard University for the year 1867.

with Scarpa, that the astragalus is scarcely altered in position or in form.

In 1852, Adams, an English surgeon, described very important alterations in the astragalus. In the specimen under consideration, the bone is tilted a little downward and forward, and slightly displaced from its socket, the latter fact allowing the os calcis to come forward to the fibula, as mentioned above.

Adams finds that the astragalus is rotated outward, so as to bring the external lateral facet firmly in contact with the fibula. There is no evidence of this rotation in the present specimen.

Adams finds, too, that the line of the ankle-joint, when opened from the front, presents an oblique direction upward and outward, corresponding to the rotation outward of the astragalus.

In the specimen, there is a slight inclination of the line of the joint upward and outward, toward the fibula. There is no rotation of the astragalus according to which Adams explains the deviation in the line of the joint.

Figure 1 is from a section through the malleoli of the left foot of the fœtus from which this dissected specimen comes. The foot is in the position of equino-varus.

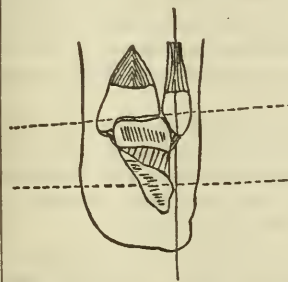


FIG. 1.

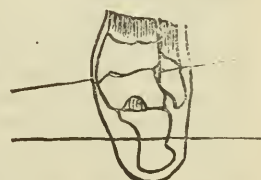


FIG. 2.

Figure 2 is from a section through the malleoli of an ankle from a fœtus of six months. The position of the foot is normal. The inclination of the line of the joint is slightly upward and outward. By comparing these figures, it is seen that the inclination of the line of the joint upward and outward is no greater in the varus foot at term than in the normal fetal foot. In making comparisons, feet of the same age should be used, if it is possible. The above comparison is a legitimate one, however, for the difference in age is but three months, the one being normal and fetal, the other being a decided varus, and at term.

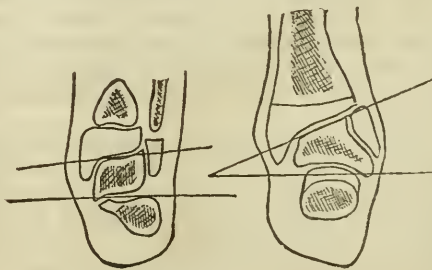


FIG. 3.

FIG. 4.

Rupprecht has made sections similar to the above. One was through the ankle of a new-born child; the other was through the same parts of a club-foot of two-and-one-half years. See Figures 3 and 4. He finds that the normal ankle-joint line is inclined a little

upward and outward, while the line of the club-foot joint is very much so inclined.

After looking at the joints of the above specimens, and at a dissected case of acquired club-foot, a drawing of which I have not made, my conclusions are:

(1) That there is a normal inclination of the line of the ankle-joint upward and outward toward the fibula. (2) That, in moderate cases of congenital equino-varus, the line of inclination of the ankle-joint is about as in a normal ankle. (3) In severe cases, and especially in those in which the foot has been used in walking, the inclination of the line of the ankle-joint is greater than in moderate cases of varus.

The scaphoid is drawn inwards and upwards, and lies in close proximity to the internal malleolus.

The cuboid. Mr. Adams thinks that a displacement of this bone in the infantile varus is unnecessary, and he does not find any. In this specimen, the outer edge of the cuboid is depressed from its normal relation to the os calcis. In fact, I think the same change in position has occurred here that Mr. Adams describes under adult varus, a rotation of the cuboid upon its calcaneal articulation.

The malleoli. The diminished prominence of the internal malleolus noticed before dissecting is found to be due to the presence of the navicular bone beneath it. The external malleolus is apparently more posterior to the internal malleolus than is normal. The remaining bones of the foot are unaltered in their relations to each other.

The ligaments. The deltoid and posterior ligaments of the ankle-joint are adaptively shortened. There is no shortening of the plantar fascia. The resistance to complete reduction is due, in great measure, to ligamentous rigidity and shortening.

The muscles. There is nothing abnormal in appearance. Parker and Shattock found no lesion upon microscopic examination of muscular tissue from cases of congenital talipes equino-varus.

The tendons. All of the tendons in front of the ankle-joint are inclined to the inner side of the leg. The tendons behind the inner malleolus preserve their normal relations.

The tendons that normally are behind the external malleolus lie upon, and in front, of that bone. The tendon of the tibialis anticus is much shorter than usual, and is removed to the inner side of the joint. The tendon of the extensor proprius pollicis lies along the inner side of the first metatarsal bone. The tendon of the tibialis posticus is very tense, and, in passing to its insertion, goes directly down from the inner malleolus, and only a little forward, instead of passing beneath it downwards and forwards, to the front of the malleolus.

This change in the position of the posterior tibial tendon is noted in all cases of congenital varus and is of importance.

The tendo Achilles inclines a little toward the fibula and is slightly more distant from the posterior tibial vessels than normal. It is tense. The tendon of the peroneus longus lies wholly in front of the external malleolus. The muscular belly of the peroneus brevis completely covers the anterior and external surfaces and in part the posterior surface of the external malleolus. The peroneus brevis, therefore,

lies beneath the tendon of the peroneus longus. The tendons of the peroneus brevis and longus, both lie beneath the tendon of the peroneus longus. The tendons of the peroneus brevis and longus, both lie beneath the tendon of the peroneus longus. The tendons of the peroneus brevis and longus, both lie beneath the tendon of the peroneus longus.

CASE II. A double congenital talipes equino-varus.

The right foot.—External characters. The toes point directly inward and upward. The dorsum of the foot looks forward. The sole of the foot looks backward. The internal malleolus can with difficulty be felt. The deformity cannot be completely corrected.

After dissection. The muscles and tendons preserve their normal relations. The tibialis posticus and the tendo Achilles are very tense. The peronei are behind the external malleolus. When the tendons are all cut the deformity persists. Upon forced reduction the dorsal ligaments wrinkle and loosen, and the plantar and internal lateral and posterior ligaments are rendered very tense.

The bones. The tibia and fibula in their lower one-third are bent antero-posteriorly, with the convexity forward. The tibia is bent slightly more than the fibula. The internal malleolus is found to have been



FIG. 5.

partially concealed by the proximity to it of the scaphoid bone. This close relationship is maintained by the tibialis posticus muscle and more particularly by the adaptively shortened ligaments, astragalo-scaphoid, etc. The long axis of the scaphoid bone (see Fig. 5) "de" is no longer transverse to the long axis of the leg but is perpendicular to the horizontal plane of the table.

The astragalo-scaphoid articulation is correspondingly altered. Its plane is almost parallel with the plane to the inner side of the leg. The os calcis is rotated outward to an extreme degree. The perpendicular plane of the bone is almost horizontal with the plane of the table instead of being at right angles to it. (See Fig. 6).

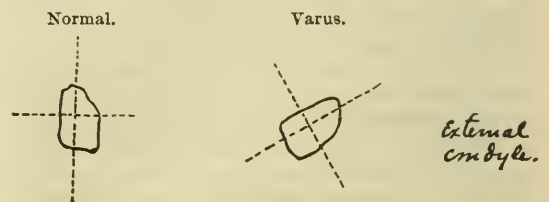


FIG. 6.

The attachment of the tendo-Achilles is approximated to the posterior ligament of the ankle-joint. The foot is in the position of a marked equinus. No part of the articular facet of the astragalus with the scaphoid, is uncovered of the scaphoid. The head of the astragalus looks forwards and inwards. The tibio-astragaloid facet of the astragalus is farther back than usual, the anterior portion of the facet being extruded a little from the joint. The cuboid bone has rotated with the os calcis and not upon it.

The reduction of the equinus is completed upon cutting the posterior ligament of the ankle-joint. It is questionable how much the tendon of the flexor pollicis muscle resists the reduction of the equinus. The calcaneo-cuboid and scaphoid ligaments offer considerable resistance to the reduction of the varus.

Left foot of the above specimen. The same anatomical conditions exist here as in the preceding specimen. The scaphoid bone is in contact with the inner malleolus.

CASE III. An adult equino-varus in the Warren Museum of the Harvard Medical School shows well the altered relations of the bones of the foot. (See Fig. 7.) The astragalo-scapoid articulation is divided into two distinct facets (dc and cb) separated from each other by a definite ridge (at c). A bursa (at x) probably existed between the inner extremity of the scaphoid and the body of the astragalus and the internal malleolus. The articular surface of the astragalus with the scaphoid looks inward.

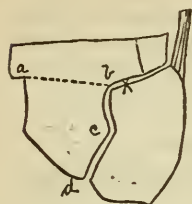
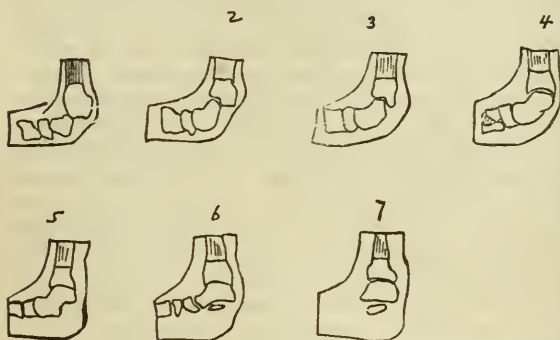


FIG. 7.

In attempting to reduce this dissected specimen to a normal position, I found it impossible. The attempt stretched the ligaments enough to allow the tarsal bones to come into contact. Further movement between the bones was blocked, and all the ligaments on the inner side of the foot were rendered tense.

The following series of figures, one to seven inclusive, are taken from antero-posterior sections of a normal foetal ankle-joint. They show the relation of the astragalus to the lower end of the tibia in a normal foot.



Comparing these figures with Figure 11, the differences in the relations of the astragalus and tibia in normal and varus feet is very clearly seen.

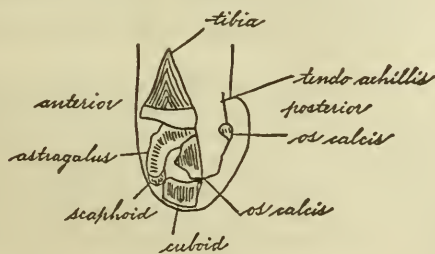


FIG. 11.

Figure 11 shows the relation, in a case of equino-varus, of the anterior portion of the body and neck of the astragalus to the lower articular surface of the tibia. The astragalus is depressed from the joint.

(To be continued.)

THE MEASUREMENT OF THE GALVANIC CURRENT, WITH SOME REMARKS UPON ELECTRODES.¹

BY PHILIP COOMES KNAPP, A.M., M.D.,

WHEN we give a drug there are two things of which we wish, in the first place, to have definite knowledge — the amount of the drug we are giving, and whether it will be absorbed or not. Therefore we prefer the graduate to the wineglass, and we do not inject our drugs into the bladder — in fact, when we wish to be sure of a drug's absorption, we inject it under the skin instead of giving it by the mouth. In the use of one powerful and even dangerous remedy, however, we too often act as if we were prescribing morphine or strychnine in a solution to be taken by the wineglassful, without even specifying whether a sherry glass or a claret glass should be used; and as if we were putting our remedy into some cavity, which absorbed very rapidly or not at all.

In many of the books and papers on nervous diseases, even in a book so recent and scientific as Eichhorst, the unit of measurement of the galvanic current is assumed to be the current obtained from one cell. The largest American work on therapeutics, too, scarcely mentions the subject of the measurement of the current. In point of fact, however, the amount of the current which passes through the patient's body — that is, the dose that he really gets — depends upon a number of different factors, the number of cells, the kind of cells, and the condition of the cells, the absorbing power of the patient, the size of the electrodes, and various other conditions. Most of those factors are recognized when spoken of, but they are so often neglected, and their influence is taken into such small account in the practical application of electricity, that I may perhaps be excused for calling attention to them once again.

There are two laws that govern the use of electricity, but as they are generally put into an algebraic formula, they are too apt to frighten those of us who have labored hard to forget our mathematics. These are the laws governing the intensity and the density of the current. The intensity is nothing more than the amount of electricity passing through the circuit; it increases with the electro-motive force; that is, with the amount of electricity generated in the battery, and it decreases with the resistance which it meets, just as a current of water through a pipe decreases as you shut the faucet: hence its formula was given as $I = \frac{E}{R}$. The density on the other hand, is equivalent to the pressure of water in the pipe; it increases with the amount of fluid passing through the pipe, and it decreases as you make the nozzle of the pipe larger; hence its formula is $D = \frac{I}{Q}$ (when Q equals the surface of the nozzle or of the electrode). Thus even an elementary knowledge of mathematics will show us that in our first formula $I = \frac{E}{R}$, by increasing or diminishing R , the resistance, we can get as marked results as by increasing or diminishing E , the amount of electricity generated in our battery, which depends on the number and strength of our cells; and also that our density, D , will vary with the size of electrode used, Q , as well as with the amount of our current, I .

Such being the case, it is evident that the number of cells employed forms but a part of the numerator of

¹ Read before the Suffolk District Society, Section of Clinical Medicine, Pathology, and Hygiene, June 7, 1887.

—Arsenious compounds added to putrefying matter are, according to certain recent researches of Hamburg, converted into arseniuretted hydrogen, which escapes as gas. This fact is of medico-legal importance as showing that the amount of arsenic contained in in dead bodies diminishes through putrefaction.

our first fraction; that is, that the electro-motive force, E , is in part dependent upon the number of cells, and in part upon their strength, and therefore, when the denominator of our fraction can and does vary, the numerator, or rather one factor in it, is valueless as a unit. Fortunately, we have a unit which covers both terms in the fraction, a unit which can become apparent at a glance, and which tells us, not the dose given, but the amount absorbed. That unit, as you are doubtless aware, is the milliampère, — an arbitrary unit, like the metre, but almost as exact and unvarying a unit as the metre. As the name implies, the milliampère is the thousandth part of an ampère, and an ampère is the amount of current obtained from an electro-motive force of one volt, (about equivalent to the electro-motive force of a gravity cell), passing through the resistance of one ohm, which is equal to the resistance of a column of mercury one millimetre square, and 1.05 metres high. Thus, by putting an "absolute" galvanometer into the circuit, which includes of course the patient's body, we can tell at a glance the number of milliampères used — a process easier, indeed, than reading off the number of cells, although it requires a little waiting for the needle to come to a stand-still.

To return to our first formula, $I = \frac{E}{R}$. In order to show how R , the resistance in the circuit, may vary, I performed a few simple experiments. In the ordinary application of electricity, of course, the main resistance is that of the body, which is so great as to render that of the wires and the cells of little account. Part of these experiments were performed upon myself, and part upon Dr. J. A. Jeffries. The battery was an old one of twenty-eight cells, the ordinary bichromate battery made by Thomas Hall, which had been cleaned and freshly filled, and gave a good current. A Hirschmann galvanometer was put in the circuit. A "large" electrode was put on the back of the neck as a positive pole, a "medium" electrode negative, was held against the palm of the hand.

Date, Dec. 1 and 2, 1886.

- I. Skin dry, electrodes dry, covered with dry chamois. 28 cells. No current with either of us.
- II. Skin dry, electrodes dry, bare metal. 12 cells. Self, 1 Ma. Same 28 cells. Self, 6 Ma. (?). This caused such painful burning that I could not wait for the needle to come to a stand-still.
- III. Skin not wet. Chamois wet. 12 cells. Self, 7 Ma. Dr. Jeffries, 3 Ma.
- IV. Skin thoroughly wet, the hand being washed with soap and held for some time in warm water. Electrodes covered with a thick layer of absorbent cotton over the chamois, and thoroughly wet. Firm pressure of electrodes. 12 cells. Self, 12 Ma. Dr. Jeffries, 5 Ma.
- V. Same with kathode to flexor surface of wrist. Self, 13 Ma. Dr. Jeffries, 9.5 Ma.

These experiments go to show the different resistance of the wet and dry skin, the different resistance shown by different persons, and also, though to a lesser degree, the different resistance of different parts of the body. This latter point has been brought out more fully in some experiments recently made by Dr. Prince.² Furthermore, repeated applications of electricity will reduce the resistance.

Just here I wish to make a little digression. The ordinary electrodes sold in the shops are covered with sponge. This holds water fairly well, and keeps the skin wet, but after frequent use, especially on Dispensary patients, it is about as nasty a thing as you would be able to find, nor is chamois skin much better. It is said that syphilis has been conveyed by such electrodes,

and certainly our modern notions of cleanliness should lead us to discard them. Dr. G. B. Massey³ some time ago recommended covering the electrode with absorbent cotton, and, after using it for nearly a year, I can recommend its use. It is cheap, clean, and easily applied, and as the following experiments will show, it does not materially impair conduction.

Date, Dec. 3, 1886.

- VI. Two cells. Handle ends together. 6.5 Ma.
- VII. Two "large" electrodes. Wet chamois. 5 Ma.
- VIII. Same. Wet cotton over chamois, light contact. 3.5 Ma.
- IX. Same. Firm contact. 4 Ma.

This variation, with a small electro-motive force, and low resistance, disappears with a larger force and higher resistances. To illustrate this, I put a "large" electrode on the back of the neck, and held a "medium" one to the palm. Descending current, skin thoroughly wet, ten cells.

- X. Thick layer of cotton over chamois. 7 Ma.
- XI. Chamois alone. 7 Ma.

Having thus shown the variability of the resistance, I wish to call attention to the fact that the electro-motive force is not indicated by the number of cells used, but that it varies with the form of cell. Dr. Watteville⁴ states that the electro-motive force of the Daniel or gravity-cell is 1.08 volts; of the Leclanché cell, 1.5 volts; of the sulphate of mercury cell, 1.5 volts; of the chloride of silver cell, 1.03 volts; and the freshly-filled bichromate cell, 2 volts. Stein's "dry" cell has a force of 1.08 volts. The bichromate cell, which is probably the one most often used, as it is the cell of most of the portable batteries, is particularly objectionable as a unit of measure, for its strength is very variable. In the experiments made on the 2d of December, with a "large" electrode to the neck, and a "medium" one to the palm, it will be remembered that I got a current of 12 Ma on myself, and 5 Ma on Dr. Jeffries; with the "medium" electrode to the flexor surface of the wrist I got 13 and 9.5 Ma respectively. The battery was used more or less at the Dispensary for a fortnight, while the stationary battery was undergoing repairs. December 16, the experiments were repeated.

- XII. "Large" anode to neck, "Medium" kathode to palm. Skin thoroughly wet as before. 12 cells. Self, 7 Ma. Dr. Jeffries, 4.5 Ma.
- XIII. Same. Kathode to flexor surface of wrist. Self, 11 Ma. Dr. Jeffries, 7 Ma.

Some of the other cells, however, are more constant, and can indicate with greater accuracy, the electro-motive force. The gravity-cell, if kept in use, is fairly constant, and so are the Leclanché and chloride of silver cells, and Stein's "dry" cell, recently described,⁵ is said to have lost only a tenth of a Ma, after being short-circuited continuously for twenty-four hours.

I have said enough, I think, to show that there are several factors to be taken into account in estimating the intensity of the galvanic current, and that the electro-motive force is not the measure of that intensity. I wish, now, to call attention to the fact that, in the practical application of galvanism, the density of the current is also an important point. That, as I have said, increases with the intensity, and diminishes with the size of the electrode, in the formula $D = \frac{I}{Q}$, just as the pressure of the stream of water increases

³ Medical News, Dec. 26, 1885.

⁴ Medical Electricity, p. 56, et seq.

⁵ P. Th. Stein. Ueber die Dosirung galvanischer Ströme in der Elektrotherapie. Berlin kl. Wochenschrift, 25. Jan. 1886.

with the "head" of water, and diminishes with the size of the outlet.

The instrument-makers put a couple of electrodes into their batteries, with discs an inch-and-a-half in diameter, and, when they are liberal, they add a wire-brush and some special form of bulb-electrode. In the general application of galvanism — I am not now speaking of the application to some internal organ, where an instrument of peculiar make is needed — it is as necessary to have electrodes of different sizes as it is to have knives of different sizes for amputations. The spinal cord and the deeper nerves cannot be reached by the current from a small electrode, at least, with a current strong enough to do any good; nor can a large electrode be used conveniently to test reactions, or to apply to the face.

In 1882, Erb, in his "Handbuch der Elektrotherapie," suggests a scale of sizes, which he had found convenient for general use. De Watteville soon after urged that they be accepted as the standard, and the Committee of the American Neurological Association have recently advocated their adoption. No instrument-maker, however, has offered them for sale, and no American work on electro-therapeutics that I know of speaks of them, so that I may be pardoned for describing them. I will add that I have found them to answer all requirements, after using them for nearly two years at the City Hospital and the Dispensary.

1 "Large" electrodes, 6 x 12 cm., for the cord, large joints, sciatic, and as an "indifferent" electrode.

2 "Medium," 5 x 5 cm. Face, neck, local application to nerves and muscles.

3 "Normal" 10 sq. cm. surface, 3.6 cm. diameter. To test nerve and muscle reactions, so as to have an unvarying denominator in the formula $D = \frac{1}{Q}$. This I have already described in detail.⁷

4 "Small," Ball, 2 cm. diameter. Smaller muscles and nerves. Eye.

5 "Smallest." Ball, 0.5 cm. diameter. Fine nerve branches and motor points.

Erb also uses a flexible electrode, 7 x 14 cm., for the head, and at times, in very short persons, a "very large" electrode, 8 x 16 cm. This last size will seldom be found necessary.

Every one knows that, even with a weak current, if we use a wire-brush, where the fine points of the wire conduct the electricity into the skin, we cause considerable pain. A current of the same intensity, passing into the body through a larger electrode, that is, a current of lesser density, will cause no pain at all. In the same way, a current applied through a "large" electrode will be easily borne, when, if we give the same current through our "smallest" electrode, we will get great pain. Hence, if we wish to use strong currents, we must use large electrodes, otherwise we will get pain, and even blisters, which are undesirable. Furthermore, it will be found that the intensity of the current varies with the size of the electrode — that a small electrode increases the resistance.

Dec. 2, 1886.

XIV. To show the painfulness of the small electrode I put the "large" anode on the back of the neck, and a "large" kathode to the palm. Skin well wet, cotton to electrodes, 2s cells. Self, 23 Ma. Dr. Jeffries, 21 Ma.

We both noticed a marked and unpleasant sensation in the neck and throat, a metallic taste, etc.

XV. Same "large" anode to neck, "smallest" kathode to ball of thumb. Self, 12 Ma. Dr. Jeffries, 10 Ma.

This caused no general sensations, but an acute, burning pain at the kathode, so that we feared a

blister, and took off the electrode as soon as the needle came to a standstill.

Dec. 3, 1886.

XVI. "Large" electrodes as before to neck and palm. 16 cells. Self, 12 Ma. Distinct, but not unpleasant general sensations.

XVII. Same with "smallest" kathode to ball of thumb. Self, 3 Ma. Slight local sensation during passage of current, burning after taking off electrodes. No general sensation.

This led me to investigate more carefully the effect of the size of the electrodes.

Dec. 4, 1886.

XVIII. "Large" anode to back of neck, kathode to palm. 16 cells. "Large" kathode, 10.5 Ma.; "Medium" kathode, 7.5 Ma.; "Normal" kathode, 5 Ma.; "Small" kathode, 4.5; "smallest" kathode, 2 Ma.

These results agree in the main with those reported by Erb⁸ and Prince⁹. Erb states, also, that the area of the epidermis modifies the results, as well as its thickness. Fischkau, however, in a recent monograph,¹⁰ states that the resistance is due to the wetness of the skin, the pressure of the electrode, the duration of the passage of the current, the intensity of the E. M. F., temperature, point of application, and certain internal conditions of the organism. The size of the electrodes, and the space between them, make no difference in resistance. Such a statement, in view of the facts shown by Erb, seems untenable.

We see, then, that we must consider the density of the current we are using, as well as its intensity, if we wish to use strong currents and avoid pain, and the density depends, in part, upon the size of our electrodes. There is another point, however, in regard to this density, to which I have referred, which is of still greater importance. With electrodes of equal size, the density is alike at each electrode; with electrodes of unequal size, the density is greater at the smaller electrode, as Erb shows in his figures; and, in both cases, the density is greater near the electrodes. Therefore Erb says that, if we wish to reach some special point near the surface, we should place a small electrode over it, and a large electrode on some indifferent part, thus getting the maximum density at the point desired. To reach a large part near the surface, we put two good sized electrodes near together, while, if we wish to affect deep-seated parts, such as the cord, we must use large electrodes, and place them far apart. Erb's rule in applying galvanism to the cord is "large electrodes, and far apart." In this way, too, by diminishing the local pain and burning, we can use strong currents, which are sometimes desirable.

I have given only a rough and hasty account of some of the factors which must be considered in the practical use of galvanism, with a few simple experiments to show the need of considering these fundamental rules. Accurate dosing is as important in electro-therapeutics as it is in internal medication, although, in both cases, we must vary our dose to suit our patient. In electro-diagnosis, moreover, this accuracy becomes still more necessary, and, without some trustworthy measure, our judgments must be merely approximate, and often fallacious.

— Apropos of our article on "Baldness," a correspondent writes us that a lady of Salem, Mass., asserts that one fruitful cause of baldness in men is their habit of drawing their shirts off over their heads!

⁸ Handbuch der Elektrotherapie, pp. 54, 55. Ed. 1882.

⁹ Art. cit.

¹⁰ Ueber den elektrischen Leitungswiderstand des menschlichen Körpers. Abst. Neurol. Centralb., 1 Aug., 1886.

CASCARA SAGRADA, AND ITS USE IN THE TREATMENT OF CONSTIPATION.¹

BY JOHN W. FARLOW, M.D.

CASCARA SAGRADA is the bark of the *rhamnus purshiana*, a shrub fifteen to twenty feet high, belonging to the Buckthorn family, which is found only on the Pacific coast of the United States, from Cape Mendocino north to British America, though it is not common in Washington Territory. It was first botanically described, under the name, however, of *rhamnus alnifolia*, by Frederic Pursh, a German, in 1814. De Caudolle, in 1825, first recognized that *rhamnus alnifolia* of Pursh was not the same as *rhamnus alnifolia* of L'Heritier, and he described the form which Pursh called *alnifolia* as *rhamnus purshiana*, and all subsequent writers follow De Caudolle.

Other members of the buckthorn family of medicinal value are *rhamnus frangula*, black alder, which grows extensively in Europe and *rhamnus cathartica*, common buckthorn, whose habitat is farther north than the preceding. The bark of both of these is used as a cathartic, which has caused them to be confounded with *rhamnus purshiana*. For instance, Dr. Douglas Lithgow,² in an article on *cascara sagrada* says, it was well known to early writers and was mentioned by European botanists in the thirteenth century. As this was before Columbus discovered the Eastern Coast of America, it is fair to infer that what was said by those Europeans about the botany of the West Coast was of very little value.

Cascara seems to have been used for some time, and it is probable that its resemblance to the European varieties led the early traveller and missionaries to use it as they had used *rhamnus cathartica*, and the natives, seeing it used in that way, were ready to adopt it as a cathartic.

It was first introduced to the medical world by Dr. Bundy, an electric physician of Calusa, California, who chanced to select this plant among many others having a local reputation among the natives for experiment. He, however, was ignorant of its botanical name and called it by the Spanish name known to the natives. The words *cascara sagrada*, or sacred bark, seem to have reference, not to its medicinal virtues, but to the resemblance of the wood to the chitem or shitim wood mentioned in the Bible, from which it is supposed the ark of the tabernacle was built; in fact, *cascara* is also called chitem wood in California.

The bark contains a brown resin, a red resin, a light yellow resin, a crystallizable body, tannic, malic and oxalic acids, a fat oil, a volatile oil, wax and starch in abundance. The exact nature and value of these various constituents has not yet been determined, nor has their relation with the constituents of the other *rhamnaceæ*.

The preparations of the drug used in medicine are the solid extract, powdered solid extract, fluid extract, elixir and the *cascara cordial* of Parke, Davis & Co. Of the dose and modes of administration I shall speak later.

In choosing a remedy for constipation we should select one that will do no harm and whose after-effect is not to increase the trouble for which it was given. It should not cause griping or any uncomfortable feel-

ing, even if this can be overcome by the addition of opium, belladonna or other narcotic. It is also desirable that the remedy should not have to be given in increased doses, but the contrary, and the form of administration should be such that the dose can be small and can be carefully regulated for the individual case. Dr. Jacob Bigelow used to say that "a great deal of the success of a physician depended on his understanding the constitution of his patient; in other words, how large a dose of cathartic medicine it took to move his bowels." It is not generally expected that the remedy should have very much influence on the appetite and digestion, other than as a result of emptying the bowel, but, if the medicine is of itself an aid to digestion, so much the better.

Let us look at *cascara* and see if it fulfils any or all of these indications. I have used it for two or three years and have notes of over two hundred cases which I have followed long enough to know the result. The cases in which I have ordered it and where the patients have not returned I have left out of consideration entirely. The cases have generally been those of more or less chronic constipation, and often associated with uterine or pelvic trouble as well as with disease of the rectum and anus. I have also used it in pregnancy and after labor. I have, in most instances, prescribed the fluid extract.

I do not propose to consider the various methods of treating constipation, regular habits of defæcation, exercise, diet, etc. I take it for granted that all such measures are to be tried before any medicine is given.

Is *cascara* an efficient laxative? In every case in which I have used it and have the records it has not failed to cause one or more dejections for a certain time. Several of the cases have been of very long standing, and had tried all imaginable drugs and combinations of drugs in vain. Mrs. S., for instance, forty-five years of age, had recently been in one of the Boston hospitals for six weeks for constipation. She had taken everything but *cascara* to no purpose. At the end of ten days, after taking *cascara* in gradually decreasing doses, her bowels became regular and soon she was able to have a daily stool without any medicine. Mrs. H., fifty-six years old, had always been constipated and had exhausted the usual remedies. After using *cascara*, at first in rather large doses and then diminishing, at the end of three weeks her bowels moved once a day by simply taking fruit in the morning.

Does it cause griping or any uncomfortable feeling? Very seldom, indeed, if it is correctly used and the dose rightly apportioned to the particular person. I have seen two or three cases where the patients complained of some griping, but on investigation I found that more than enough had been taken, or that, instead of diminishing the dose when it had begun to act freely, the same dose had been continued. Cases are reported by others in which griping occurred, but, according to my experience, this must be uncommon, and possibly some of these were due to too large a dose at one time. Some persons seem to be very easily affected by it, and this idiosyncrasy should be borne in mind in determining the dose.

In the administration of drugs which cause griping it is usual to combine with them something to stop the griping; in other words, to allow the drug still to irritate the intestine, but to take away the reflex contraction of the intestine causing the pain, or else to

¹ Read before the Suffolk District Medical Society, Section of Clinical Medicine, Pathology and Hygiene, June 7, 1887.

² Brit. Med. Jour., 11, 1883, p. 68.

blunt or remove the perception of the pain. This I hold to be a mistake, as the irritation of the bowel is injurious in many cases and the pain should be the signal that such is the case. The irritation is just as bad for the bowel, even when the pain is not allowed to manifest itself.

Most laxatives have a secondary, constipating effect, necessitating an increase of the dose or a change to some other drug. This is not the case with cascara, as the usual method of giving it is to diminish the dose after a few days.

What is its effect on the digestive system? Its use does not impair the appetite or digestion, but, on the contrary, increases the appetite and promotes digestion. On the intestine it seems to have a tonic action and is particularly adapted to conditions of atony of the stomach and bowels. The stools caused by it are soft, or semi-solid and not watery, unless too large a dose has been taken.

I have also found it of good service in the treatment of hæmorrhoids, by relieving the congestion and causing a soft, painless stool. It seems to have a beneficial effect apart from and in addition to its laxative effect in these cases as well as in some cases of fissure. The following is a good illustration: Mrs. F., aged thirty-one, mother of five children, had always suffered from constipation and piles, particularly after labor, and had never found anything to relieve her. I attended her in a difficult labor with breech presentation. She had very marked hæmorrhoids, which caused her so much trouble after labor that she could not sit on a chair, and every movement was painful. She obtained entire relief by using cascara in twenty-drop doses of the fluid extract, four times a day for three days.

The importance and at the same time the difficulty of regulating the bowels in gynecological cases is well recognized, but my experience with cascara in such cases leads me to give it the highest rank. I have notes of its very satisfactory use in several cases of endometritis, large uterine fibroids, flexions and versions, large and tender ovaries, one case of retroflexed pregnant uterus requiring forcible reposition, and a number where there were tender places and bands in Douglas's pouch, readily felt per rectum.

According to my experience, the cases for which cascara is particularly adapted are the chronic cases and especially those with weak and atonic digestive organs. For such patients it is far superior to rhubarb, senna, aloes, licorice powder and the usual laxatives, either alone or in their various combinations. For acute cases its peculiar qualities are not so much required, although it generally acts promptly, surely, and without secondary constipating effect.

I have generally used the fluid extract, for several reasons. It is an active and reliable preparation, the dose is small and can be easily regulated by increasing or diminishing the number of drops taken at a time. The taste is bitter, to which some object, while others find it not unpleasant. To the latter it can be given in water or with equal parts of glycerine in water. Most of the substances supposed to disguise the taste only add a sweet to a bitter and the combination is to many worse than either alone. I should say that the fluid extract of licorice, is perhaps, as good an excipient as any. Cascara cordial has an agreeable taste, and is preferred by many. The dose is, of course, larger and is not so easily regulated as

the fluid extract. The solid extract is given in pill form, and consequently can be taken without the bitter being tasted. If, however, the dose in each pill proves too large, a new lot with a smaller dose has to be procured, which is a disadvantage as compared with the fluid extract.

The dose of the cordial is about a teaspoonful morning and night, or oftener. The solid extract is given in doses of two grains or less, three times a day. The dose of the fluid extract is from five to twenty-five drops, and I generally order it to be taken as follows: If the case is of long standing and one in which many drugs have been tried, I direct ten or fifteen drops to be taken in water before each meal and at night. If that does not cause one soft defecation a day, in two or three days I increase the dose to twenty-five drops four times a day, and tell the patient to take sufficient to have one defecation a day. Then in a few days, at any rate, or immediately, if he has more than one stool, a day, he is to diminish the dose from thirty to twenty-five, twenty or fifteen drops, but always enough for one soft stool a day. It is better to diminish the quantity taken at a time than to lessen the number of times. It will be found that five or ten drops at night often prove sufficient. It is well to omit the medicine from time to time and it can frequently be dispensed with altogether. If necessary to resume it, let only the amount be taken that was previously found to be sufficient.

REPORT ON PROGRESS IN SURGERY.¹

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

FRACTURE OF PATELLA.

VON BERGMANN reports²⁰ a case of transverse fracture of the right patella, treated in the following manner: A sailor, aged twenty-two, sustained a fracture of the right femur, and a transverse fracture of the right patella. Result: union of femur, with seven centimeters shortening (subsequently relieved by osteotomy); non-union of patella. On failure to approximate the fragments during an attempt to suture them together, Von Bergmann made a curved incision around the tuberositas tibiæ, and chiselled obliquely through the bone, from below, anteriorly upwards and backwards into the joint. He then, by pushing up the fragment, united the patella. Bony union subsequently united the tibiæ fragment. The patient, when shown about sixteen months after the operation, is reported as walking well, but the motion of the right knee is quite limited.

TAUBER'S AMPUTATION AT THE ANKLE-JOINT.

Professor Tauber, of St. Petersburg,²¹ has demonstrated his operation, which is a modification of Pirogoff's. "He begins an incision at the attachment of the tendo Achillis, and carries the knife forward, below the external malleolus, to the Chopart's line, and then across to the dorsum of the foot. On having reached the middle line on the plantar surface, the knife is carried backward to the heel, and then upward to the starting point.

"In this first stage of the operation, Dr. Tauber cuts the skin and other soft tissues to the bone. In the

¹ Concluded from page 383.

²⁰ Versammlung deutscher Naturforscher und Aerzte zu Berlin. Berl. Klin. Wochschr., October 4, 1886.

²¹ Ann. of Surg., January, 1887.

second stage he opens the ankle joint in the usual manner, that is, he cuts the ligaments in the following order, lig. fib. tali. post., lig. fib. calcan. and lig. ant.; then interosseus ligament, and, at the last, the deltoid ligament. In the third stage, Dr. Tauber dissects out the astragalus, and cuts off the foot in Chopart's line. While an assistant firmly holds the os calcis by forceps. Professor Tauber saws off the external half of the bone, in the line corresponding to the one first made in the skin. Thus the flap of the heel contains a thick, almost square part of the os calcis, and the posterior tibial artery uninjured. In the fourth stage, Professor Tauber saws off the malleoli, ligatures the arteries, severs and adjusts the two surfaces of the bones to each other, which is easily done without any extension on the tendo Achillis. Lastly, the wound is united with sutures."

DUPUYTREN'S CONTRACTION OF THE PLANTAR FASCIA.

Madelung²² has collected six cases of Dupuytren's contraction, where an analogous condition of the plantar fascia was also present. The sole of the foot presented the appearance of a nodular callus, caused by the contraction of the plantar fascia, which had become intimately connected with the skin. In regard to ætiology, Madelung rejects the theories of mechanical irritation, gouty diathesis, or neuritis, and considers that a central origin is more probable.

MALIGNANT ANTHRAX.

Dr. A. Bois²³ reports very carefully a case of this frightful disease, and believes that two facts are evident from his case: (1) that the thermo-cautery has an incontestible power in stopping anthrax, even when malignant, provided that it be used beyond the limits of the disease; (2) that an anthrax may, for some days, maintain a benign course, increasing insidiously, and causing a false security. It may then take on suddenly the serious character of a disease beyond our resources, in consequence of the septicæmia which it engenders.

In corroboration of the above, Guiseppe Moggi²⁴ reports two cases in which the galvano-cautery treatment was used, supplemented by two per cent. carbolic injections, with one recovery and one death. In a third case, the carbolic injections and quinia were used at first, but later, when the disease was apparently uncontrolled, the galvano-cautery was employed, with an immediate improvement of the symptoms. The patient eventually recovered. Guiseppe adds that a large number of cases have been treated in this manner, with good result.

ARSENICAL TREATMENT OF MALIGNANT TUMORS.

F. Koebel²⁵ has reported the results attained at Brun's Klinik, Tübingen, by this method of treatment. His conclusions are that a trial of the internal administration of arsenic in all inoperable cases of malignant lymphoma, and in certain ones of general sarcomatosis, is to be recommended; that, although many cases are not cured, still some brilliant results have been obtained. In epithelial carcinoma and inoperable cases of mammary disease, local injections of arsenic were wholly valueless. With lympho-sarcomata, the results were negative. Of fifty-nine cases of malig-

nant lymphomata, seventeen entirely recovered. In five, the disease recurred in from two to eight months. In fourteen cases, a partial recovery was obtained. Of the twenty-eight cases remaining unrelieved, with some, the time allowed for observation was too short. In the seventeen successful cases, the time elapsing to complete cure varied from one to six months. The treatment consisted in the exhibition of liq. potass. arsenitis internally, in gradually increasing doses, to a maximum of gtt. 40 to 45 daily, in parenchymatous injections, gradually increasing from 0.4 to 0.5 cgm. *per diem*. The treatment should be continued for, at least, two months before being abandoned as unsuccessful.

GRAFTS OF FROG'S SKIN.

Morales Perez²⁶ has transplanted three quadrangular grafts two centimetres wide by three centimetres long, to a burn of the hand. After five days these grafts were found adherent, except two small bits. Two additional grafts were made in other points which adhered. After some days the epidermis and the blackish green pigment of the graft dried up, and left a thin white cicatrix, which became a satisfactory elastic covering to the grafted area.

TREATMENT OF WOUNDS OF VEINS BY LATERAL CLAMP.

The usual method of dealing with wounds of large venous trunks are double ligation and section of the wounded vessel, lateral ligation or occlusion by clamps. Complete ligation causes greater or less serious venous obstruction. Lateral ligation, on this account, was reintroduced by Braun, in 1882, who demonstrated that this method when successful, preserved the lumen of the vessel. In the Augusta Hospital (Berlin), wounds of the jugular axillary and femoral veins have been successfully treated by this method. H. Schmid, of the above hospital, has recently investigated this subject.²⁷ By a series of experiments he concludes (1) That in a perfectly aseptic wound a clamp can be removed from a wounded vein at the end of twenty-four hours, but of course with great care and without any tearing. That it never should be left *in situ* longer than forty-eight hours. That the lumen of the vein remains patent. That a secure cicatricial closure of a vein wound is not obtainable before fourteen days after removal of the clamp. That there is no especial difference between applying the instrument in a longitudinal or transverse direction.

In what manner the union of the wound was accomplished was not ascertained. Koeberle or Pean forceps may be used to close the wounded vessel. Schmid reports also seven cases, two of subclavian venous wounds, one axillary, three jugularis communis, and one femoral. The clamps remained in place about twenty-one hours under an antiseptic dressing, and were then cautiously removed. No secondary hæmorrhage or disturbance of circulation followed.

THE TREATMENT OF VARICOSE VEINS.

The excision of varicose veins has been tried with a fair measure of success; Le Brun²⁸ reports twenty-

²² Berl. Klin. Wochenschr., October 4, 1886.

²³ Progres Medicale, October, 1885.

²⁴ Lo Sperimentale, March, 1886.

²⁵ Ann. of Surg., September, 1886.

²⁶ Medica Rev. de Sevilla, May 30, 1886, and Lond. Med. Rec., Oct. 15, 1886, p. 442.

²⁷ Berl. Klin. Wochenschr. 1887, xxiv. 19. Ueber den seltlichen Verschluss von Venenwunden durch Abklemmung und Liegenlassen der Klemmen

²⁸ Journal Med. de Bruxelles, March and April, 1885.

one operations without an accident. Fry²⁹ reports six cases with complete success.

Stevenson³⁰ reports eight cases treated by the injection of pure carbolic acid, after Watson Cheyne, and Weber³¹ reports a varicosity of the saphenous vein successfully treated by the injection of pure carbolic acid.

This method of Cheyne's is undoubtedly quite safe and gives fairly good results. The procedure is as follows: An Esmarch tube should be secured around the thigh sufficiently tight to stop the venous circulation, then in about a minute it should be made tight enough to shut off all the circulation. Injections of one minim of pure carbolic acid should be made into the veins at about an inch-and-a-half apart, beginning at the upper end of the vein. These punctures should be closed antiseptically and the elastic tourniquet should be removed cautiously, after the lapse of fifteen minutes. Patient should be confined in bed for a week.

LIGATURE OF THE POPLITEAL ARTERY FOR ELEPHANTIASIS OF THE LEG.

Three cases, with favorable results, are reported by E. Dignino (Caraccas):³² (1) A middle-aged man, with his left leg and foot enormously enlarged by elephantiasis. The popliteal artery of that side was ligatured with considerable difficulty, owing to the alteration of the tissues of the limb by the disease.

The wound healed in about fifteen days, and from that time until his discharge, two months later, a marked and continual amelioration of the elephantiasis was observed. (2) Patient male, aged forty-two, with elephantiasis of both legs. Ligation of the left popliteal artery resulted so satisfactorily, that the patient urged similar treatment of the other limb. (3) This was done successfully. The author, from the above cases, is inclined to advise ligation before amputation, which usually produces but temporary relief, the disease soon appearing in some other region.

HÆMORRHAGE INTO ABSCESS-CAVITIES FROM LARGE VESSELS.

Güterbock's investigations³³ have led him to the conclusion that hæmorrhage from the larger vessel-trunks in abscess-cavities, aside from the commonly known inflammatory destruction of the vessel-wall, also results from a circumscribed thinning, extending from without inwards, as has been demonstrated in a case of Miller's of the aorta, and of Güterbock's, where the profunda femoris was affected. With the exception of the ulcerated spot, the vessel-wall was normal. The cause is supposed to exist in the irritating action of decomposed pus in an abscess-cavity. The most exposed to this action are the vessels situated at the bottom of such a cavity, and especially at the point of bifurcation of a main trunk or a large branch.

INDICATIONS FOR THE TREATMENT OF GUN-SHOT INJURIES OF JOINTS BY RESECTIONS.

The present ideas in regard to the treatment of gun-shot wounds of joints by primary or secondary resection is discussed in an elaborate article by Schu-

chardt.³⁴ After presenting a detailed comparison of the recorded statistics, Schuchardt gives the following conclusions:

(1) Joint-resections for gun-shot injuries performed before the introduction of antiseptic surgery yielded very unsatisfactory results, both in rate of mortality and functional results.

(2) That, formerly, primary resection gave superior results, both in regard to recovery, and to the function of limb.

(3) That the bad results caused the adoption of an expectant or strictly conservative plan of treatment by the most experienced army surgeons.

(4) Since the introduction of the antiseptic treatment of open wounds, the indications for resection have become reduced, and the results from expectant treatment considerably improved.

(5) That even when operative interference is indicated, total resection is only required where both articular surfaces are extensively involved. In most cases, simple arthrotomy, with any osseous fragments, a thorough irrigation and drainage followed the removal of the bullet.

(6) Free exposure of the interior of the wound is indicated only in dirty wounds or extensive injuries of soft parts. With a small wound and favorable external conditions, the presence of a bullet or other foreign body, a free primary incision into the articular cavity is not indicated, for, by simple aseptic occlusion, most cases recover without serious impairment of function.

(7) Secondary resection is indicated where expectant treatment has failed, and an abnormal appearance of the wound, or interruption of the healing process, are indications for prompt operative interference.

(8) The duration of treatment in aseptic cases is slightly shorter after primary than after secondary resection, but not enough to justify its preference to the conservative or expectant plan on the battle-field.

(9) Although, theoretically, the dangers of a fatal result are less after a primary than a secondary operation, this comparison is not fair, since the secondary operation is performed only after the expectant treatment has failed, and, for each secondary resection, many others recover after antiseptic occlusion.

(10) Functional results depend on the amount of bone removed, and the kind of after-treatment.

(11) In the knee or ankle, ankylosis or an amputation-stump is preferable to a movable joint.

(12) Transportation is more unfavorable to a patient after resection than after the expectant plan. For this reason, and also since, on account of the large number of wounded requiring attention after a battle, an aseptic subperiosteal resection is attended with great difficulty. Such operations are to be avoided, if possible, on the field.

TEMPERATURE IN CASES OF SUBCUTANEOUS FRACTURES.

E. Mueller³⁵ has investigated three hundred and fifty-nine cases of subcutaneous fracture, with reference to variations of bodily temperature. Contrary to the former idea that simple fractures were rarely followed by elevation of temperature, Mueller found

²⁹ Brit. Med. Jour., Sept. 5, 1885.

³⁰ Lancet, October 23, 1886.

³¹ N. Y. Med. Rec., Dec. 12, 1885.

³² Ann. of Surg., July, 1887, p. 68.

³³ Deut. Zeitschr. f. Chir., Bd. xxiv, p. 415.

³⁴ Deutsche Zeitschr. f. Chir., Band xxiii, Hf. 5 and 6.

³⁵ Beiträge zur Klin. Chir. Mittheil. aus der Chir. Klinik zu Tübingen, ii, Bd. 1. Heft.

that this occurred in eighty-five per cent of the above cases. In his own cases the change ranged from 38° to 40° C. The maximum rise occurred on the first or second evening following the accident. In some cases the fever continued thirteen days. Transportation did not appear to increase the temperature. As a rule, the temperature increased in direct proportion to the extravasation of blood, but this was not an invariable rule.

CHANGES IN NERVES AND SPINAL CORD, SECONDARY TO AMPUTATIONS.

F. Krause,⁸⁵ reports the following results of an examination of nine cases of amputation at from ten days to six years after operation. He found an atrophy of the sensory fibres which extended to the spinal ganglion. A diminution in size of the posterior column (in the lumbar and dorsal cords after amputation of the lower extremity, in the cervical cord after amputation of the upper). The nerve fibres remained intact. There was an atrophy of the gray matter of the posterior horn especially marked in the lumbar region, and the ganglion cells in the posterior lateral portion of the anterior horn were diminished in the proportion of one to three.

ÆTIOLOGY OF COLD ABSCESSSES. SUPPURATION OF GLANDS, MUSCLES, BONES, AND TUBERCULOUS JOINTS.

Dr. C. Garrè, of Basle,⁸⁷ has written an interesting article on this subject, in which he details his experiments and researches for the purpose of ascertaining what influence as an ætiological factor is exerted by micro-organisms. He regards the ætiology of acute abscess as practically established, and summarizes the present theory as follows: That acute suppuration is caused by the penetration of pyogenic microbes into the tissues. That neither chemical nor physical irritation can cause suppuration, if micro-organisms are carefully excluded.

That inflammatory exudation becomes through the vital action of germs (*Spaltpilze*) changed to pus. In regard to so-called "cold abscess" less work has been done and less positive results attained. He concludes, however, that micro-organisms also play an important part in the ætiology of the latter. The chronic form depending on the presence of the bacillus tuberculosis, the acute outbreaks resembling acute abscesses upon the staphylo — or streptococcus. He harmonizes the facts that inoculations from cold abscesses result in general tuberculosis where the microscope and gelatine culture fail to demonstrate the presence of bacilli by assuming that the results are due to the presence of spores whose minute size and great resistance to staining fluids prevents their demonstration by these means. That these must be the infecting agents, since Koch has disproved the chemical theory, and that of non-organized ferments. Garrè states that phlegmonous pus can be distinguished from that due to tuberculous processes.

PHLEGMONOUS.	TUBERCULAR.
Thick and yellow.	Thin, serous-like.
Formed by active transudation of migrating white corpuscles.	Formed by serous transudation containing necrotic detritus of tissues disintegrated by cheesy degeneration.
Microscopically the pus cells are abundant and well formed, have sharp contour, distinct nuclei, and stain clearly.	Microscopically the cells are generally fatty, degenerated and in fragments. Stain indistinctly.

He also states that the failure to cultivate the spores is because living organisms only supply the necessary conditions to develop them into bacilli.

THE ACID CALCIUM PHOSPHATE TREATMENT OF TUBERCULOSIS.

In imitation of the process observed in the healing of lung cavities, Kolischer³⁸ has injected tubercular joints with solutions of acid calcium phosphate.³⁹ For hypodermic injections:

R Calci. phosphoric neutral 5 parts.
Aqua distill. 50 parts.
Add phosphoric acid until a perfect solution results; filter, add
Acid. phosphoric. dil. 6-10 parts.
Aq. dist. q. s. ad. 100 parts.

For an escharotic effect upon tuberculous ulcers and indolent granulations, the following is used:

R Calci. phosphoric neutral 50 parts.
Aq. dist. 500 parts.
Add phosphoric acid until a perfect solution is obtained; filter, add
Acid. phosphoric. dil. 60 parts.
Aq. distillat. q. s. ad. 1000 parts.

Gauze may be soaked in this fluid, and used in dressing tuberculous fistulæ and pockets.

Previous to injection the surface of the diseased part is disinfected. The injection is made with a platinum needle introduced deeply into the tissues; if great pain results, cocaine may be added to the solution. The contents of a Pravaz's syringe may be given at one injection after being sterilized. Kolischer considers the method of especial value in children; in many cases speedy cures result, while others recover after prolonged treatment. Rare cases occur where there is no effect.

Two cases of acute tuberculosis of the elbow-joint in children were exhibited, where a cure had given a normal contour to the joint and good motion resulted.

Five hundred cases have been treated by this method, and Fronsauer and Albert believe it is destined to improve markedly the results obtained in localized tuberculosis.

THE USE OF DRILLS AND NAILS AFTER RESECTION.

J. A. Wyeth⁴⁰ considered that steel drills for fixation of the knee-joint after resection, were better than nails, since there was less danger of crushing the bone. Gerster had found that the dry-goods box nail answered the purpose, and advised placing the finger between the bones and the popliteal vessels to guard against accident, also to prevent any lateral displacement of the bones during the operation.

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⁸⁵ *Berl. Klin. Wochenschr.*, October 4, 1886, p. 685.

⁸⁷ *Deutsche. Med. Wochenschr.*, xii, No. 34.

³⁸ *Wiener medicinische Presse*, No. 24.

³⁹ See *Med. News*, June 25, 1887, August 13, 1887.

⁴⁰ *Proc. U. S. Surg. Ser.*, 1886, May 10.

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horse-cars, that he seldom comes into town, though the distance from his home to the city is but trifling.

The giddiness is often accompanied by a sensation of fullness in the region of the stomach, and the patient frequently belches large quantities of gas during or after the severer attacks of vertigo. He thinks that his stomach is "sensitive," and does not take cold drinks, for fear of "chilling the stomach." Does not partake largely of either tea or coffee. His digestion is said to be good, natural rest is obtained, though the actual amount of sleep is seldom more than six or seven hours, and he wakes refreshed and invigorated. He can never tell, by any symptom, when the exacerbations are coming on, but is sure that the malady is gradually becoming more and more constant, and that it is also more severe than formerly. He now seldom goes out on any pretence, on account of the fear or sense of oppression which the sensation of infinite vastness around him causes him to experience. He has no ringing in the ears, and suffers no pain, other than a sense of dull aching in the frontal region, and the discomfort in the region of the stomach. He has no vomiting or other gastric disturbance, and no signs of any organic disease. Pulse 72, temperature normal.

The patient's skin is of a tawny hue, reminding one of the peculiar color of the surface in advanced marasmus, or in cases of extensive malignant disease, and resembles somewhat the dusky tint observed in Graves's disease. The other features of these maladies are, however, totally wanting in our patient, and the coloration of the skin may be only an accidental or congenital coincidence. The patient is thin, bony, and has the appearance of constant expectation, or, one might almost say, apprehension of impending danger. There is no indication of any mental or moral impairment in the patient. He is a man of fine sensibilities and of acute understanding, and is fully up to the standard of ordinary men.

This condition does not seem to be due to the perversion of any of the special senses, nor is it peculiar to persons who are deprived of any of the special senses. During a considerable acquaintance with the blind, and some experience in the treatment of disease in these unfortunate persons, I have not observed in them the indications of the condition I have here described.

The condition in this patient seems to be a psychosis — a functional disturbance of the intellectual faculties — and is similar, in some degree, to the sensation of unsteadiness which sometimes precedes the giddiness associated with threatened seasickness. From this similarity, it has seemed to me that the disease might be connected with some derangement of the sympathetic nervous system, or with some obscure condition of disturbed function of the semi-circular canals of the internal ear, although I have not been able to establish such a connection in this case. It is well known that slight interference with the sympathetic nervous system may bring on symptoms resembling those of aural vertigo, and that the passage of the galvanic current through the cervical sympathetic will occasion, in a healthy person, a train of symptoms resembling to some extent those noticed in this patient. There is no appearance of impairment of any of the cerebral functions or faculties, nor is there, apparently, any disturbance of motion or of sensation. The special senses, with the exception of that of sight, seem to be normal, unless the increased acuteness of

Clinical Memorandum.

A CASE OF AGORAPHOBIA.¹

BY ALBERT N. BLODGETT, M.D., OF BOSTON.

THE patient is a man, forty years of age, married, in whose family history there is no known peculiarity or hereditary predisposition. At the age of ten years, while crossing the Atlantic Ocean, from some cause unknown to the patient, he became suddenly and totally blind. From that time he has never recovered the power of vision, and the eyes have undergone a process of atrophy, so that the bulbs are little, if any, more than one-half the size of the natural organs. The patient was never a particularly strong person, but has not had more than the average amount of sickness, nor have the illnesses from which he has suffered been in any way extraordinary. Since the loss of sight, the patient has noticed a peculiar sensation, unknown before, which came only at rare intervals at first, but has gradually increased, both in frequency and in the degree of severity, until it now affects him continually, and is a cause of constant distress to him, as well as of anxiety to those around him. This affection consists of a sensation of giddiness, or perhaps, more properly, of vertigo, for it is usually accompanied by a feeling of nausea, which was, at first, usually noticed more particularly after unusual exertion, or in conditions of great exhaustion, but which have since been so constant as to leave him hardly any period of freedom.

The vertigo is accompanied by a peculiar state of mental distress, which the patient describes as a most torturing feeling of anxiety, which hangs over him all the time, and is steadily increasing. He is afraid to go about; he is terrified at the thought of crossing the street, or at the idea of walking through a public square or place. He is thrown into a state of fear by the attempt to cross a park, even when not alone, and is made so wretched by the same sensation in the

¹ Read before the Suffolk District Medical Society, Section for Clinical Medicine, Pathology, and Hygiene, June 7, 1887.

the remaining senses, observed after the abolition or serious impairment of one of them, be reckoned a pathological condition.

Dr. Ferdinand Bottey, in the Societie Medico-Pratique, made an interesting communication upon the subject of "Claustrophobia or Clitrophobia." This affection is also a psychosis, but of exactly the opposite character from that recorded in this paper, and manifests itself in uncontrollable anxiety and terror on the part of the patient, when in any closed room, or in any confined space. In Bottey's case, the patient, who is now forty-three years old, had suffered for twenty years from articular rheumatism, for ten years from chorea, and later, from typhus.

The patient has no neurotic ancestry. After a public assembly, ten years ago, there was a disturbance in the streets, in which the patient was nearly crushed by the crowd. He suddenly became much distressed, which was followed by a condition of absolute helplessness. He was greatly excited, trembled in his entire body, the surface of the skin was covered with perspiration, and the face was deathly pale. He was certain that he could never live to get out of the crowd, or would surely be injured. From this time, the patient has been subject to frequent repetitions of this condition, in which his sufferings are most intense. In travelling by rail, his tortures are increased by the entrance of each new passenger into the conveyance in which he is seated. The situation at length usually becomes so painful to him, that he would much prefer to die than to continue the journey. If he chances to be in an omnibus, he is somewhat more comfortable, as he can always get out of it, and thus gain space. He once was driven to that point of desperation on a small steamer, that he tried to jump overboard into Lake Geneva, and was restrained only with much trouble. He will not trust himself to sleep in a hotel. In the theatre, he always selects a seat in some corner near the exit. The patient is active in political affairs, and his peculiarity was the cause of much merriment on one occasion, because he insisted on having the platform for public speaking located near the outer door, at the rear of the auditorium, without being able to give any plausible reason therefor. Otherwise, the condition of the patient is normal in all respects. He is of very cheerful temperament, and no one outside of the circle of his intimate friends is aware of his peculiarity. In etiological directions, it is of interest to know that the mother of the patient suffered from stone, his father was rheumatic, one grandfather was gouty, and the patient is also rheumatic. Thus far, it would appear that the arthritic diathesis may stand in some causative relation to this psychosis.

The condition here imperfectly described seems to consist of a pure neurosis of obscure and variable character, similar to some of the other forms of psychical disturbance, and is sometimes seen in relation to various chronic diseases, particularly syphilis. In this form of the affection, the mind of the patient is filled with an unreasoning and indescribable fear of the disease, even although he may know that no symptom of the malady has ever existed in his person.

—The Emperor William has sent a sum of ten thousand marks to be distributed among the necessitous people in the cholera stricken districts of Messina.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

'SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JUNE 7, 1887. By the courtesy of the Massachusetts Institute of Technology, the Section was convened in Huntington Hall.

The meeting was called to order, at eight o'clock, by the Secretary, who announced that DR. KNIGHT, the Chairman, had been suddenly called out of the State, and would not be able to attend the meeting. On motion of DR. C. P. PUTNAM, DR. S. W. LANGMAID was chosen Chairman, *pro tem*.

The reading of the records of the last meeting was omitted.

DR. C. P. PUTNAM, in behalf of the Committee on Physical Education of School-children, presented a report of progress, and offered a written recommendation for further action upon this subject by the State Society, which was unanimously carried.

The recommendation is as follows:

"Voted, That the Section of Clinical Medicine, Pathology, and Hygiene recommend to the Massachusetts Medical Society that it authorize the President to appoint a committee to investigate the methods of physical culture now employed, to consider their relative value, and to report what they regard as the best plan to be adopted; and also, that such report be laid before the Commissioners of Education."

DR. W. J. FARLOW read an interesting paper on

CASCARA SAGRADA, AND ITS USE IN CONSTIPATION.¹

DR. J. J. MINOT stated that he had used this remedy to a considerable extent in the treatment of constipation, and always with the most satisfactory results. The remedy, in his hands, has always proved efficacious, and he would be at a loss to replace it as a means of treatment in cases of this most refractory condition. He has found the dose to be variable, in some cases, the amount required to produce the desired action being considerably greater than in other cases, without any appreciable difference in the patients. The dose which had often proved useful in his observation is ten drops, which is soon reduced to five drops, and, after a few days, is discontinued entirely.

DR. C. P. PUTNAM asked the reader if the other ingredients of the cordial of cascara aided or benefited the action of the cascara itself in its effect upon the system.

DR. FARLOW said that, in a composite mixture, such as the cordial of cascara is, the action of the substance is not so easily determined, and he much prefers to use the drug in its simple form, in order to eliminate all but the effects of the remedy with which he is experimenting. When the drug is employed in the treatment of children's diseases, there is no doubt that the cordial is a better form for administration.

DR. BLODGETT asked the reader if the drug, as furnished by the pharmacists, is of uniform quality, and reliable in its activity.

DR. FARLOW replied that he has had no trouble with any of the standard preparations of this drug, as manufactured by responsible firms. He mentioned

¹ See page 402 of the Journal.

Parke, Davis, & Co., Squibb, Metcalf, and a few others, whose preparations he had found to be reliable, and of uniform character.

DR. LANGMAID asked Dr. Farlow if he was aware of any physiological experiments tending to determine what part of the intestinal tract is specially acted upon by this drug, or in what portion of the bowel its elimination takes place.

DR. FARLOW replied that no experiments of this character have been made in relation to the present variety of this plant, *rhamnus frangula*.

DR. C. P. PUTNAM stated that he had used cascara to some extent, but had obtained only a variable and uncertain result. It is, therefore, a great satisfaction to have the results of long and careful observation and use of the drug, as contained in the concise statements of Dr. Farlow, and particularly, to know that no untoward results attend the employment of a comparatively new remedy. In some recent contributions upon this substance, it was stated that the preparations had not proved efficacious. Is the degree of constipation which exists in any way a guide to the dose of cascara which should be prescribed in a given case?

DR. FARLOW said that he knew no guide to the exact amount which would be required in any case, but each patient must try the drug in a dose of moderate character, and increase or diminish the amount, as the case requires. Dr. Landowski, who introduced it into France, and who experimented largely with it in the clinic of Dujardin-Beaumetz, as did also Dr. Eymery, draws the following conclusions as to its use:² The medicine purges easily, generally without colic, at a relatively small dose. Its use not only does not excite anorexia, but, on the contrary, it excites the appetite; which is especially worthy of remark: at the end of ten or fifteen days of its employment, one can often stop the medicine without the constipation beginning again. If, at the end of a certain time, the constipation sets in again, one has only to take the medicine again for three or four days. He thinks it particularly good in cases of intestinal atony, and, when it succeeds, he does not know of any better means of combating obstinate constipation.

DR. SENATOR³ considers it an unirritating, safe, painless purgative, which, according to the dose, causes normal or loose, seldom watery stools, and can be given a long time without harm.

DR. J. FLETCHER HORNE,⁴ who has used it in several hundred cases, thinks it a very valuable remedy, and that constipation is often cured by its use.

DR. P. C. KNAPP then read a paper upon

THE MEASUREMENT OF THE GALVANIC CURRENT, WITH SOME REMARKS UPON ELECTRODES.⁵

DR. J. J. PUTNAM said that the present paper is a valuable contribution to the study of electro-therapeutics. The capacity to use figures and formulæ advances the usefulness of the remedy. What we really measure is, however, the current in the electrodes, but the absolute density of the electrical current in the tissues varies with the distance from the electrodes. Experiments with small electrodes over the track of nerves have shown that we cannot determine with accuracy the amount of electrical action simply from the size of the electrode.

DR. A. C. GARRETT thought that the subject is a very important one, and one which has not been well understood. He is strongly opposed to the present form of electrodes, and spoke warmly in favor of a large number of electrodes, so that the same electrodes may not be employed on successive patients. He thinks that the use of ordinary sponge-electrodes is fraught with danger, both from the filthy condition which is sometimes observed on the electrodes themselves, as well as from the danger of communication of diseases by their use. The idea that we can measure the current of electricity which the patient is receiving is recent. We formerly had no correct method of ascertaining the amount of the electrical influence to which the patient was subjected. The first attempt at ascertaining the degree of electricity was to measure the battery. This was the only means at that time known, and gave rise to the estimation of the power of the battery by the number of cells comprising the battery.

There is no doubt that the best results are obtained from wet electrodes upon the skin. The use of tin-electrodes is to be discouraged for many reasons. These are the variety usually supplied with batteries, as sent from the manufacturer.

The next paper was by DR. ALBERT N. BLODGETT, entitled,

A CASE OF AGORAPHOBIA.⁶

DR. KNAPP said that although he had never happened to see a case of true agoraphobia, he occasionally met with cases of *folie du doute*. The various forms of morbid dread, agoraphobia, claustrophobia, mysophobia, anthropophobia and the like, are all forms of one general psychosis which is termed *folie du doute*. In the various cases reported there is no particular diathesis as a foundation for the psychosis, nor, in the cases of agoraphobia reported by Westphal was there any trouble with the organs of special sense to account for the symptoms. Westphal's cases differed from the case reported in the entire absence of vertigo. Its presence in this case is certainly of interest. Agoraphobia,—and the allied form of *folie du doute* is a form of psychical degeneration of the milder type, not depending upon any discoverable brain lesion, but found especially in those of a neurotic tendency, and is one of the slight indications of that degeneration of the higher cerebral faculties which is seen in its more pronounced forms in paranoia.

The cases reported are very curious. One patient expressed his utter inability to cross an open space, by saying that if he were perishing by thirst, and a spring of water was across a clear space twenty feet wide, he would die before he could cross it. The sensation of dread has been likened in degree to what we should feel in falling from a great height. One of Westphal's patients recovered while in the mountains, where the hills shut off the horizon, but relapsed on going on a picnic down into a plain. Another could cross a square, if there were a lamp-post in the middle, or could cross a park where there were trees and shrubbery. Another could cross behind a wagon, or in company, or if he saw the red light of a restaurant in the distance. These peculiar variations go to show that the disorder is purely mental.

DR. T. W. FISHER stated that he had seen a few

⁶ See page 407 of the Journal.

² Union Med., Par. 35, 38, 1884, p. 1074.

³ Centrbl. f. d. m. Wissensch., 23, 1885, p. 285.

⁴ Brit. Med. Jour., I, 1883, p. 456; and II, 1884, p. 654.

⁵ See page 399 of this number of the Journal.

cases of this disease, though it must be ranked as a rare condition. The disease is purely a mental disorder, and is now generally recognized as such. The panic into which the patient is thrown is something painful to observe, and once seen is not to be forgotten. Such a case was for a time under the observation of Dr. Fisher, at the South End, in this city. The patient lived upon one of the streets near Franklin Square, and was obliged to cross this square on his way to take a car for his place of business in the lower part of the city. This small open square was a source of such terror to the patient that he would not cross it alone, but it was necessary for his wife to accompany him to the car, when he made the remainder of the trip without further disturbance, and on reaching the Square at night on his way home, his wife always was there to escort him to his home. The patient was otherwise in good health, and followed a responsible occupation, that of book-keeper in a large house.

There was no tendency to any further development in the disease, and no other symptoms were ever observed in the further history of the case. This disease does not tend to assume any more serious condition. Sometimes, by attention to hygiene, an improvement may be effected in the disease, but there is usually little hope of a diminution of the terror which the presence of the patient in an open space produces in these susceptible persons.

DR. F. W. PAGE exhibited a

GALL-STONE,

which weighed about twenty-three grains, and which had been successfully expelled by a patient after an impaction of eighteen months. He said that he was induced to do so, not so much on account of its size, as there were many on record of much greater weight; notably one recorded by Horly weighing four hundred grains, and another, found post-mortem, weighing four hundred and eighty grains: but he did so because of two interesting features connected with the case; to wit, the length of time, eighteen months, the calculus had remained in the common duct, giving rise to symptoms of obstruction; and from the peculiarity of the symptoms, associated with periodical discharges of bile, the modifications of diagnosis, and because of the peculiar mental condition the obstruction developed, aside from the temporary delirium it occasioned, and which was unquestionably due to bile poisoning.

The patient, a female, fifty-one years of age, previous to the attack, which was the beginning of her illness, had been in good health, was active in work at home and that connected with various charities, both private and public, and weighed 267 pounds. In October, 1885, she experienced without, so far as she knew, obvious cause, a severe attack of pain referred to the liver, and which extended to the umbilicus. This pain was immediately followed by jaundice, and pipe-clay colored stools, which persisted with varying modifications of intensity of the hue of the skin, pain, disturbances of digestion and constipation, with whitish dejections until the following July, when she came under my care and observation. At that time she had already lost eighty-four pounds in weight, and was losing at the rate of a pound a day. Her conjunctivæ and skin were icterode, the latter not deeply so, owing to the fact that her kidneys were active and the flow

of urine free, about forty ounces daily. There was no vomiting nor nausea, although she had daily attacks of pain. There was considerable tenderness over the liver, circumscribed in limit, and corresponding to the region of the gall-bladder and common duct. The liver measured in mammary line four and one-half inches. It was represented that no bile had been seen in the dejections since the first attack of hepatic colic in October. But this may be questioned on account of the slight enlargement of the liver at this time, nine months later. The patient was placed upon a purely milk diet and the so-called alkaline treatment; to wit, bicarbonate soda, sulphate soda, etc., in varying doses, and modifications, in order not to disgust the patient, and was steadily adhered to to the end. All dejections were carefully sifted. In the early part of September, 1886, a few black particles were found in the dejections, resembling grains of gun-powder, and which proved to be inspissated bile. A few days later, many more were found in a bilious discharge, some very dark, others lighter in color. The larger ones, on the addition of sulphuric acid, gave under the microscope, cholesterin crystals, which confirmed the diagnosis of obstruction from gall-stone. Despite this, nothing more was obtained until the final expulsion, here exhibited, although a small amount of bile would be occasionally seen in some of the dejections. The patient remained in a variable condition, steadily losing in weight, suffering much from flatulence, occasionally overstepping the limit in regard to diet and experiencing thereby attacks of hepatic colic, which were always followed by a deepening of the icterode condition of the skin, until November 16th, when after eating surreptitiously a plate of beans, she had an unusually severe attack of pain, but without either vomiting or nausea. This was followed by a rise of temperature, 104.5° F., accelerated pulse 120, delirium and within a few days by sordes upon teeth and tongue; before the subsidence of these symptoms, the peculiar mental state, before alluded to, supervened. This was characterized by delusions of suspicion respecting her family, and was associated with hallucinations of sight and hearing. This aberration persisted until February, when improvement began, first, respecting the hallucinations, and later in regard to the delusions. Until the latter part of April she remained in much the same condition as before the development of the mental disturbance, save that there had been a slow but steady loss in weight. At this time, about April 26th, she experienced a severe attack of pain, which was modified but not wholly relieved by morphia, and which lasted throughout the night. Two days later the concretion was successfully voided per anum, and is a beautiful specimen of a biliary calculus. An examination of it under the microscope, on the addition of sulphuric acid gives the characteristic cholesterin crystal of gall-stones. The total loss of weight of patient for the entire period of eighteen months was about 127 pounds.

DR. C. H. COOK, of Natick, exhibited a

GALL-STONE,

which was passed by a lady forty-five years old, who had symptoms of its presence only from March to October in the year 1879. During this time she had lost fifty pounds in weight, and suffered much from vomiting, anorexia, constipation, etc., and presented an enlargement in the right side in the region of the liver,

which was the seat of discomfort but not of severe pain. The diagnosis was between cancer of the liver and impacted gall-stones.

In August there was an accession of severe pain, accompanied a few hours afterward by severe diarrhœa, which was followed by entire relief from all the symptoms before noticed in the abdomen. Two weeks from the onset of the acute symptoms, the patient passed the gall-stone shown, and all the severe features of the case vanished, and have never recurred. The patient is now living, and has regained her original weight, and is in good health. The weight of the stone is 132 grains.

The late Dr. Ellis was consulted in relation to this interesting case, and expressed the opinion that a stone of the size of the present one could never have been passed through the normal duct of the gall-bladder, but that when the acute symptoms, above mentioned, came on, there was developed an acute localized adhesive peritonitis, by which the adjoining structures were united to the gall-bladder. The gall-bladder then probably ulcerated, and by good fortune when the opening in its wall occurred, the perforation was not into the cavity of the general peritoneum, but into the lumen of the intestinal canal to which the gall-bladder had become adherent. The stone, therefore, passed from the gall-bladder directly into the bowel at a point much lower down than the opening of the gall-duct into the duodenum, and was then soon evacuated with the stool.

The stone has roughly the shape of a bee-hive, and is about three-fourths of an inch in diameter, by about one inch high. The base of the stone is somewhat hollowed out by contact with another concretion, but the apex is conical and symmetrically rounded. There would seem, then, to have been at least one other stone in the gall-bladder of this patient, which probably was also passed into the bowel through the adventitious opening, but which was lost. It is also probable that only two stones were present in this case.

The Secretary stated that since the last meeting both the Chairman and the Secretary had been in receipt of communications from the public in relation to the question of milk-supply, and that the action of the Section at its last meeting had seemed to awaken considerable interest in those concerned in the milk-business. The Secretary suggested that a Committee be appointed to take the matter into consideration, and report what further action the Section might properly take in the matter.

The suggestion was put to vote and passed. The Chairman appointed as that Committee the following gentlemen, members of this Section: Drs. Henry J. Barnes, E. W. Cushing, C. P. Putnam.

Voted to adjourn.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, RECORDING SECRETARY.

THE meeting was called to order at the rooms of the Boston Medical Library Association. October 5, 1887, at 12.30 P. M., by PRESIDENT WINSOR. Sixteen members were present.

Records of the last meeting were read and approved.

On recommendation of the Executive Committee, Medical Examiner G. G. Bulfinch, M.D., of South-bridge, was elected a regular member of the Society.

Medical Examiner DRAPER, of the committee to submit a blank form for autopsy returns, asked for more time, as suggestions from medical examiners had been few in number.

Voted to grant the committee more time.

Medical Examiner WINSOR, of the Committee on Expert Medical Testimony reported verbally that the Judiciary Committee of the Legislature had granted leave to withdraw the submitted bill. He believed that the failure of the bill was due to the apathy of the bench and bar, and not to lack of support from medical men.

The President acknowledged receipt of Volumes 4 and 5 of the Transactions of the New York Academy of Medicine, from the Librarian of that body.

Voted to supply the Librarian of the New York Academy of Medicine with copies of the Transactions of our Society, as far as possible.

Medical Examiner PRESBREY read a paper entitled

A CASE FOR THE MEDICAL EXAMINER.

An unmarried domestic, aged twenty-one, apparently robust, with no suspicious surroundings, was found dying in a tub which contained a small quantity of water, prepared for bathing. Her head was hanging over the edge of the tub, and had not been immersed. She was put to bed, and expired in a few minutes. Autopsy and chemical examination revealed nothing but an undisturbed fetus of two-and-one-half months. No attempt at abortion had been made, and there were no marks of violence, externally or internally. Medical Examiner Presbrey reported the death as having occurred from some unknown natural cause.

Medical Examiner HARTWELL reported a sudden death from uræmia, in a woman four months pregnant.

Medical Examiner DRAPER inquired as to the condition of the pancreas.

Medical Examiner PRESBREY had not noted anything peculiar about this organ.

Medical Examiner TAYLOR suggested syncope in the bath, from heart failure.

Medical Examiner PRESBREY had not considered the heart-muscle fatty.

The case was further discussed by members Bemis and Gleason.

DR. S. W. ABBOTT presented some statistical information of interest, abstracted from medical examiners' returns and other sources.

Adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

MEETING held Tuesday evening, October 4, 1887, DR. C. L. DANA in the chair.

ARTHROPATHY OF TABES.

DR. WM. H. PORTER presented a specimen of the cord and knee-joint from a case of tabes. The patient was a female, thirty-two years old. The family history was good. There was no alcoholism, and no history of rheumatism in the case. In May of the present year, ovariectomy had been done, and, with the exception of a ventral hernia, the patient had made a good recovery. The cord affection dated from five months previously, and in February last, a gradual increase in the size of the knee had been noted. As early as December 15th, however, the patient had suf-

ferred pain, and partial luxation had made standing difficult. Examination showed the right knee painful, but not swollen. The left presented subluxation, some fluid, and enlargement of the lower portion of the femur. There was some dyspnoea and some headache. The patient also suffered with external hæmorrhoids, but the urine was negative, and the coördination good. The right knee measured eighteen inches, and the left twenty-one-and-one-half. The patient was a large woman, weighing three hundred pounds. The enlargement, and the riding of the patella upon the joint, were all of the positive symptoms in the case, and it was transferred to the surgical ward. There continued to be a great deal of boring pain in the knee, but no puffy feeling in the feet, no anæsthesia, and no ocular trouble. The joint was excised, with an apparently good result, but three weeks later, on August 10th, discoloration of the skin of the buttocks and of the small of the back appeared, and, in the course of a day or two, the part sloughed. The woman died, apparently of sepsis from the slough. *Post-mortem*, the viscera were found healthy, with the exception of the liver, which was pock-marked with cicatricial depressions. The right knee-joint was found in a good condition. Moderate changes of interstitial thickening were found in the cord. The question was whether this should be considered a case of ataxia, the only positive symptom being the boring pain. The supposition of tuberculosis was entertained, but the excised joint had failed to show tubercular tissue or bacilli, and erosion of the bones had been the only discoverable change.

Dr. DANA added that the cord in this case was now being examined by Dr. Graeme Hammond, and there was no doubt that the posterior columns, particularly the postero-external columns, or columns of Burdach, were affected. It was a case of sclerosis of the cord, most marked in the posterior columns.

Dr. W. A. HAMMOND suggested that articular affections with locomotor ataxia were infrequent in this country, compared with France. He had never seen a case, although many cases of locomotor ataxia had passed under his notice. According to Charcot, they were very common, resembling in this the grand hysteria, which also seemed limited to France, and even to the wards of the Salpêtrière Hospital.

Dr. PORTER stated that, during the past year, he had made post-mortem examinations in four cases of locomotor ataxia. In two of these there were joint-affections, and in two none.

Dr. HAMMOND asked whether the joint-affections were recognized during life.

Dr. PORTER replied that they were recognized only in one of the cases. He had never seen the condition before this year.

Dr. WEBER referred to a case which had been presented the day before at the German Society. He had seen others, but not such as would answer to Charcot's descriptions. Rosenthal, of Vienna, also had described severe joint-affections in locomotor ataxia, but not in such great numbers. The speaker could point to a few cases out of seventy or seventy-five, but, as a rule, the affection was not destructive. It was acute. It would come and go, and complete restitution might occur. He referred to two cases. In one there was diabetes and locomotor ataxia, and in the other there was sclerosis of the cervical region of the cord. In this case, it looked as though the cartilage and bone

were invaded, as there was crackling and change in form. A case like that referred to, as presented the day before, with intra-capsular fracture and such extreme mobility, he had never seen before in this country.

Dr. DANA, from an experience embracing two cases, found that the term tabetic arthropathy did not, under all conditions, mean the same. One of these, a case of ten years' standing, slipped and fell, nearly dislocating a joint already loose, so as to present a typical arthropathy of this disease.

MELANCHOLIA DUE TO THE PROLONGED USE OF MORPHIA.

Dr. S. B. LYON presented the history of a case of melancholia following the prolonged use of morphia for the relief of cardiac pain. The patient was a female of fifty years, who, for three years, had suffered from a condition diagnosed angina pectoris, which morphia only relieved. From two to seven grains had been taken during the day. She had subsequently suffered with terrors and delusions similar to those of the morphia habit, but more persistent. Relief was obtained after withdrawal of the drug and removal to an asylum, away from the unwise attentions of her friends. The cure was sudden, complete banishment of her terrors and delusions occurring in a single day. A curious double consciousness characterized this case. While dominated by her delusions, she preserved her ordinary consciousness, thus appearing to inhabit in thought both a real and an unreal realm.

While insane, this patient was free from her cardiac pain. This subsequently appeared, but yielded to electrical applications.

Dr. PUTNAM JACOB considered the case very interesting. The conception of the Ego as a simple unit is childish. Undoubtedly, there may occur changes in the groupings which go to form the consciousness of which the Ego is made up. In this case, there was destruction of the ordinary linkings of consciousness, and the replacement of the ordinary normal impressions by the formation of a new sphere. The aberrations produced by morphia and other toxic influences could be similarly explained. The suddenness of the recovery in this case further demonstrated that the forced paths of association had ceased to be travelled, and the old ones resumed—a process which might be likened to the switching of an engine from one track to another.

Dr. W. A. HAMMOND objected to the term double consciousness in connection with the case. Double consciousness might be represented by plus and minus. The patient was not at the same moment in both conditions, but at different periods led separate lives, during the plus condition knowing nothing of what occurred during the minus condition, and vice versa.

Dr. SPITZKA thought that the reader of the paper had used the term with the meaning of the French. The case was assuredly not one of double consciousness as the term is used by alienists. In double consciousness there is really a double Ego with alternate consciousness.

Dr. LYON recognized that the case was not one of double consciousness as Dr. Hammond and Dr. Spitzka had used the term. The patient had, however, a double consciousness in an ordinary acceptance of the word, with a real and an unreal aspect, the latter dominating.

DISCUSSION UPON THE USE OF ANTIPYRINE AND ANTIFEBRIN IN NERVOUS DISEASE.

DR. J. S. ROBERTSON opened the discussion. He had used antipyrine first in general practice, in acute rheumatism, where it had appeared not only to reduce the fever, but to control the pain. This led him to try it in a case of migraine which had resisted aconitia and chloral. He had subsequently given it in one hundred unselected cases. In ninety per cent. of these, relief was obtained in fifteen to forty-five minutes. He gave it without a stimulant, and diaphoresis was the only ill effect which he had seen.

In the severe pains of tabes he had given ten to twenty grains hypodermically, or twenty to thirty by the mouth with a resulting diminution in frequency. In insomnia the sleep was better than that obtained by chloral. The speaker had never seen heart failure. In hyperpyrexia he gave forty grains in a dose, and had himself taken one hundred and twenty grains during twenty-four hours without any unpleasant result.

DR. E. WAITZFELDER had had an experience somewhat similar to Dr. Robertson's, but gave the drug with a stimulant, having found nausea and vomiting common where this was not used. He had given antipyrine in twenty indiscriminate cases of headache, obtaining relief in about fifty per cent. He had directed its use in the epileptic ward about three months ago. It had been thoroughly tried but without any appreciable effect. He had used it for the pains of locomotor ataxia, but while the patient had improved he did not attribute this to the drug.

DR. W. A. HAMMOND used antipyrine, and his experience had been entirely negative. He had given both antipyrine and antifebrin, both singly and combined, in neuralgia, the pain of locomotor ataxia, insomnia, vertigo, and in headaches both of the anæmic and hyperæmic variety. His method of administration has been in fifteen-grain doses three times a day continued for from two to three weeks. A new drug was not needed to shorten an attack of migraine. A hypodermic injection of morphia would do it, or one hundred grains of bromide of sodium, or 1-100 grain of glonoin, according to the variety. In a case of tuberculous meningitis in a child of two years he had given four-grain doses of antipyrine for the relief of pain and had signally failed. He had given it in epilepsy without result.

DR. DANA asked whether Dr. Hammond had given antifebrin in epilepsy. Dr. Hammond had given both antipyrine and antifebrin in fifteen-grain doses with similar results, sometimes combining seven and one-half of each. He referred to the insolubility of antipyrine, making administration difficult.

DR. GEO. W. JACOBY thought it serviceable to hear the other side of this question. His own experience had resembled that of Dr. Hammond. Antipyrine gave some relief in migraine, at least following the first or second administration. It sometimes cut short insomnia, but that about limited its usefulness in this field. It was not without danger. He had seen collapse from a dose of twenty grains.

DR. PUTNAM JACOBI has given antifebrin in the Infirmary to a child with pleuro-pneumonia, and with lowering of the temperature relief from pain also was obtained, although the physical signs remained unaltered and defervescence occurred in a typical manner upon the sixth day.

DR. SACHS believed that antipyrine could be recommended only in migraine. Possibly, also, in headache of a neurasthenic type. Cases should be followed for a number of months. The results from two to three administrations should not be relied upon. He had given it in a dozen cases of migraine with relief within twenty minutes of its first exhibition, and in no case had it been necessary to repeat the dose more than two or three times at intervals of an hour. The only unsatisfactory cases had been those of the spastic type. The paralytic type had been in every case relieved. In one case, that of a man of thirty-two years, the condition had resisted all previous treatment. The patient every four weeks had to go to bed from twelve to thirty-six hours, and was incapacitated for work for several days. Antipyrine does not entirely relieve the headache in this case, but the patient is able to continue his business during the paroxysm. In the speaker's experience about twenty per cent. of the headaches of neurasthenic origin would be relieved. In headaches of anæmic and gastric origin the treatment has been unsatisfactory. In insomnia, with and without migraine, antipyrine had appeared to act as a true narcotic. Sleep of nine and one-half to ten hours followed the administration of two grains. He had used it in the lightning pains of locomotor ataxia and in peripheral neuralgias, particularly trigeminal and sciatic, without result. Antipyrine was not a panacea, and the speaker thought that it should be used carefully. He had met no bad results himself, but from the reports of others it was evident that such results could occur.

DR. DANA expressed surprise that Dr. Hammond had been so unsuccessful in the use of antipyrine, and suggested that he keep a closer watch upon his clinical assistants. Dr. C. H. Brown claimed to have been cured of a most violent migraine by antipyrine, and was enthusiastically prescribing it in Dr. Hammond's clinic. In the treatment of epilepsy, antipyrine could only be used empirically. Antifebrin, on the contrary, has been shown to act as a spinal depressant, and hence could be rationally prescribed.

DR. ROBERTSON closed the discussion with the remark that he had found antipyrine soluble in Vichy. He considered a dose of twenty to thirty grains safe. He had not claimed that it cured, but that it acted as a palliative in the conditions named.

DR. SACHS exhibited a papier-mâché model of the brain, in the absence of Dr. Starr.

—The *American Lancet* considers that one effect produced on the local practitioners by the presence of a medical school in a town is a demoralizing reduction in the fees received for medical attendance. It cites for comparison the two cities, Jersey City and Cleveland. New Jersey has no medical school, and Ohio has sixteen, of which Cleveland possesses several. The comparison of fees is much to the disadvantage of Cleveland, a sample of a large number being that ordinary midwifery cases in Cleveland are from five to ten dollars; in Jersey City, ten to thirty dollars. We suspect that there are other causes of difference, one appearing to be that the published "fee-bills of the New Jersey State Medical Society" are compared with the "fees charged by the Cleveland profession as a rule."

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THE ARMY HOSPITAL CORPS.

It may possibly remain in the minds of some of our readers that we have, on a former occasion, spoken of the desirability of a separate organization of a Hospital and Ambulance Corps for the Army. The necessity for a distinct organization, composed of men specially enlisted for such a corps, and under the immediate control of the medical staff, was abundantly demonstrated during our late war.

The last Congress passed an act providing for a Hospital Corps, and General Order No. 56 has just been issued from the headquarters of the Army containing a long series of rules and regulations for its government.

The Hospital Corps is to consist of hospital stewards, acting hospital stewards, and privates. All hospital services in garrison and in the field are to be performed by its members, who are to be regularly enlisted and permanently attached to the Medical Department. In time of war, the Corps is to perform the necessary ambulance service under such officers of the Medical Department and assistants as may be detailed to direct it.

Candidates for the position of acting hospital steward must pass a satisfactory examination as to physical condition and general fitness, and, in addition, in pharmacy, care and use of meteorological instruments and hospital and field appliances, the methods of rendering first aid to the sick and wounded, and the ordinary modes of cooking. No person shall be appointed a hospital steward until he has demonstrated his fitness for the position by service of not less than a year as acting hospital steward, and, in addition, he must pass an examination in the elementary principles of hygiene, including ventilation, heating, and disinfecting, the principles of materia medica, therapeutics, and minor surgery, and the administration of anæsthetics. Their duties are, in brief, to care for hospital property, distribute stores and supplies, and supervise the Hospital Corps in hospital and in the field. The privates of the Hospital Corps are to be enlisted

like other enlisted men of the Army, but are to be taken by preference from men who have served, at least, one year in the line, preferably as company-bearers, and they must pass an examination as to general intelligence and aptitude for the duties which they will be expected to perform. Privates enlisted for the Hospital Corps who have not received, at least, one year's military instruction in the Army, shall serve as privates for that period in a company stationed at one of three designated forts. After one year's service in the Hospital Corps, privates who have displayed particular merit will be recommended for promotion, and from those thus recommended, acting hospital stewards will be appointed. Members of the Hospital Corps will be instructed by the medical officers in the duties required of them, and will not be required to perform other military duties than those pertaining to their corps.

From each company of the line, four privates are to be selected by the company commander, with the concurrence of the post-surgeon, as "company-bearers." These men are to be instructed, under the supervision of the surgeon, in the duties of litter-bearers, and in first aid to the sick and wounded, but shall not be relieved from their regular military duties, the object being to insure the constant presence with the company of a number of men who can, in emergencies, render temporary aid. During an engagement, the company-bearers shall render first aid to the wounded, or carry them to the rear, until relieved by members of the Hospital Corps.

At every post, the Hospital Corps will be represented. The very least representation at the smallest post, being one hospital steward, three privates, and one regulation ambulance.

Article 25 of the rules and regulations will be recognized by surgeons of the late war as of special importance. It is as follows:

"The ambulance and harness shall be under the immediate control of the senior medical officer of the command, and shall not be used for any purpose other than the transportation of the sick and wounded, the recreation of the convalescent patients in hospital, or to enable the medical officer to give instruction in the duties of the ambulance service"; and paragraph 41, relating to ambulance service in time of war, reads: "Ambulances shall be used only for the transportation of the sick and wounded, and, in urgent cases only, for medical supplies; and all persons shall be prohibited from using them, or requiring them to be used, for any other purpose. It shall be the duty of the officers of the Ambulance Corps to report to the commander of the Army Corps any violation of the provisions of this paragraph; and any officer who shall use an ambulance, or require it to be used, for any other purpose than as provided in this paragraph, shall, for the first offence, be publicly reprimanded by the commander of the Army Corps in which he may be serving, and, for the second offence, shall be dismissed from the service.

The regulations go on to prescribe still further their duties and their distinctive uniform, but enough has already been said to show that the Corps is to be established on a distinct and permanent basis, and we have no doubt, that the corps will fully justify its creation even if active service in the field should never be required of it.

ANOTHER NEW TREATMENT OF TUBERCULOSIS, BY SULPHUROUS ACID FUMES.

It is probable that, as long as the bacillary theory of phthisis has possession of the medical mind, there will be no cessation of attempts to attack the specific microbe, either by the breath or through the blood. Great expectations were entertained of gaseous rectal injections, and it was fondly hoped that few of Koch's baneful parasite brood would be able to withstand that mephitic hydrogen sulphide, attacking them, not *a fronte* (which would be hardly safe for the patient), but *a tergo*, during which process the bacilli would stand a chance of being drenched with the foul gas while taking its departure from the pulmonary cells. It can hardly be said that these expectations have been realized; the bacilli do not die, but swarm in the sputa, as numerous as ever. Such is the testimony that comes to us from experts, both at home and abroad. In fact, Bergeon's method seems already to be on the wane, despite some temporary advantages which are still claimed for it in some quarters.

More noxious to vegetative life even than sulphuretted hydrogen, is sulphurous acid, whose anti-parasitic and disinfectant properties have long been known. It has, of late, been proposed to utilize this substance in the combat with Koch's bacillus, and, in the few instances of undoubted phthisis where it has been tried, it would seem really to have done pretty thorough work with the microbe-enemy, *if we may trust the reports*.

Experiments with sulphurous-acid inhalations in pulmonary tuberculosis date from the communication of Dr. Sollard to the Academy of Medicine, March 8, 1887. In this communication, Dr. Sollard reports the radical cure of a case of phthisis as the result of prolonged sojourn in a sulphurous atmosphere. The patient was a marine officer at Cherbourg. He had all the signs of confirmed phthisis; there were, besides, abundance of the characteristic tubercle-bacilli in his sputa. Repeated daily inhalations, four hours at a time, of the fumes of burning sulphur, in a close room, cured him of his disease; there was a total disappearance of all the stethoscopic signs, of the constitutional symptoms, and of Koch's bacilli. Since then, Balband, of Cherbourg, has tried this method in eight cases, reported in the *Bulletin Général de Thérapeutique* (October 1st). In all these there has been much improvement after four months' treatment, although the Cherbourg physician has not noted any marked diminution in the quantity of tubercle-bacilli in the sputa. Moreover, Dr. Auriole, of Bellegarde-

du-Gard, has recorded seventy trials of these inhalations in as many phthisical patients, and claims cures in some cases, and amelioration in all.¹

Sollard advises the following mode of procedure: "In a close room, burn a quantity of sublimed sulphur equal to from ten to twenty grammes per cubic meter; then wait twelve hours, and, without opening the doors or windows, admit your patients, and make them sojourn eight hours in this room." Dujardin-Beaumetz, who has made trials of this method in Cochin Hospital, admits his patients to the sulphurous fumes two hours after the combustion of the sulphur, of which he uses, first five, then ten, then fifteen, then twenty grammes per cubic meter. The patients are kept four hours in this room. "Under the influence of this treatment," he says, "we observe a speedy change in the sputa. The cough diminishes, and the patients sleep much better. They also have a better appetite."

It might be supposed that these sulphurous inhalations would be very irritating to the weak lungs of the phthisical, that coughing would be promoted, and that hæmoptysis would be excited. It would seem that none of these fears have been realized. Naturally, apyretic cases have been chosen as the subjects of this experimentation.

MEDICINAL LIQUID VASELINE.

A NEW VEHICLE FOR HYPODERMIC INJECTIONS.

HYPODERMIC medicine seems likely to realize an immense extension in the use, as an excipient for medicinal substances which it is desired to introduce subcutaneously, of a petroleum product which comes from Europe, and especially from the mountainous regions of Russia, and is known as *liquid vaseline*. This is one of the final products of the distillation of petroleum—coming over after paraffine—and is purified by filtering through animal charcoal. Its solvent powers are immense, multitudes of vegetable and mineral substances readily dissolving in it, and what renders this oil especially valuable is that it is not only unirritating of itself, but it so sheaths and modifies medicaments of a locally irritant character (rendering them bland) as to constitute them suitable and safe for hypodermic use.

Among the substances soluble in liquid vaseline, we may enumerate, eucalyptol, iodoform, turpentine, phenol, thymol, iodine, menthol, chloroform, ether, salol, sulphide of carbon, sulphuretted hydrogen, myrtol, cocaine, atropine, aconitia, caffeine, calomel, phosphorus, bromine, etc. Dr. Albin Meunier has most patiently and successfully worked out the requisite formulæ for hypodermic injections with liquid vaseline for their basis; among these formulæ none seems to have given better satisfaction in pulmonary and bronchial complaints than the combination of eucalyptol with liquid vaseline; one part of the former to five of

¹ Bull. Gén. de Thér., t. cxviii, p. 166.

the latter. Five cubic centimetres of this solution are injected into the gluteal region night and morning, and under this treatment has been noticed a marked lessening of the cough and expectoration. A two-per-cent. solution of iodine in liquid vaseline is highly spoken of in asthma, emphysema, the uric diathesis, etc.; the dose is one syringeful, to be injected into the outer part of the thigh. A twenty-per-cent. solution of chloroform is recommended to be injected in sciatica and other painful affections, and a ten-per-cent. solution of salol is well spoken of in sciatica. The injections must be made deeply in the muscles. There are formulæ for bromine for antiseptics in diphtheria, and calomel for administration in syphilis.

Bourneville and Bricon have recently published a series of convenient formulæ, with liquid vaseline for basis, in their therapeutic manual, and the members of the Société de Thérapeutique seem enthusiastic in their praises of the new mode of treatment, which bids fair greatly to add to our therapeutic resources by enabling us to use hypodermically multitudes of remedies which heretofore could not be administered in this way.

Liquid vaseline, according to Roymond, is the result of the depuration of the mineral oil of Baccou in Russia. In distilling this oil, several intermediate substances first come over (ethers and illuminating oils) finally paraffine and liquid vaseline. The Germans call the latter *liquid paraffine*.

MEDICAL NOTES.

— Since the last report one new case of cholera has developed among the *Alesia's* passengers detained under observation on Hoffman's Island, New York Harbor. The case is a child, several other members of whose family had the disease.

Another Italian emigrant steamer, the *Britannia*, was detained under observation in New York harbor, under suspicious circumstances, and two of her passengers are just reported as dying from cholera. There are now three separate lines of steamers, besides sailing vessels, plying between Palermo and Naples, and New York. These steamers, as a rule, make the round of the chief ports of Sicily,—Messina, Catania, and Palermo,—and then proceed to Naples whence they depart for New York.

These steamers bring very large numbers of emigrants from the lower classes in Italy, and under existing circumstances—notwithstanding the season of the year—they cannot be too carefully watched.

The United States Consul at Rome in a dispatch to the Treasury Department, dated Sept. 21st, says:

“Cholera has prevailed in certain parts of Sicily since the early spring. With the beginning of summer the disease appeared at some southern places on the mainland, also in the environs of Naples, and finally in that city early in August. Up to the present time neither the government nor other authorities give any information, statements, or bulletins con-

cerning it, with the exception of in Sicily, from whence the associated press of Italy, under government surveillance, telegraphs daily showings for the chief cities of Sicily. Besides these chief cities—Palermo, Messina, and Catania—I have the best reasons for believing that many scattered cases of cholera are now occurring daily, not only in Sicily, but in many ports and places in the southern and central portions of the mainland, notably south of a line drawn from the Mediterranean opposite Rome across to Ancona, on the Adriatic. The various Mediterranean countries have now in force quarantines against Italy, extending from five to twenty-one days, for vessels from any port of Italy whatsoever. The sanitary measures of the Italian Government and local authorities are energetically enforced, and are deserving of every praise.

“During the last four years Italy has suffered so much from cholera and from quarantines, both foreign and domestic, that the present action of the government in withholding information relating to certain parts of the kingdom may be attributed to a desire to carry out the results of experience, and not to any lack of good faith. But at the same time it is true that as regards information relating to the disease on the mainland, no facilities are given for arriving at the truth. . . . There is now a quarantine observation of two days for detached soldiers on furloughs coming north of the line of railway between Rome and Ancona. Otherwise, there are no restrictions in Italy on commerce or travel by land or sea, except the prohibitory measures against old rags, already reported to the Department. Vessels communicate freely between the infected and non-infected ports of the kingdom.”

—Up to October 24th, about one hundred and eighty cases of yellow fever had been reported at Tampa, Florida, with twenty-seven deaths. The construction of a temporary hospital building had been authorized by the Marine Hospital Bureau, and a sufficient staff of acclimated nurses to aid in caring for the sick has since arrived from Savannah. At the latest accounts the weather was reported as warmer and more unfavorable, and the disease as spreading in the better parts of the town and its suburbs.

—A contemporary tells the somewhat remarkable story of a physician who walked in his sleep, and at one time had a patient some two miles distant, about whom he was very anxious. It was in the coldest of winter. One evening he found his patient in a very unsatisfactory condition, and remarked to the family that if he did not find him better the next visit, he would change the medicine. On rising the next morning, he went to the barn to put his horse into the cutter. He was perplexed in finding his rigging somewhat misplaced, but supposed that some one had thrown it about in search of a missing article. On visiting the patient, he was gratified in finding a marked improvement. He inquired when the improvement commenced, and was answered, “Immediately

after taking the powders which he had given in the night." The truth flashed across him at once that he must have been there in the night. Concealing his emotion, he inquired with a careless indifference: "About what time was it when I was here?" They replied: "About two o'clock." This proved to have been the case, as he afterwards was told by the family where he boarded.

BOSTON.

— Dr. Joseph Bechtinger, is to give a lecture on "True Leprosy, its Forms and Varieties from Personal Observations in different Parts of the World: also on other medical subjects, to be illustrated by the stereopticon." The lecture is to be given in Parker Memorial Hall, Thursday evening, November 3d. Tickets may be obtained at the janitor's office.

— We referred last week to the difference between the cattle commissioners and the Cambridge railroad, regarding cases of alleged glanders in the horses of the company. Four of these animals were slaughtered on October 19th, and after the autopsy had been held a radical disagreement was found between Dr. Winchester, of the board, and Drs. Lyman, Harrison and Bryden, the veterinarians employed by the road, the latter gentlemen maintaining, it is said, that two of the horses had not been afflicted with the disease. It is reported that since the autopsy there is a difference of opinion between the members of the cattle commission as to the proper action to be taken by the board. Dr. Winchester stated that his examination, both before and after death, showed unmistakable evidence of glanders, and that a suspicion of the existence of this disease should unfit horses for work and association with healthy horses. In this view he claims to be supported by several veterinary surgeons who were present at the post-mortems. On the other hand, Messrs. Levi Stockbridge, and A. W. Cheever, the other members of the commission, acknowledge that the diagnosis of Dr. Winchester, based upon his ante-mortem and post-mortem examination, is correct, so far as these examinations have revealed certain characteristic marks, such as usually accompany chronic glanders, but, judging from the appearance of the quarantined animals, their general health and their ability to work, they maintain that the marks do not indicate their unfitness for service. The majority of the board, therefore, does not believe in the necessity of a wholesale slaughter. It was finally voted that a communication be sent to the Cambridge road, ordering the release from quarantine of ninety-five of the animals, and that the remainder of those in confinement, some sixty or seventy in all, be isolated in a separate stable, pending further examination, to begin on Monday, October 24th.

NEW YORK.

— Exercises will be held on the occasion of the opening of the new buildings of the Skin and Cancer Hospital, at the Country Branch, Fordham Heights, near New York City, Saturday afternoon, October

29th, at two o'clock. The exercises will consist of an address of welcome by the President of the Hospital, an address on Cottage Hospitals by the President of the Medical Board, Dr. A. Jacobi, reports of the Medical Board and the Treasurer, and addresses by Judge H. E. Howland and Rev. Dr. H. J. Van Dyke, Jr.

The Country Branch Hospital is situated at Fordham Heights, about one mile above High Bridge, between Sedgwick Avenue and the old McComb's Dam road, an hour and a quarter's drive from 59th Street entrance to Central Park.

— The following new appointments have been made by the Directors of the New York Post-Graduate Medical School and Hospital. Dr. Robert Abbe, Professor of Clinical Surgery; Dr. Henry D. Chapin, Professor of Diseases of Children; Dr. J. H. Girdner, Instructor in Clinical Surgery; Dr. O. M. Phelps, Professor of Orthopædic Surgery.

— St. Luke's day, October 18th, was celebrated at St. Luke's Hospital by the inauguration, with appropriate ceremonies, of an annex to the building which increases the accommodations for patients to about two hundred. The addition has been erected with a portion of the legacy of \$100,000 left to the Hospital by the late William H. Vanderbilt. During the past year a number of free beds in perpetuity have been established by various other friends of St. Luke's, and the institution is in a flourishing condition. At the annual meeting of the St. Luke's Hospital Association, a rule was adopted, to the effect that in the future, applications for the position of attending physician to the hospital shall be received only upon condition that the applicant is not holding a position in any other hospital.

PHILADELPHIA.

— A complimentary dinner was lately given to Dr. J. Ewing Mears at the Hotel Bellevue. Professor J. M. Da Costa, M.D., presided, and a large number of the leading members of the profession were present.

Miscellany.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

A MEETING of the Executive Committee of the Congress of American Physicians and Surgeons, for the purpose of organization, was held on October 5th, in the Hall of the College of Physicians of Philadelphia. The special societies were represented as follows:

American Surgical Association, Dr. Claudius H. Mastin, of Alabama.

American Otological Association, Dr. Cornelius R. Agnew, of New York.

American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York.

American Laryngological Association, Dr. J. Solis Cohen, of Pennsylvania.

American Neurological Association, Dr. L. Carter Gray, of New York.

American Dermatological Association, Dr. I. E. Atkinson, of Maryland.

American Climatological Association, Dr. A. L. Loomis, of New York.

Association of Genito-Urinary Surgeons, Dr. John P. Bryson, of Missouri.

American Association of Physicians, Dr. William Pepper, of Pennsylvania.

The Committee was organized by the election of Dr. Pepper as Chairman, and Dr. Bryson as Secretary.

It was decided to hold the Congress of 1888 in Washington, D. C., on Tuesday, Wednesday, and Thursday, September 18th, 19th, and 20th, respectively. The sessions of the Congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating.

The following officers of the Congress were elected:

President.—Jno. S. Billings, M.D., LL.D., U.S.A., of Washington, D. C.

Vice-Presidents.—The Presidents-elect of all the participating societies.

Treasurer.—Dr. W. H. Carmalt, of Connecticut.

The arrangement of the programme for the sessions of the Congress was referred to the President, the Secretary, and the Chairman of the Executive Committee.

CÆSAREAN SECTION BY THE BISON'S HORN.

DR. R. P. HARRIS has published in the July and the October numbers of the *American Journal of Obstetrics* a series of cases of the ripping open of pregnant women by the horns of animals. Ten of the ribs opened the womb, three did not. The latter all recovered, did not miscarry, and bore living children at maturity. Of the ten hysterotomies, six women survived with four of the nine matured children. The last case, was personally witnessed by Dr. Powell, at that time a boy. A bison bull gored the abdomen of a squaw, tore out a fœtus and carried it on his horns some twenty yards. The child was of course killed, but the woman survived and made a good recovery under Indian treatment, which is as follows:

A plastic clay is selected, such as may in emergency be dug up from beneath a "buffalo wallow," and made into a stiff mud with water; the wound is held together, while a thick coating is applied; then over this is played a layer of woolly fibre crossed upon it in every direction: then another coat of mud, and so on, until a cake of two inches thick covers the abdomen from flank to flank, the patient being kept upon his back during the treatment. The Pawnees, Utes, Apaches, Sioux, and Comanches make use of silky fibres obtained from plants for holding the clay together. The sage-brush, so common in Indian regions, furnishes one source of supply; another is a species of evergreen, unknown by name to Dr. Powell, which grows high up in the snowy range of the mountains. In extraordinary years, the fall of snow reaches from twenty to forty feet in depth, covering the trees. The snow partially melts, then freezes, and finally sinks in the warm season, stripping down the bark to the roots, and tearing out the inner bark into long thin strips, which are gathered by the Indians for use in dressing wounds. Choice clays are also stored up and kept for the same purpose.

In 1865, Dr. Powell accompanied a United States expedition, with Omahas and Pawnees, across the plains, and encountered Black Bear and his band of Arrapahoes, on Tongue river, now in Montana. In

hand-to-hand fights, three young braves in their teens, had their abdomens cut open, and in two the intestines protruded; whether in the third case the peritoneal cavity was opened he cannot say. These youths were treated by their companions in the way already described, and two of them recovered.

A Mexican correspondent of the same journal records another case in which a woman eight months pregnant was gored by a cow, the rent through the abdomen being eight inches long. A physician discovered the buttock of the child protruding, dilated the wound a little, and withdrew the child, which was living and unhurt. The womb at once contracted, with the placenta inside. He cut the cord as far down as possible, replaced it through the rent, and sewed up the abdomen. The placenta was delivered per vias naturales and the woman recovered, though after a violent peritonitis.

Such facts do not prove that the bison or the cow is a better performer of the Cæsarean section than a surgeon. They do show, however, that the mortality of the operation in strong healthy women, unexhausted by fruitless labor pains, need not be very high. The discouraging records of the operation are those furnished usually by rachitic or otherwise deformed persons in whom the operations were deferred to the last moment and then undertaken as a forlorn hope. Then if the bison's instrument for operation is not aseptic, the air of the prairies is, wherein it possibly compares favorably with the hospitals in which the more formal section is performed.

Correspondence.

STRYCHNIA IN SEA-SICKNESS.

BRIDGEPORT, CONN., Oct. 21, 1887.

MR. EDITOR,—The perusal of an article on the treatment of sea-sickness by strychnia and atropia in a recent number of your JOURNAL, induces me to contribute an item in regard to the management of this distressing malady.

Some seven or eight years ago, while on a trip to Savannah, six of the lady passengers were severely attacked with sea-sickness when only about twelve hours out. Fully concurring with Dr. Skinner's theory of the pathology of the disease, I directed each patient to take one-fortieth of a grain of sulphate of strychnia every fourth hour. Five were well after the fourth dose, and remained so to the end of the voyage. The sixth was a delicate young lady, in the second stage of phthisis pulmonalis, and was so prostrated that actually I feared death by asthenia. She was panic-stricken and importuned so earnestly for immediate relief, that I substituted for the strychnia, twenty drop doses of chloroform in water. This only aggravated the symptoms, so I returned to the strychnia, and after a few additional doses she was well.

I have crossed the Atlantic six times, traversed the whole Atlantic coast from Florida to Halifax, made one trip to the Bermudas, incidentally treating many victims of *mal de mer*, and I am prepared to declare emphatically that strychnia, pushed if necessary, *ad tolerandum*, has accomplished more in my hands than any one or all other remedies. I have had no experience with atropia, but should anticipate from its centrifugal influence on the circulation that it would prove a good adjuvant to the strychnia. Cocaine, one-sixth to one-quarter of a grain, has proved an excellent palliative in my hands, but its influence, as also that of the bromides, has been transitory.

I have found no difficulty in my patients retaining the strychnia pellets or tablets, and, therefore, have not used it hypodermically.

Very truly yours, R. HUBBARD, M.D.

GLEDITSCHINE-STENOCARPINE.

BROOKLYN, 314 State St., Oct. 15, 1887.

MR. EDITOR,—The fact, seemingly well proven by the experience of Drs. Seward, Claiborne, Knapp, Jackson, Mitchell and others, that the newly-discovered alkaloid, gleditschine-stenocarpine, is largely like cocaine in its power as a local anæsthetic, has prompted me to determine whether it has a value akin to the coca alkaloid, as a stimulant in the treatment of opium habitués, and I am now experimenting in this direction, using a two-per cent. solution, exclusively by subcutaneous injection.

That cocaine, hypodermically, is a valued aid in treating the opiate neurosis, is beyond question, in my opinion, though it is not a specific, and should never be given, for this purpose, by the patient himself, be he physician or layman. Should gleditschine have a similar value, it may be found free from the ensnaring danger of cocaine, though,

assuming the fact of its stimulant power, this freedom from risk will not be likely, and we shall note, probably, in the not far future baneful effects from its abuse, and gleditschine inebriety may be added to the list of toxic neuroses.

It has been stated by Dr. Seward that "he has observed antidotal effects to gleditschine from morphia," and Mitchell (W. H.) asserts, "it is a direct antagonist of morphia and opium, ten drops of the two-per-cent. solution neutralizing one grain of morphia or six of opium." Experiments on rabbits, now being made by myself, will, it is to be hoped, sustain these claims.

The two-per-cent. solution can be obtained from Messrs. Lehn and Fink, New York City, at a present wholesale cost of six dollars per ounce.

I shall be pleased to receive and report the experience which any reader of your JOURNAL may have on this subject.

Yours very cordially,

J. B. MATTISON, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 15, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	640	231	17.12	16.80	5.28	.96	6.88
Philadelphia	993,801	372	127	13.50	13.50	1.89	4.05	6.21
Brooklyn	745,108	286	120	21.70	12.25	3.50	2.10	11.50
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	164	81	20.13	10.37	7.93	1.22	6.71
Boston	400,000	165	52	17.08	14.03	4.88	1.22	4.88
New Orleans	242,750	121	35	24.07	9.96	2.52	—	8.30
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	214,000	83	30	20.40	18.00	6.00	4.80	2.40
Pittsburgh	210,000	—	—	—	—	—	—	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	21	6	19.04	28.56	9.52	4.76	4.76
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	19	5	73.64	15.78	36.82	—	36.82
Worcester	68,383	25	17	28.00	4.00	12.00	—	12.00
Lowell	64,051	28	14	35.70	10.71	21.42	3.57	7.14
Cambridge	59,660	16	5	18.75	6.25	—	6.25	—
Fall River	56,863	18	9	16.66	11.11	16.66	—	—
Lynn	45,861	13	—	—	30.76	—	—	—
Lawrence	38,825	18	4	11.11	11.11	—	11.11	—
Springfield	37,577	20	5	40.00	5.00	5.00	—	30.00
New Bedford	33,393	19	11	31.56	5.26	5.26	—	26.30
Somerville	29,992	9	2	33.33	11.11	22.22	—	11.11
Salem	28,084	20	7	25.00	20.00	—	—	25.00
Holyoke	27,894	5	2	—	—	—	—	—
Chelsea	25,709	11	0	27.27	—	18.18	—	—
Taunton	23,674	7	1	28.56	—	—	28.56	—
Haverhill	21,795	6	0	50.00	—	16.66	—	33.33
Gloucester	21,713	7	1	—	14.28	—	—	—
Brockton	20,783	3	1	—	—	—	—	—
Newton	19,759	4	1	—	—	—	—	—
Malden	16,407	4	1	25.00	—	—	25.00	—
Fitchburg	15,375	10	5	10.00	10.00	10.00	—	—
Waltham	14,609	6	2	—	—	—	—	—
Newburyport	13,716	3	0	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,123: under five years of age 775; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 401, consumption 288, lung diseases 185, diphtheria and croup 163, diarrhœal diseases 109, typhoid fever 43, malarial fever 31, scarlet fever 28, whooping-cough nine, cerebro-spinal meningitis seven, measles five, puerperal fever five, erysipelas (New York) one. From malarial fever, New Orleans 15, New York seven, Brooklyn five, District of Columbia three, Philadelphia one. From scarlet fever, New York 10, Boston eight, Brooklyn six, Philadelphia, Worcester, Lowell and Cambridge one each. From whooping-cough, Baltimore four, Philadelphia two, New York, Brooklyn and Boston one each. From cerebro-spinal meningitis, New York five, Springfield and Chelsea one each. From puerperal fever, Baltimore three, New York and Philadelphia one each. From measles, District of Columbia three, Boston and Cambridge one each.

In 22 cities and towns of Massachusetts with a population of 1,031,354: the total death-rate for the week was 18.92 against 20.71 and 19.26 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 1st, the death-rate was 17.5. Deaths reported 3,097: infants under one year of age 774; acute diseases of the respiratory organs (London) 219, diarrhœa 168, scarlet fever 86, whooping-cough 58, fever 62, measles 39, diphtheria 36, small-pox (Sheffield 10, Bristow one) 11.

The death-rates ranged from 12.8 in Brighton to 31.6 in Preston; Birkenhead 15.5; Birmingham 17.7; Bradford 20.7; Halifax 25.7; Hull 17.2; Leeds 18.4; Leicester 17.5; Liverpool 21.0; London 15.4; Manchester 24.5; Nottingham 15.8; Sheffield 15.5; Sunderland 19.3.

In Edinburgh 16.7; Glasgow 17.1; Dublin 30.9.

The meteorological record for the week ending October 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Oct. 15, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 9	29.94	58.0	62.0	53.0	77.0	86.0	84.0	82.0	N. E.	S. E.	S.	4	8	5	O.	O.	O.	7-60	T*
Monday, ... 10	29.81	62.0	66.0	58.0	92.0	89.0	92.0	91.0	S.	E.	S.	3	5	8	F.	O.	C.		
Tuesday, ... 11	29.71	50.0	64.0	45.0	100.0	67.0	79.0	82.0	N. W.	N. W.	N.	11	12	14	H.	O.	C.	12	.76
Wednes., ... 12	29.97	45.0	52.0	40.0	74.0	55.0	77.0	69.0	W.	N. W.	W.	8	12	8	F.	F.	C.		
Thursday, ... 13	29.95	52.0	62.0	39.0	65.0	44.0	88.0	66.0	S. W.	S. W.	S. W.	11	13	16	F.	O.	C.		
Friday, ... 14	29.99	47.0	56.0	43.0	85.0	53.0	70.0	69.0	W.	N. W.	N.	10	12	20	C.	O.	C.		
Saturday, ... 15	30.35	43.0	52.0	34.0	74.0	43.0	68.0	62.0	N. W.	W.	W.	12	14	8	C.	C.	C.		
Mean, the Week.	29.960	51.0	59.0	45.0				74.4										127-16	.76

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 15, 1887, TO OCTOBER 21, 1887.

WOLVERTON, W. D., major and surgeon. Detailed as member of Army Retiring Board at Washington, D. C., convened by S. O. 78, A. G. O., April 5, 1887, vice Major C. C. Byrne, surgeon, hereby relieved. S. O. 241, A. G. O., October 15, 1887.

GARDNER, EDWIN F., captain and assistant surgeon. Relieved from duty at Fort Reno, Ind. Ter., and ordered for duty at Fort Lewis, Col. S. O. 241, A. G. O., October 15, 1887.

COCHRAN, JNO. J., captain and assistant surgeon. Now on duty at the Presidio of San Francisco, Cal., is assigned to temporary duty at Headquarters, Division of the Pacific, as assistant to the medical director of that division. S. O. 244, A. G. O., October 19, 1887.

EWING, C. B., first lieutenant and assistant surgeon. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 112, Department of Missouri, October 18, 1887.

APPOINTMENT.

JARVIS, NATHAN S., to be Assistant Surgeon, with the rank of First Lieutenant, October 14, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 22, 1887.

BEYER, H. G., passed assistant surgeon. Ordered to hold himself in readiness for orders to the "Trenton."

WHITE, S. S., assistant surgeon. Ordered to hold himself in readiness for orders to the "Trenton."

STEPHENSON, F. B., passed assistant surgeon. Detached from the "Bache," and ordered to the Navy Yard, Boston.

STONE, E. P., assistant surgeon. Detached from the "New Hampshire," and ordered to the "Bache."

STREET, T. H., surgeon. Detached from the "Patterson," and placed on waiting orders.

VACANCIES IN THE MEDICAL CORPS OF THE NAVY.

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, Pa., for the purpose of examining candidates for admission to the Medical Corps of the Navy. Circulars of information can be obtained on application to the President of the Board. There are twelve vacancies in the list of assistant surgeons.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section on Wednesday evening, November 2d, at eight o'clock. Drs. J. W. Elliot and F. B. Harrington will read a short communication on "Dislocation of the Thumb," and will show cases. Dr. F. S. Watson will present a paper on "A Comparison between the Different Methods of Treatment of Stricture of the Male Urethra." In connection with the above, Dr. G. W. Allen will relate his experience in the use of electrolysis in the treatment of stricture.

G. H. MONKS, M.D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY.—There will be a stated meeting on Saturday, October 29, 1887, at 8 P. M., at 19 Boylston Place. Dr. J. Leslie Foley will read a paper upon "The Hair: its Diseases and Treatment." Dr. O. K. Newell will show Leiter's Panelectroscope and his own improved Endoscopic Tubes, and demonstrate their use. Dr. G. W. Allen will show a set of Klotz's Endoscopes, and report illustrative cases. Report of Committee on Stenographer. Choice of a Committee of five to prepare a list of Candidates for Officers of the Society. Supper after the meeting. Members are requested to notify the Secretary of any change of address.

HERBERT L. BURRELL, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

University of Toronto. Medical Faculty: Calendar. Session 1887-88.

Pathology and Treatment of Ringworm. By George Thin, M.D. London: J. & A. Churchill. 1887.

The Chemistry of Nitrogen as Disclosed in the Constitution of the Alkaloids. By Albert B. Prescott. 1887. (Reprint.)

The Diagnosis and Treatment of Eczema. By Tan Robinson, M.D., L.R.C.P., (London.) London: J. & A. Churchill. 1887.

Cholera and Water in India. By M. C. Furnell, M.D., F.R.C.S., Companion of the Indian Empire; Fellow of Madras University, etc. London: J. & A. Churchill. 1887.

Announcement of Systematic Courses of Instruction in Ophthalmology and Otology, at the Illinois Charitable Eye and Ear Infirmary, Corner West Adams and Peoria Streets. 1887.

Operative Surgery on the Cadaver. By Jasper Jewett Garmann, A.M., M.D., F.R.C.S., Attending Surgeon to the Out-Door Poor Dispensary of Bellevue Hospital. New York: D. Appleton & Co. 1887.

Grand Canary as a Health Resort for Consumptives and Others. By Mordey Douglas, L.R.C.P., M.R.C.S., Eng., Consulting Physician to the Sunderland Infirmary, etc. London: J. & A. Churchill. 1887.

Hay Fever. The First Prize Essay of the United States Hay Fever Association for 1887. By Seth S. Bishop, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, to the South Side Free Dispensary, etc., Chicago, Ill. 1887. (Reprint.)

Treatise on Human Physiology. For the Use of Students and Practitioners of Medicine. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Philadelphia: Lea Brothers & Co. 1887.

Functional Nervous Diseases: Their Causes and Their Treatment. Memoir for the Concours of 1881-83. Académie Royale de Médecine de Belgique. With a supplement on the anomalies of refraction and accommodation of the eye and of the ocular muscles. By George T. Stevens, M.D., Ph.D. New York: D. Appleton & Co. 1887.

Mannual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würzburg, and Dr. Friedrich Müller, Assistent der Med. Klinik in Berlin. Third Edition. Revised and corrected by Dr. Friedrich Müller. Translated with permission of the Authors. By William Buckingham Canfield, A.M., M.D. (Boston). With sixty illustrations. New York and London: G. P. Putnam's Sons. 1887.

Original Articles.

A CASE OF PAPILLOMA OF THE MALE BLADDER SUCCESSFULLY REMOVED BY THE SUPRA-PUBIC OPERATION.¹

BY F. S. WATSON, M.D.,

Surgeon to Out-Patients, Boston City Hospital, Surgeon of the Genito-Urinary Department, Boston Dispensary.

THE patient whom I show here to-night, is a man of thirty-one years of age, who was referred to me by Dr. Forster, of Charlestown, early in July last. He had had several attacks of clap, from all of which he had made a complete recovery; with this exception had been entirely well up to seven months previously.

At that time, without provocation, he passed a good deal of blood with the urine, and pain attended the act; two months later he began to notice an increased frequency of micturition, and also observed some fleshy-looking bodies in the urine.

These symptoms, namely, hæmaturia, frequent urination, pain on passing water, and the passage of small fleshy bits, continued, with occasional remissions, up to the time I first saw him. The presence of blood and pain was not dependent upon exertion.

The patient steadily lost flesh and strength, and was going down hill fast. Examination showed the following condition: meatus, 21 (French). A No. 21 steel sound passed smoothly into the bladder. Search for stone was negative, nor did the sound meet with any abnormal obstruction.

Rectal examination gave a prostate of normal size and consistency. The bladder wall was pliant and of normal character, except that just above the base of the right lobe of the prostate, there was a small area of increased resistance. There was no tenderness upon pressure above the pubes, and bi-manual palpation with one finger in the rectum and the other hand above the symphysis pubis, revealed nothing abnormal. The urine was drawn, and the bladder washed out with a large-eyed silver catheter. In the washings were several small fleshy-looking masses.

Examination by Dr. W. W. Gannett showed them to be very characteristic pieces of a papilloma.

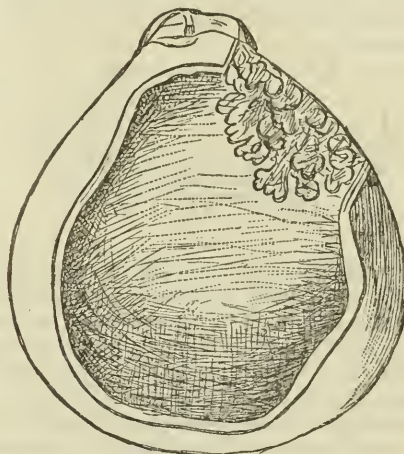
The urine contained much blood and pus, a large number of epithelial cells, some of which had very large nuclei. The examination increased the hæmorrhage, but not seriously. The diagnosis was made of a sessile papilloma, situated on the floor of the bladder, immediately above the right lobe of the prostate, which was subsequently found to be the case.

July 19th. The patient was etherized, Drs. Forster, Cabot, Tilden, Elliot, Cushing and Lovett being present. The supra-pubic operation was performed, after the manner recommended by Peterson, thus:

The bladder was emptied, and washed out with warm four per cent. boracic-acid solution, ten ounces of the same were left in the bladder. The pear-shaped balloon was then inserted into the rectum, and ten ounces of warm water were injected into it, dullness on percussion then became evident for about four finger's breadths above the symphysis pubis, but the bladder did not protrude forward.

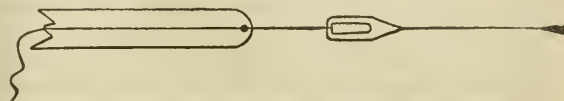
The anterior surface of the viscus was then exposed by an incision through the linea alba. The peritoneal covering was *not* seen, a tenaculum was inserted into the bladder at the upper angle of the

wound to steady it, and it was then freely incised in its long axis. The growth was found exactly where it was expected, a sessile papilloma, for the most part not much raised above the surface, having two longer branches however, and covering a surface of the mucous membrane about one and a half inches by half an inch. (Its situation and character, are approximately shown in the accompanying diagram.) It was removed by the finger-nail and a curette, and bled very freely.



An attempt was made to get a good view of the bladder by means of the electric light. But it was of no use for this purpose, the growth being at the bottom of a deep pocket which was constantly filled with blood.

Before removing all the growth, perineal section was performed for the sake of ultimate drainage, and in order to keep a constant current of hot boric solution passing through the bladder and out over the pubes to wash away clots and keep the wounds clean. This step greatly aided us in the rest of the operation. The perineal opening was made by passing a large steel sound through the vesical neck, *from within*, lodging its point in the membranous urethra, and then cutting down upon this from the perineum. The wound thus made was small, only just large enough to admit a No. 29 (French) large-eyed catheter, which was passed through the wound into the bladder in the manner recently recommended by Dr. Keyes, of New York; namely, by threading the catheter upon a knotted string which passes through the closed end of the instrument, against the inner surface of which the knot catches. This end of the thread is then tied to a probe which is passed through the wound into the bladder, and the catheter is drawn after it. The thread being then cut between the probe and the catheter end, is withdrawn by the end which hangs from the mouth of the instrument.



The wound in the bladder was then sutured, Dr. H. W. Cushing's continuous intestinal stitch being employed, and fine black sewing silk used. The ellipse represents the bladder wound; the suture begins at the right hand angle and ends at the left. The

¹ Reported to the Society for Medical Improvement, Oct. 10, 1887.

dotted lines represent the course of the stitch parallel to the long axis of the wound, running between the outer and inner wall of the bladder just above the mucous membrane, taken a short distance from the border of the cut surface, entering for example at *A*, going beneath the surface to *B*, crossing the wound to *C* again, penetrating the muscular layer at *C* to pass to *D*, across the wound again to *E*, and so on. When drawn tight the edges of the wound are slightly inverted and the suture buried out of sight. This suture is the neatest and most satisfactory one with which I am acquainted.



After its application, the bladder was filled to test its efficacy and found perfectly tight. The outer wound was then united by deep sutures, except at the lower angle into which two rubber drainage-tubes were inserted. Antiseptic dressing was applied and antiseptic precautions pursued throughout.

Hæmorrhage into the bladder continued during the day of the operation. The perineal drainage-catheter did not drain a drop of blood or urine through it. Vesical tenesmus was exceedingly severe during several hours succeeding the recovery from ether, the bladder straining to force out the clots which were too large and dense to issue through the catheter and urethra. Morphia failed to relieve this symptom, and in the evening the perineal drainage-tube was removed. The tenesmus was relieved, but did not cease for two days. As a consequence, a portion of the bladder suture gave way, allowing the escape of urine by the pubis. Tenesmus ceased entirely after this, and the patient was much more comfortable. Six days after the operation blood ceased to appear in the urine, and there has been none since.

In the hope of hastening the closure of the bladder-wound a catheter, *à demeure*, was placed in the bladder through the urethra. No urine passed after this by the wound so long as the catheter, which was changed daily, was in the bladder, and the wound closed rapidly. A severe cystitis, however, came on, due, I think, to the presence of the catheter, and it was removed at the end of ten days. A fistulous tract persisted in the upper wound after this until September 12th, when it closed entirely, at the end of seven weeks and a half from the date of operation. Its healing was, I think, hastened by the use of iodoform pencils. The bladder was irrigated twice daily during the larger part of the patient's convalescence with warm boric four per cent. solution, which though not so strong an antiseptic as some others in use has become, owing to its unirritating qualities, the favorite bladder wash. Under the use of this remedy and the internal administration of acetate of potash and sandalwood oil, the cystitis has entirely disappeared, and the function of the patient's bladder is now perfectly normal; he can hold ten ounces of urine without the least discomfort, and urinates only once in four or five hours, and entirely without pain or annoyance. The perineal wound healed in a few days. The patient is now absolutely well, in every respect; he has gained

fifteen pounds of flesh, and says he never felt better in his life.

This case is one of a class which, but a few years ago our best authorities would have pronounced hopeless, and allowed to die without interference. The fact that instead of such an outlook, we can from time to time, not only save the life of such patients, but as in the case here shown restore them to entire health and comfort, marks one of the most notable advances of modern surgery.

I do not propose to go into the subject of tumors of the bladder here, at all exhaustively, but simply to use this case as a text in outlining some of the main points in connection with this interesting subject. There is reason to believe, in spite of the free discussions and frequent careful reports of such cases as this, that many are still overlooked; whenever one is dealing with a case in which hæmaturia is a prominent symptom, too much care cannot be taken to discriminate carefully as to its source in the genito-urinary tract (by no means an easy task in many instances.)

The main characteristics of hæmorrhage arising from a growth in the bladder, are, that it is independent of exertion, frequently being most marked when the patient is at rest. The blood is usually fresh. If a catheter be passed the first jet flowing through it is apt to be bloody. If co-existent renal disease be absent, shown by the absence of casts, (though bodies closely resembling blood-casts are sometimes seen in the urine when the disease is limited to the bladder), if stone be absent, and if there are found associated with the blood in the urine many polymorphous cells, with large nuclei, the presumption is that there is a new growth in the bladder. If, in addition, by washing the bladder, or by movements of the catheter, bits of the tumor can be found, the diagnosis is of course, certain.

If the patient be elderly, the chances are that the disease is cancerous; if young, a benign papilloma is the probability. In the former class the prognosis is necessarily bad as to life, in the latter fairly good, if properly treated.

The diagnosis once established, we enter upon a much more debatable ground in considering the operative measures for the relief of the disease.

All surgeons agree that the removal of benign growths should be attempted. The division of opinion comes in cases of cancerous growths. Sir Henry Thompson who has had a larger experience in this class of cases than any one else, refuses to operate upon cancerous cases at all. Guyon, and other French surgeons' experience, on the other hand, has been confined chiefly to cancerous growths, upon which they have operated as a measure of relief.

My first case of this kind which resulted fatally from an extension of the disease, about three months after operation, and which I reported to this Society about four years since, was one of primary cancer of the bladder; the patient had had great suffering from attacks of retention, vesical tenesmus, and frequent and painful urination. The operation I then performed was a perineal section, scraping away with a curette all the villous surface of the growth I could, giving a thorough stretching to the vesical orifice and perineal drainage.

The result was a cessation of the hæmorrhage and great comfort to the patient for several weeks preceding his death. And in studying the results of

similar cases in the hands of other practitioners, I find that relief has followed operative treatment in the majority of instances. This, it seems to me decides the question without further debate, and I cannot see any reason for refusing to operate, to drain the bladder at any rate, even in cancerous disease.

Having decided to interfere, what operation shall we choose? The choice lies between the perineal route to the bladder and the supra-pubic. Here again we meet with a division of opinion. Thompson, who originated and practised the digital exploration of the bladder, advocates always making such an exploration through the perineum at any rate as a previous step, to find out what is before the operator, and is then governed according to circumstances. If, for example, he finds a broad-based large tumor, he relinquishes the attempt to extract it by the perineal opening, and proceeds to its removal by the supra-pubic method, which, he thinks, can be equally well done after the preliminary operation.

If he finds a pedunculated or a friable sessile growth of a benign nature he proceeds to remove it by blunt biting forceps or a curette, or his finger-nail, at once through the perineal wound.

Guyon and the French and German surgeons for the most part reject entirely the perineal operation, and practice the supra-pubic method. The chief claim put forth by the advocates of this procedure is that it gives a clear field of view for the operation, and that you can see as well as feel what you are about, and that there is more room to work in.

The latter operation was practically recreated by Peterson, who, in 1881, showed that by filling the bladder with from 400 to 600 cubic centimeters of fluid, and injecting the same quantity into a pear-shaped colpeurynter placed in the rectum, the bladder is raised and carried forward against the abdominal wall, in such a way that it is much easier of access above the pubes, and more especially that its anterior surface, so apposed, is free from peritoneum to the extent of from two to four finger breadths, thus avoiding what had always been considered one of the great dangers of the operation; namely, the wounding of the peritoneum. Under these conditions the operation sprang again into great popularity, and has, it seems to me, been carried somewhat too far, especially in dealing with stone. The best record of mortality it can show in the hands of skilful operators is about 14 per cent.

Two further questions are to be considered in the performance of the supra-pubic operation. Should the bladder be sewed up, after the removal of the growth or should it not, and should perineal section for purposes of drainage of the bladder be done as a supplementary operation or should a catheter be left in the bladder and urethra without perineal section?

The former question is a very interesting one, but involves a longer discussion than can be entered upon here. I will only outline a few of the main points concerning it.

The Frenchmen, for the most part, leave the bladder and outer wound open, and either let the urine drain as it will through the wound until healed, or place long, double drainage-tubes in the bottom of the bladder, and carry them out over the pubes, in the hope of their acting as a syphon, frequently, also, placing a catheter, *à demeure*, in the bladder through the urethra. It may be said here that neither the

double drains nor the catheter, no matter of what size or shape, or how placed, will effectually prevent the urine from running over the edges of the wound and surrounding tissues, and that, so far as avoiding contact of the urine with the wound, the tubes are practically useless.

Among the Germans, we find the strongest advocates of the bladder-suture. Into the various methods of applying, which I will not now enter, but merely mention that the number of cases in which the suture has been applied is about sixty, and that about thirty per cent. of these have been successful; namely, have healed by first intention, and, even in such cases as the suture has given way, the ultimate recovery has not been prejudiced.

The decision as to whether you shall apply the suture or not depends, I think, upon what you have left behind in the bladder. My own case would make me very unwilling to sew up again where I had left a bleeding surface. I made a mistake, it is true, I think, in using no larger a perineal drainage-tube, but even that which was employed helped to excite vesical tenesmus, for this symptom was greatly relieved upon removing it. Moreover, I should think that the end of the tube, resting against the raw surface of the wound made by removing the growth, as it would do in an empty bladder, would cause renewed bleeding, and so keep up the accumulation of clots, which were also responsible, I think, for the vesical tenesmus, which, after the operation, was so great that I am confident that no suture could have resisted the strain, but must have given way, and, until it broke, the pain was excessive. Another consideration is the presence or absence of cystitis. Here, one is placed between two fires. The foul urine, making its escape through the wound, increases the chance of sepsis. On the other hand, a bladder which is the seat of cystitis is less likely to unite when sutured, and, moreover, the thorough drainage which the open wound gives is about the best treatment for the cystitis. Furthermore, the bladder can be kept fairly clean by irrigating it thoroughly, two or three times a day, with hot boracic solution.

The conclusions I should reach in regard to applying the suture would be these:

(1) Where hæmorrhage is going on, or likely to occur to any great degree after the operation, it is better not to sew up the bladder.

(2) Where neither cystitis nor hæmorrhage are present at the conclusion of the operation, always sew up.

(3) Where severe cystitis is present, the decision is doubtful. Further experience is needed to decide this point.

The great argument in favor of applying the suture is that, if successful, it greatly shortens the convalescence, and decreases the risks of that condition.

If the suture is to be applied, silk should be employed and left in the wound, and the stitches should be taken through the submucosa as nearly as possible, but carefully avoid putting them through the mucous membrane itself. Having dealt with some of the important features of the supra-pubic section, let us return to the original question of the choice between this and the perineal operation.

It has always seemed to me that Sir Henry Thompson had the best of the argument in the discussion which took place between him and Professor Guyon

on this subject, in advocating perineal section and the exploration of the bladder as a preliminary step for enlightenment in regard to the exact nature and location of the disease.

In the majority of cases, one cannot determine beforehand the extent and situation of the tumor, and often, not its exact nature. Perineal section is, in itself, not a dangerous operation, and, in case the tumor is of such a character that it cannot be removed, it leaves the patient (certainly when he has been the subject of painful urination) better off, on the chances, than he was before; and, if the tumor be of such a nature that it can be removed by the perineal opening, the patient has not been subjected to the more serious high operation. I think, however, exception should be made in the case of persons with hypertrophied prostates, for the possibility of reaching the bladder and working effectually in it is very doubtful.

The claim that one gets an open view of the field in supra-pubic cystotomy may sometimes be true, but I cannot conceive that this should be the case where bleeding is going on from the tumor, for then the view must, as it was in my case, be entirely obscured. Moreover, if the growth be situated on the floor of the bladder, about the trigonum, the distance to it by the supra-pubic route is quite as great as by the perineal. I do not see how any general law can be laid down in regard to the best operation to be performed. The operator should be free from prejudice in regard to both, and ready to avail himself of either; but I can see no reason against his doing the perineal operation first, removing, by preference, from this point all such growths as are susceptible of being so treated; or, finding this impossible, to relinquish the effort, and proceed at once to the supra-pubic operation.

This brings us, naturally, to the consideration of the last point; namely, shall one do a perineal section as a supplementary operation to the supra-pubic for drainage? In my own case, the catheter failed wholly to drain the bladder, and was a source of pain as well. This, however, might have been different had I used a larger tube. But the question seems to turn more upon whether one intends to sew up the bladder wound or not. If yes, then a large perineal drainage-tube is the most efficacious means of keeping the viscus empty, and taking the strain off the stitches until healing is complete. It has seemed to me that this was a more certain means of accomplishing this end than by the ordinary catheter *à demeure*.

If the wound be left open, no further drainage is necessary, and the perineal opening is not called for.

CONGENITAL TALIPES EQUINO-VARUS.¹

BY CHARLES L. SCUDDER.

A FACT REGARDING THE PATHOLOGY OF CONGENITAL TALIPES EQUINO-VARUS.

SCARPA and Little found no alteration in the form or position of the astragalus in congenital club-foot. Adams found a twist in the neck of the bone, but used no method to measure the twist. Parker and Shattock have found an inclination inward of the neck of the bone which is not constantly present.

I have examined five cases of congenital talipes

equino-varus, and in every case have found a marked inclination inward of the neck of the astragalus.

To determine the obliquity of the neck of the astragalus, I used the method of Parker and Shattock, of London. The astragalus, with its trochlear surface upward, and resting upon a horizontal board, was placed beneath a fine, black-silk thread, fastened to stiff wire uprights by means of rubber elastics, the thread being half-way between the anterior and posterior extremities of the trochlear surface. A second thread was fixed to wire uprights at right angles to this first thread, and the astragalus moved until the second thread was mid-way between the lateral borders of the trochlear surface, and parallel with its inner border. A third thread, fastened at either end to wire uprights, was placed along the outer edge of the neck of the bone. The angle formed by the meeting of the second and third threads was taken, in each case, as the measure of the obliquity of the neck with the body of the bone. The angle was measured by a protractor of brass held firmly and horizontally over, and in close proximity to, the threads.

The bone presents three points of contact with the board, and, as each of these points is on the border of an articular surface, and, therefore, relatively constant, there can be little variation in the relative position of any two trochlear surfaces.

I have described thus at length the method used in determining the angle to be measured, for the slightest variation in position of the threads or bone alters the angle.

The mean angle of obliquity of twenty-three *adult* astralgi is 13.98°.

The maximum angle is 4.00°.

The minimum angle is 5.00° (measured).

Two bones, which evidently were from aged adults, showed the neck to be parallel with the body.

In three cases only was it found to be over 20°.

In two cases it was 19.00°, in one case 18.00°.

In two cases each it was 17°, 16°, 15°, 14°, 10°.

In three cases it was 13°. In one case each, it was 6° and 5°.

The mean angle of obliquity of eleven *fœtal* astralgi measures 33.52°.

The maximum angle measures 45.50°.

The minimum angle measures 17.50°.

The mean angle of obliquity of the necks of two *fœtal* varus astragali is 50.50°.

Taking the mean of these observations and those of Parker and Shattock, we find that:

The mean angle of obliquity in forty-three adult astralgi is 12.32°.

The mean angle of obliquity in twenty-two fœtal astralgi is 35.76°.

The mean angle of obliquity in seven varus astralgi is 50.05°.

Comparing the mean angles, it is at once seen that decided differences exist at the fœtal and adult extremes of life.

The angle of the obliquity of the neck of the astragalus with the body of the bone decreases with the advance in age from fœtal to adult life.

In two cases of evidently aged adult bones, the neck of the astragalus is parallel with the body of the bone.

It is interesting that this relationship between advancing age and different positions in parts of the astragalus suggests the variations in the angle which the neck and shaft of the femur undergo.

The obliquity of the neck of the astragalus is not constant for the same age within the main divisions, fœtal and adult; that is, astralgi from two different fœtuses, each seven months old, would not necessarily have necks of the same obliquity. In many of the fœtal specimens there was no varus, and yet a great degree of obliquity of the neck, almost as much, and, in some cases, more than is found in varus feet. The deformity, therefore, is not dependent alone upon the alteration of the neck of the astragalus.

¹The Boylston Prize Paper of the Boylston Medical Society of Harvard University for the year 1887. Concluded from page 399.

Shattock and Parker mention a case in which there was marked deformity of the foot not easily corrected, in which case the angle of the neck with the body of the bone was less than the normal foetal average.

I believe the change in the obliquity of the neck of the astragalus to be a part of the normal development of the bone.

Let ab of Figure 16 represent the body of a right astragalus, and bc the neck of the bone. Let the



FIG. 16.

angle, abc , be the mean foetal angle of obliquity of the neck and body of the bone. If the bone develops normally, then we may suppose that the axis of the neck moves in the direction of

the arrow, assuming positions varying with age.

Let $a'b'$ represent the body, and $b'c'$ the neck of an astragalus of a right foot. Let the angle, $a'b'c'$ be the mean foetal angle of obliquity. If the bone develops to a *varus* deformity, then we may suppose the angle, $a'b'c'$ to persist, or to change, according as the axis of the neck remains fixed, or moves in the direction of the arrow opposite to the direction of the arrow in the first figure.

The relation between the degree of obliquity and the age of the subject has not yet been established any more satisfactorily than the relation between the degree of rotation inward of the thighs and the varosity of the feet.

We know that in early foetal life varus is physiological.

We know that, in very early foetal life the thighs are often rotated outward.

We know that, in foetal life, the varus foot presents a marked obliquity of the neck of the astragalus. In later life, all these conditions are different: the varus disappears, the thighs are usually not so much rotated out, the obliquity of the neck of the astragalus is greatly diminished.

The varus cases cited by Parker and Shattock, in which the angle of obliquity was nearly 31° , against the healthy mean, in their cases, of 38° , and the varus mean, in their cases, of 49.60° , is a barrier to definite conclusions as to constancy in changes in the astragalus.

My conclusions are:

(1) The obliquity of the neck of the astragalus is greatest in cases of varus, less in normal, and least in adult feet.

(2) A change in the obliquity of the neck of the astragalus is a part of the development of that bone, whether it be in a normal or varus foot.

(3) In all probability, this obliquity of the neck of the astragalus offers greater resistance to the reduction of the deformity in cases of congenital varus or equino-varus past the first few years of life than has hitherto been supposed.

RETARDED ROTATION OF THE THIGH INWARD NOT YET PROVED TO BE THE CAUSE OF CONGENITAL TALIPES EQUINO-VARUS.

H. W. Berg, of New York, in a theory advanced a few years since, makes the relative position of the

foot and leg to depend upon the absolute position of the thigh and leg.

He says, in substance, that in early foetal life the extensor surfaces of the upper and lower limbs look dorsally, and eventually, rotation takes place in such a direction as to bring the extensor surface of the lower extremity forward, and that of the upper extremity backward. The cause of this rotation is unknown, but is supposed by some to be due to the phenomena of growth.

The rotation begins about the second month, is to a great extent accomplished by the fourth month, and is completed by the end of the fifth, or beginning of the sixth month.

In a healthy foetus, but little of the outward rotation of the leg or of the varus of the foot remains after the end of the sixth month. The foot is so placed by the outward rotation of the thigh and flexion of the thigh upon the abdomen, and partial flexion of the leg on the thigh, that the intra-uterine pressure causes an equino-varus position to be assumed by the foot. Later, by inward rotation of the thigh, the positions of the thigh, leg and foot are so altered that the soles of the feet lie against the uterine walls, and the intra-uterine pressure is exerted directly upon them. "Thus is antagonized," by intra-uterine pressure favorably exerted, "the varus or equino-varus which existed hitherto."

Upon the completeness of the inward rotation depends the rectification of the early varus of the foot.

During embryonic life a varus deformity is present as long as the leg has not completed its inward rotation. Should this rotation never take place or be incomplete, the child will be born club-footed.

The physiological and pathological varus is seen, according to this theory, to be dependent upon the primary outward rotation of the thigh in early foetal life.

This theory seems to me to be the old mechanical idea modified by the factor, retarded rotation. In the mechanical theory there is an *accidental* position of the foetal parts. According to this theory, the position of the foetal extremities is *determined* by the amount of inward rotation of the thighs.

Berg calls especial attention to the fact that he considers that no extraordinary amount of intra-uterine pressure is necessary to produce the deformity, its cause being not pressure, but a retarded rotation inward of the thighs. In another place he says most emphatically, that the cause of the deformity is pressure. The reader is left in doubt as to his meaning. From the context, I judge him to believe that some pressure is necessary, else how could a mere movement of rotation occurring at the hip-joint cause a deformity in the foot. It is yet unsettled whether or no any pressure is exerted by the uterus upon the foetal body or any part thereof sufficient to cause deformity.

According to the theory, rotation outward of the thigh is always associated with a degree of varus or equino-varus, and a completed rotation inward is never found with a case of varus or equino-varus. In other words, every case of congenital equino-varus should present at birth an extremity rotated out, this rotation being proportioned to the degree of deformity.

Berg has examined specimens in the New York Hospital and Wood's Museums in New York city, and places on record eight cases which are to illustrate his theory. He finds a progressive change in

the position of the extremities corresponding to different periods of fetal life.

Through the kindness of Dr. C. S. Minot, of the Harvard Medical School, I have been permitted to examine over sixty-nine fetuses of different ages, found in his collection, and I have also examined a few found in the Wyman collection of the Boston Society of Natural History, and I have been unable to discover that close association of non-rotation inward of the thighs with varus or equino-varus that Berg insists upon.

To determine whether or no there is rotation of the thigh outward is not easy. I have determined it by the position of the patella and by the position of a plane perpendicular to the extensor surface of the thigh.

To determine whether or no varus exists is not always easy, for it may be mistaken for an inward rotation of the foot dependent upon rotation out of the thigh and bending of the lower end of the tibia in, with a turning in of the foot dependent upon no structural changes whatever.

With all the precautions possible, I have tabulated the following observations and have arranged the several specimens in groups according to age and length. These observations are upon sixty-nine of the best preserved of one hundred and sixty-one fetuses. The age and length have not a truly constant ratio.

GROUP I.

In twelve fetuses of an average age of six weeks, and an average length of .013 meter, I find that the extensor surface of the thighs looks outward and dorsally, that the lower extremities are at right angles with the long body axis, and in several cases are somewhat conformed to the body curve. There is in all the specimens of the age of about six weeks, a uniformity and a constancy in the position of the lower limbs.

GROUP II.

In thirty fetuses of an average age of from two to three months, and an average length of .053 meter, sixteen cases present no varus whatever, and in fourteen of these sixteen cases a slight outward rotation of the thighs exists. Here, then, are illustrations of rotation outward with absence of varus.

In fourteen of the thirty cases a varus or equino-varus exists of either one or both feet, with a slight rotation outward of the thighs. Here the relation presented by Berg is preserved to a certain degree. It is a noticeable and interesting fact that the fourteen cases presenting varus average younger than the sixteen cases with no varus. This difference in age is a slight one.

GROUP III.

In a group of twenty fetuses of average age of from four to five months, and of average length of .131 meter, there is no varus or equino-varus in seventeen cases, and of these, four show no rotation outward of the thigh and thirteen do show rotation outward of the thigh. Of the remaining three cases, two show a slight varus of one foot, that is, one, of the right foot with no outward rotation of right thigh but with a slight outward rotation of the left thigh; the other, of the right foot with no rotation outward of either thigh. The third case presents slight varus of both feet, with outward rotation of both thighs. We find,

therefore, in fetuses of approximately the same age: (1) Rotation of the thighs outward, with and without varus or equino-varus. (2) Non-rotation of the thighs outward, with and without varus or equino-varus.

GROUP IV.

In a group of seven fetuses of average age of six or seven months, and of an average length of .155 meter, rotation outward is present in four cases to a slight extent. It is absent in three cases. Varus is present in the right foot of one in which there is no rotation outward. Varus is present in the left foot of a second, in which the left thigh is slightly rotated out. In the other five cases the feet are straight, rotation outward is seen in three of the five.

My conclusions from the above observations are as follows:

(1) The position of varus or equino-varus with rotation out of the thigh, is present in all twelve fetuses of average age of six weeks; and it is highly probable that up to six weeks the position of the fetal lower extremity is constant and uniform.

(2) For the same age beyond six weeks the position of the feet is not constant.

(3) For the same age beyond six weeks the degree of rotation of the thighs inward is not constant.

(4) Rotation of the thighs outward is a quite constant phenomenon, occurring in fifty-one of sixty-nine cases in both legs, and of the remaining eighteen cases, eight rotated out one thigh, and not the other, and ten rotated out neither thigh.

(5) The cases showing no rotation were, as a rule, older than the cases presenting outward rotation.

(6) There is probably no necessary connection after the sixth week of fetal life between the age of the fetus, the rotation of the thighs, and the position of the feet.

(7) Most, although not all, of the varus feet, were found among fetuses of from sixty to ninety days old.

(8) In group II, all the feet are varus; in group III, less than half of the feet are varus; in group IV, three of the twenty cases are varus; in group V, a single foot in two cases is varus.

As the age increases the varosity, if I may be allowed the expression, decreases.

In support of the theory of retarded rotation, Berg makes a summary of five points. Only two of these concern us now. He says first, "We have the fact that the leg is rotated outward in all cases born with this deformity and the tibia is bent inward at its lower part." I have carefully examined all the cases of varus or equino-varus occurring in the new-born that have been brought for some time to the surgical clinic of the Children's Hospital, Boston, Mass., and have been unable to find in all cases, outward rotation of the thighs. These observations, when any doubt existed, and at all times, have been corroborated by the attending surgeons in the out-patient department of the hospital.

He says second, "We have the fact that during embryonic life a similar deformity is present as long as the leg has not yet completed its inward rotation." A glance at the remarks upon Groups I, II, III, IV, will conclusively prove that this statement, upon which the theory so greatly depends, is not a fair one.

I might state here that I have observed that cases do occur in which children are born with the thighs rotated outward but with no other deformity.

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THE CLIMATE AND HEALTH OF SAVANNAH.

BY D. F. LINCOLN, M.D.

SAVANNAH is on the west bank of the river of the same name, about ten miles from its mouth. It is situated in a flat, sandy plain, originally covered with a growth of pines. The trees have been cleared for a mile or two from the city in each direction, leaving open fields, dotted here and there with huts, where "truck" is raised for the early New York market. The bluff on which the city stands is some thirty feet above the tide of the river, but slopes directly on both sides to low, mucky grounds, formerly cultivated in rice, and pestilential, but now drained, tilled, and grazed. This improvement has been of great benefit to the health of the place.

The streets are mostly of sand, with paved sidewalks. Pedestrianism is not altogether attractive over such ground, or across the blank waste which immediately surrounds the city; nor is that form of exercise favored by the influences of the climate during the greater part of the year. A good horse is the best means for visiting the points of rural interest which lie among the woods, and on the banks of various tide-ways, at distances of two or more miles from town. Shooting is also very good sport, in the winter, among the low grounds all about. Savannah has a capacity for pleasing the Northern visitor greater than it is generally credited with. The obstacle to its enjoyment lies in the preoccupation of the traveller's mind with Florida. Unfortunately, it must also be added that the appliances for comfort necessary at Savannah, as well as in Boston, are not provided by the existing hotels, which may be briefly said to be rather less expensive than New York houses, but dear at the price. Florida has great advantages in that point, but Florida has been colonized from the North, and Savannah has not. It is all the more interesting to see a genuine, thoroughly Southern city, and Savannah offers one of the best specimens of its class.

A person flitting from the North, and spending a day or two on the way at Savannah, needs no special advice from me. For one contemplating several months' residence, it may not be out of place to be told that, on arrival at the end of October, one must not expect to be struck with the beauty of Nature in her mood of fatigue after the heats of six months, but must reserve a decided opinion until he has seen the real beauties of spring, opening towards the end of

February, and growing steadily more remarkable for six or eight weeks, till the city is embowered in the foliage of trees and the blossoms of flowers. When it has grown most perfectly beautiful, you begin to think of going North, unless you are very fond of heat. Whatever else they may lack, the people of Savannah have a *real* spring, with many an hour of delicious, genial, soothing, sunshiny weather.

The entire season, for Northerners who wish to escape climatic dangers, is comprised between November 1st and June 1st. Summer weather, as understood at the North, is fully developed before May; it was splendid July weather, last April, in the third week.

For the purpose of giving distinctness to statements, I shall assume that the reader is chiefly interested, as regards climate, in a comparison between Savannah and New York or Boston. The mean temperature of the places may be compared in the following table:¹

	Spring.	Summer.	Autumn.	Winter.
Boston	43.7°	69.3°	49.7°	28.3°
New York . . .	46.4	71.2	53.9	30.5
Savannah . . .	65.8	82.1	68.1	55.
Difference, B. and S.	22.1	12.8	18.4	26.7

The temperature of the year, as a whole (based on twelve years' observation, ending 1883), is, for Boston, 48.3°; for New York, 51.2°; and for Savannah, 66.9°, making Savannah 18.6° warmer than Boston on an average for the year.

It is well known that the measured temperature in Northern cities, in the hottest weather, is often nearly as high as in the South. The maxima observed (down to 1883) by the Signal Service were, in Boston: July, 101°; August, 96.8°; New York: July, 99; August, 96°; Savannah: July, 105°; August, 100°. But, in Savannah, the heat is much more equably maintained; it gives one no relief for several months. With us, on the contrary, the three summer months are those which present the greatest mean daily range.

Winter at Savannah causes a suspension of vegetation. The grass turns brown, the fields look bleak, the oaks, maples, cypresses, and other deciduous trees shed their foliage; even the evergreens are below their normal standard of color. Water rarely freezes. One may spend several winters without seeing a particle of snow. The severe cold of January, 1886, when ice formed several inches thick, and people skated on the canal, was very exceptional. The lowest temperature observed by the Signal Service is 16°.

The mere absence of severe cold is not so distinct a gain as it might seem, when considered by itself. But when we consider how large a part of our discomfort arises from sudden changes of weather, combined with wintry temperature, we may see wherein Savannah has the advantage. Both places suffer from changes of temperature in winter. The mean daily range is 17.6° for Boston, 16.8° for Savannah; but this change does not there involve our frightful alternations of snow and slush, ice and thaw. As soon, almost, as rain is over, the streets are dry enough for thick shoes. A transient guest *may* encounter a week or ten days of rainy weather; but, as a rule, the number of bad days is not great, and, when the rain does stop, the sun comes out bright at once. A stove in the hall is

¹ For the year 1882. Report of Chief Signal Officer, 1884.

as necessary there as here; but they have not found that out.

All our Atlantic climates are variable in winter and spring, and that of Savannah forms no exception, though the variations are less, and less frequent, than they are here. Most of the "cold waves" reach that part of the country, and affect the weather in a marked way. During the past winter, which was not an exceptional one, the temperature at Savannah rose and fell, with an approach to a weekly cycle; a day or two of warmish weather, calling for open windows or even doors, would be succeeded by a continued fall of the thermometer for two or three days, after which warmer weather would return. Many of the changes to cold come more suddenly than this. I have often seen it bright, warm, even sultry, all day, until in the middle of the afternoon the sky becomes threatening and squally, the wind changes rapidly to the west and north-west, clouds of dust arise, and the temperature falls 20° or 30° before nine o'clock. The signal officer told me he had observed one fall (on February 4, 1887) of 20° in *five minutes* under similar circumstances. These changes are predicted by the weather signals, and delicate persons ought not to go out while they are threatened.

Clothing should consist of thick autumn outer garments with medium or thick flannels. The inhabitants retain their winter clothing, in spite of its discomforts, until the first of May or even June, when the weather becomes free from these great fluctuations and takes the uniform heat characteristic of their summer. Strangers are warned that by making premature changes they run a risk of pneumonia.

The vicinity of the ocean and the river give a character of dampness to the air in winter. I have repeatedly sniffed the genuine flavor of a Massachusetts Bay northeaster.

There are rainy spells here, as elsewhere, and in winter there may be even a rainy week or ten days. One can often see the dampness in the form of a light fog, before breakfast; a heavy dew is another frequent occurrence. The general impression conveyed to the feeling is one of relaxation, rather than of bracing dryness. A man of great experience in the matter of horses informed me that these animals, when brought down from the upper country, were quite subject to "pneumonia," which may mean, however, bronchitis, until they get acclimated to the place.

It would be rash to extend a general invitation to bronchial patients to visit Savannah. That benefit may be gained, is true; it may be ascribed to the greater freedom of exercise in the open air (on horseback), to the frequency of open windows, and to the relief from the tax on vitality which low temperatures make. Savannah is not, however, a place where one can sit out of doors in the winter and enjoy it. One serious drawback must be mentioned; there are not a few days when the dust is a great annoyance. The streets are not generally paved or watered, and the result is equally discouraging to pedestrians and those in carriages; on horseback one is just enough lifted to be above the clouds.

One impression was strongly received during the six months of my residence. The "sunny south" is rightly so called. The sky is rather more brilliant than our clear skies; the lustre of the stars is more striking, and there is a great deal of sunshine. The sunny side of the house is the one recommended by

experienced persons for residence, whether in winter or summer. In the latter season it is said that the prevalence of south winds makes that exposure the more agreeable in point of temperature.

The water-supply for the city is pumped from the river at a point two miles above, but owing to the rapid tide which sweeps past that point, it might nearly as well be below the city, for a part of the time at least. The water is brown, and after heavy rains deposits a sediment. It is said that seamen consider it a very desirable water, as it does not spoil in the casks. In a few cases it seems to cause diarrhœa, but that is not a characteristic effect. At the present time operations are going on to supply the pumps with artesian water of good quality.

Large use is still made of water from town pumps, which cannot be considered as fit to drink. The introduction of sewers has not put an end to the use of numerous privies, which continue to pollute the soil. Typhoid fever, by last year's report, was not excessively prevalent; 22 deaths, or about 1 in 2000 population, which closely approaches the rates in Massachusetts for 1883 and 1884. It is true that of the number of 95 deaths from "undefined" causation, a number may have occurred from typhoid.

The general rate of mortality at Savannah among whites is not such as to excite fear of special danger to health among visitors. Too much care cannot be given, however, to provision for comfort, if an invalid is in question. A delicate person, transferred from a well-warmed Northern home to the comparatively comfortless arrangements found in a Savannah hotel, or in many boarding-houses, incurs a certain risk to be considered and provided against.

PRINCIPAL DISEASES.

The table which is here given is selected and calculated from the "Tabulated Mortuary Record of the City of Savannah from January 1, 1854 to December 31, 1869," by Dr. W. Duncan; and from Table X, of the Massachusetts Forty-fourth Registration Report, giving data for forty-four years, eight months, ending December 31, 1885.

NUMBER OF DEATHS IN EVERY 1,000, FROM CERTAIN CAUSES.

	Mass. 44 years.	Savannah 16 years.	
		White.	Colored.
Yellow Fever . . . . .	...	88	3
Malarial Fever . . . . .	.9	123	62
Typhoid Fever	41.5	39	43
Small Pox	5.0	3	1.6
Dysentery	29.1	32	29
Diarrhœa	12.4	37	43
Cholera Infantum	48.1	11	9
Enteritis	11.6	18	17
Plithisis	181.6	79	75
Dropsy	16.4	21	49
Cancer	17.7	5	5
Paralysis and Apoplexy	35.2	12	15
Cephalitis	22.0	35	25
Convulsions	1.2	93	105
Other Nervous and Brain disorders	20.6	14	12
Trismus Nascentium . . . . .	..	18	36
Teething	9.7	24	29
Pneumonia	63.5	52	85
Miasmatic Diseases	255.4	4.9	292
Dietetic Diseases	42.9	28	61
Tuberculous Diseases	215.1	102	97
Nervous Diseases	96.0	154	157
Diseases of Circulation	39.2	11	16
Diseases of Respiration	83.9	73	117
Diseases of Digestion	39.6	49	48

Dr. Duncan's figures include the period of the

Civil War, which has doubtless caused some loss of accuracy; for example, there are 408 cases of death from "cause undefined" for 1865. In estimating rates I have subtracted the 776 "undefined" from the total of 9,445, leaving 8,669 as a basis for percentages; the same was done in the Massachusetts report.

In drawing conclusions from this table, we may, it is hoped, omit yellow fever from our calculations for the future. With this exception, we find that the two leading causes of mortality among whites in Savannah, have been *malarial fevers* (1,071 deaths), and *convulsions* (805 deaths). This result is so widely different from that in Massachusetts, that we may set these two diseases aside, before trying to compare the two districts in other respects. (It is proper here to notice the prevalence of the convulsive affection *trismus nascentium* at Savannah, whereas it is not separately named in the Massachusetts report).

After the above, follow two diseases which represent the two leading causes of death among whites in both sections; *consumption* and *pneumonia*. The comparatively small amount of consumptive disease in Savannah is one of the most prominent facts in the Table. The addition of the following eight, completes a list of the ten most fatal diseases at Savannah; namely, *typhoid fever*, *cephalitis*, *diarrhœa*, *dysentery*, *teething*, *dropsy*, *enteritis*, and *trismus nascentium*. With this list may be compared the following eight in Massachusetts: *cholera infantum*, *typhoid fever*, *heart diseases*, *scarlatina*, *dysentery*, *diphtheria*, *cephalitis*, and *paralysis*.

In reckoning mortality from typhoid, I have added in a few cases of typhus and continued fever, to bring the Savannah data parallel with those of Massachusetts. Similarly, I have added together meningitis, eucephalitis, and congestion, to procure data corresponding to the Massachusetts "cephalitis."

On the whole, the Southern city presents a very high mortality from nervous diseases and miasmatic fevers, and a rather high rate from digestive disorders: the Northern State suffers greatly from tuberculosis, has rather more local respiratory disease, and is distinctively marked by a relative excess of circulatory and diathetic diseases (except dropsy). The Northern type of disease perhaps tends to chronicity and slow degeneration: while the Southern is more marked by acuteness, and febrile action. Phthisis, cancer, paralysis, and apoplexy, exhibit certain common points of the former type. Bright's disease, however, is named as causing a good many (14) deaths in the year 1886, at Savannah.

Typhoid fever has already been mentioned. There exists in Savannah a very common fever, of mild type, rarely causing death, to which the name of "continued fever" is applied. It is apparently a typhoid, without the specific traits of the latter. No autopsies can be cited. Dr. Duncan makes the following statements to me: "From a long experience with this fever, I am satisfied that it is *not* a true typhoid, though it belongs to that class of fevers. In the continued fever there is no diarrhœa or dysentery, nor tympanites, but on the contrary the bowels are generally constipated; there are no rose-colored spots, and the tongue may be, and often is, perfectly clean; there is no subsultus; death, when it occurs, is generally from a relapse and *from exhaustion*, never hæmorrhage of any kind; and there is no delirium until near the end. . . . The continued fever generally

runs its course in about twenty-one days, and does not leave the subject so prostrated as typhoid. . . . In my experience, any error of diet will bring on a return of the fever, and it is very important to impress on the attendant the utmost caution. I have seen quite a number of cases where the only symptom was the regular rise and fall of the fever for three weeks and sometimes even more, and not another bad symptom of any kind. In my judgment it is closely allied to typhoid, and may arise most probably from some defect in sewers, etc. I think it has been traced to that source in several cases this season. It is clearly not a malarial fever, and quinine will not influence it as it will a true malarial fever."

In the report of the City Physician, Dr. McDougall, for 1886, the total number of deaths among whites, is given at 452. All of the twelve causes first enumerated are prominent except dysentery, and of course yellow fever. Heart disease, marasmus, measles, and paralysis, are also prominent. There are thirteen "undefined." The most interesting fact in the Table is the diminished number of deaths from malarial fevers.

Under the heads of congestive (16), remittent (16), and typho-malarial (4), the total mortality from malarial fevers was thirty-six, making eight per cent. of the whole number of deaths. This is a reduction of over one-third from the former average, and doubtless indicates a permanent improvement.

It is important to know whether the climate of Savannah is unfavorable to the development of consumption. It does not possess the advantages of the best typical climates, height and dryness. But the statistics seem to show that the native inhabitants, (including under this term the whites born in Georgia, the Carolinas, and Florida), are by no means largely subject to this disease. This class, in fact, furnishes only 232 deaths out of 692 that occurred in 1854 to 1869. The following table is abridged from Duncan:

DEATHS AMONG WHITES FROM CONSUMPTION, 1854-69, BY NATIONALITIES.	
Birthplace.	
Georgia	178
The Carolinas and Florida	54
Mississippi and Tennessee	2
Distant States (Me., N. H., Vt., Mass., Conn., N. Y., N. J., Penn., Mo., O., Ky., Md., Va.), and Provinces (Can., N. B., N. S.)	81
Ireland	264
England and Scotland	27
Germany	31
Other Countries	24
Unknown	31
Total	692

The large mortality among native Irish cannot be accounted for by unfavorable surroundings, for they are fairly prosperous in Savannah. They can hardly, at present, exceed one-fourth of the white population, while their rates from consumption are about thirty-eight per cent. of the whole number dying of that disease.

MORTALITY AMONG THE COLORED POPULATION.

The blacks and mixed population form a little more than two-fifths ($\frac{2}{5}$) of the inhabitants of Savannah — 19,111 out of 45,786, according to the census of 1885-86. The mortality among them was, in 1886, 49 per mille; among the whites, 17 per mille. A similar high rate is shown in the returns from elsewhere; for example, in 1884, among a combined population in Southern cities of 656,603, the rate of whites was

21.5. for the colored 36.6.² The rates fluctuate a good deal, but this may be corrected by comparing groups of years. For example, during the eight years, 1854-61, the yearly colored mortality in Savannah ranged from 24.8 to 34.3, which is better than that of the whites, which varied from 29 to 97.9. If we take the ten years, 1877-86, for comparison, we find a complete reversal of things, for, during these years, the colored rates ranged from 35.4 to 58.8, and those of the whites from 13.7 to 29.1.

The improved drainage and water-supply of the city have doubtless contributed to the present low rate among the whites. Why have they not benefited the colored people?

Among the facts which appear unfavorable to the blacks, we can point to the excessive number of deaths from lung diseases, the large mortality among children, and the evidence of great neglect or poverty, as characteristic of their lives.

Pneumonia, bronchitis, catarrh, pleurisy, hydrothorax, asthma, and consumption form a group which, in Dr. Duncan's statistics, are seen to have been very fatal to the colored race, even in the times before the war. At the present time, the case is much worse. The following are the data for 1886:

	Deaths, Actual.		Deaths which should have occurred among colored population, based on white rates.
	Whites.	Colored.	
Consumption	49	107	32
Pneumonia	16	74	10
Congestion of the Lungs	13	13	9
Bronchitis	4	22	2
	82	216	53

A comparison of the second with the third column of this table shows that the colored race suffers four times as much as the whites from the principal lung diseases.

During 1886, the colored people suffered much from malarial fevers and diarrhœa. Among the children, teething and trismus were very fatal. The deaths under the age of two years numbered 35 per cent. of all deaths; among the whites, 30 per cent. It should be added that there were 19 still-births among the whites, and 144 among the colored, not included in the number of deaths. This indicates a state of morals which one might expect to find associated with physical misery, as, in fact, it is.

Another significant fact is the number of colored people (244) that died in 1886 without having a physician in attendance, the corresponding number of whites being only 14. Whether this be due to poverty, ignorance, superstition, or carelessness, it certainly suggests a wretched and helpless condition of life. Special liability to lung diseases seems to exist among them, but this does not fully account for their enormous death-rate.

In preparing the statistics for this paper, I have used those of the white race for the purpose of comparison with those of Massachusetts. If I were comparing them with those of a great metropolitan city, the propriety of thus excluding the colored race would be doubtful, for New York possesses a large class of poor, whose manner of living places them on a paral-

lel with the negroes, and who equally deserve to be excluded from statistics representing the self-helping classes of the population. In both cases, there exists what Dr. McDougall (of Savannah) calls "an incubus population," incapable of properly caring for themselves, and constituting a grave responsibility for their abler neighbors.

Something, in conclusion, may now be said in the way of general advice to those contemplating a journey. It is always well to bear in mind, while planning the trip, that there is a great change to be undergone. Leaving New York or Boston in October or early November, we give up a bracing, brilliant climate for a moist, relaxing one, and must expect rather a depression of energy. Going in mid-winter, we can but be thankful for an escape from many trials, and for a sight of even a moderate amount of verdure. Going in February, we may expect a new experience—the joys of existence in spring-time—but, in returning, it may be well to anticipate something of a shock. A passenger leaving Savannah near the end of April, and sailing direct for Boston, may find that he has leaped three months back towards winter—a change which, for delicate persons, must be broken by repeated rests at such intervening stations as Charleston, Norfolk, and Bethlehem. The old rule was "to follow the strawberries North."

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

THE LENGTH OF THE FINGERS AND THE MOVEMENTS OF THE WRIST.

PROFESSOR BRAUNE and Dr. Fischer have written an admirable paper on the mechanics of the human hand, which is shortly to appear in the Proceedings of the Royal Society of Sciences of Saxony. In the meantime, Professor Braune has given an abstract of the paper before the Anatomical Society of Germany,¹ and the part on the length of the fingers has appeared elsewhere.² The results of the measurements of the fingers are not in accord with those hitherto accepted, made, we believe, by measurements from the living or undissected hand. Thus Mantegazza found, in seven hundred and twelve cases, that the ring finger was longer than the index in five hundred and eighty-nine, and shorter in ninety-one.

Braune and Fischer point out some of the causes of fallacies in measurements of the fingers on the living. In the adult, the phalanges of the four fingers are not in line with their metacarpals, but are bent towards the ulnar side. The forefinger can be brought towards the thumb only enough to bring it into line. If we place it thus, and bring the other fingers against it, the apparent relative length of the fingers is strikingly changed. In these studies, the length of the metacarpal bone is measured from the middle of the base. The observations were made on forty ligamentous preparations. To avoid error from abduction or adduction of the fingers, the relative lengths of the index and ring fingers was taken by connecting by a straight line the middle points of the bases of the metacarpals, and measuring the fingers along straight

¹ Anatomischer Anzeiger, 1887, No. 12.

² Archiv. für Anatomie und Entwicklungsgeschichte, 1887.

² Sanitary Engineer, February 12, 1885.

lines drawn perpendicularly to this one. In twenty-six cases, the system of the index (all included) was longer than that of the ring finger; in ten cases the ring finger was longer, and in four they were equal. The order of the metacarpal bones, arranged according to length, is the second, third, fourth, fifth, first. Twice the third surpassed the second by trifling quantities, and three times they were equal. The systems of the phalanges of the several fingers are as follows, in the order of length: third, fourth, second, fifth, first, which shows that the greater length of the index, compared to the ring finger, is due to the metacarpal. The relative length of the proximal and middle phalanges respectively, is, with a few exceptions, the same as that of the entire phalangeal system. There are, moreover, measurements showing the part each bone contributes to the length of the finger, which is called 100.

	Metacarpus.	1st Phalanx.	2d Phalanx.	3d Phalanx
Thumb,	47	31	22	
Index,	44	27	17	12
Middle,	40	29	19	12
Ring,	38	29	20	13
Fifth,	42	27	16	15

This does not quite correspond to Langer's formula for the middle finger, in which the relative lengths of the bones are represented by eight, five, three, two, the metacarpal being equal to the first and second phalanges, and the first phalanx to the other two. Langer, however, measured the distance between the several axes of rotation of the joints.

In studying the movements of the wrist, the entire motion was first measured, and then an intermediate or neutral plane found to serve for a starting point. The motions of every point of bone firmly connected with the joints was found to be in concentric sections of a sphere, the centre of which is in the head of the *os magnum*.

It is well known that flexion and extension of the wrist occur in two joints, the first between the radius and the carpus, and the second between the two rows of carpal bones, but authorities differ as to the share of each joint. Braune and Fischer find that the radio-carpal joint is much more concerned in flexion than in extension, and somewhat more in bending the hand to the ulnar side than to the radial. In the intercarpal joint, extension was about three times as free as flexion and movement towards the radial side; rather greater than towards the ulna. They found, further, that if the three proximal carpal bones are fastened immovably together, so as to form but one, motion, especially extension, is much diminished in the intercarpal joint. Thus the motions of the hand take place around the head of the *os magnum*, which is embraced by two concentric sockets, each made of movable pieces, for not only is there motion between the separate bones of the first row, but the relations of the lower end of the radius, the triangular cartilage, and the end of the ulna change also. This is due to looseness at the elbow, allowing some change of relative position between the bones of the forearm.

THE MECHANICS OF CERTAIN MOVEMENTS OF THE FINGERS.

It is well known that if the middle phalanx of one finger be flexed on the first (it does not matter whether the latter be flexed on the metacarpal or not), the last phalanx is powerless. It may be bent or extended by the other hand, but cannot be moved in

obedience to the will. Mr. Tuffier³ has written a paper on this, which is interesting in several respects, though it does not contain much that is very new. A very important point is brought up incidentally; namely, the insertion of the common extensor of the fingers. In most works, it is described as inserted into the second and third phalanges. No notice is taken of its insertion into the first phalanx, though it is a very important point, and has been correctly described by Duchenne. Tuffier points out that, if the tendon be cut at the middle of the metacarpal bone, reflected and dissected from below, the insertion into the base of the first phalanx is evident. The writer of this report has been in the habit of demonstrating the point as follows: He divides the tendon at the middle of the first phalanx, cuts the lateral expansions, and reminds the class that, if the usual description be correct, the tendon should now be free, or held only by areolar tissue. He then shows that it can be torn loose from the first phalanx only by great violence. Tuffier points out that it is inserted, also, into the distal half of the capsule, so as to pull it out of the way of the joint. The continuation of the tendon is joined by fibres from the lumbricales and interossei, some of which arch over the dorsum of the first phalanx, while others join the lateral prolongations of the tendon which go to the last phalanx. When the second phalanx is flexed on the first, the expansion is drawn forward, the middle tendon to the base of the second phalanx is tense, while the lateral parts of the tendons just mentioned tend to slip off to the sides of the end of the first phalanx, and become relaxed. Tuffier ascribes to the tension of the middle tendon a subordinate share in the production of the flaccidity of the last phalanx, and we must own that we are unable to follow him.

He is undoubtedly right, however, in ascribing the chief share to the relaxation of the tendons that run to the last phalanx. He confirms this by a very neat experiment. The second phalanx being flexed on the first, a pin is passed under the tendons at the end of the former, so as to hinder the relaxation of the lateral parts, and it is then shown that the last joint is no longer loose. The reason why it cannot be actively flexed is much more simple. This depends on the interlacement of fibres in the different divisions of the deep flexor. If all the fingers of one hand be put in the described position, the want of power of extension of the last phalanges persists, but they can be actively flexed. This power is wanting only when one finger is so placed.

THE PALMAR FASCIA.⁴

Dr. Max Grapow has written a very detailed description of the palmar fascia, which is intended to determine with precision several smaller points. We shall allude merely to the deductions as to the uses of the fascia. First, it secures the arching of the skeleton of the hand, and resists its flattening under pressure. Second, it has an hydraulic action, and by its alternate stretching and relaxation drives the venous blood and lymph towards the heart. Third, it renders the grasp of the hand surer by its intimate adhesion to the skin. Otherwise the skin would fall away from the hand, as in the case with even the closest fitting glove.

³ Archives Générales de Médecine, Mai, 1887.

⁴ Archiv. für Anat. und Entwickelungsgeschte, 1887.

THE SHEATHS OF THE TENDONS OF THE HAND AND WRIST.

This important subject has of late received much attention. Dr. Larger,⁶ a few years ago described a new sheath connected with that of the tendons of the radial extensors. This new sheath is above the tendons at the place where they are crossed by the tendons of the extensor ossis metacarpi pollicis and that of the extensor primi internodii; its describer calls it "la gaine antibrachiale."

Debière and Rochet⁶ were induced by this paper to investigate the subject again. Their results by no means agree with those of Larger. Beneath the tendons of the extensors of the metacarpal bone and of the first phalanx of the thumb they found a serous bursa which Larger had mentioned as "accidental and professional," resulting, according to him, from twisting the hand on the arm. Debière and Rochet, however, found it in every one of forty extremities on the left as well as on the right, in women as well as in men, and in children as well as in adults. They accordingly considered it constant. This bursa having been opened, the radial extensors are seen beneath its deep wall, and the *gaine antibrachiale* should be found between them and it. These observers, however, never found it at all, and set it down as an artificial production. They find the synovial sheath of the two radial extensors, usually single but sometimes double. In the former case it always communicates with that of the extensor secundi internodii pollicis. When it is double, the sheath for the longer radial extensor is quite closed, but that of the shorter one communicates with the extensor of the second phalanx of the thumb. It would appear from this that there is a discrepancy between these authors and Gruber of St. Petersburg, who found that the sheath of the latter tendon communicated with that of the radials 149 times in 290 cases.

A very interesting and even more important paper is that by Dr. Alfons von Rosthorn⁷ on the "Synovial Sheaths of the Flexor Tendons in the Palm of the Hand and in the Fingers." If he is right, and we must say that his paper is very convincing, the descriptions in our text-books are wrong in important respects. These, however, are by no means the same. For instance, in the tenth edition of "Gray," we find the following statement: "A synovial sheath invests the tendons as they pass beneath the annular ligaments; a prolongation from which surrounds each tendon as it passes along the phalanges." This, however, may be dismissed at once as behind the times. "Quain's Anatomy," ninth edition, is by no means up to its average in this matter. "The tendons of both the superficial and deep flexors, as well as the median nerve, are surrounded beneath the annular ligament by a large and loose synovial bursa, which extends upwards to the level of the radio-carpal articulation, and downwards to a little beyond the bases of the metacarpal bones, being prolonged further on the little finger than on the others." According to Max Schüller, this bursa is double, the sheath investing the two ulnar fingers being separated by a longitudinal partition from that of the index and middle finger tendons. The latter division communicates opposite the border of the annular ligament, by a small aper-

ture, with the synovial sheath of the flexor longus pollicis tendon."

Tillaux's description is the one generally accepted. There are two sacs, one for the tendon of the flexor of the thumb which extends from the wrist to its insertion, the other encloses the flexors of all the other fingers extending to the end of the little finger, but stopping short of the other fingers, each of which has a separate sheath.

Von Rosthorn describes two chief sacs which are separated at the upper end by the median nerve. The radial one corresponds to Tillaux's description, but the ulnar one differs from it in essential points. It encloses only the tendons of the fourth and fifth fingers in the palm of the hand, and is usually continuous with the sheath of the tendons in the little finger, rarely with that of the ring finger. The second, third and usually the fourth fingers have separate sheaths opposite the phalanges, and the tendons of the index and middle finger have no synovial sheath in the palm. Another important fact which he has shown, is that in the young child, each of the five fingers has a separate synovial sheath of its own, and that the almost constant junction of that of the thumb with the radial sac and the usual junction of that of the little finger with the ulnar one are the results of secondary changes, not the primitive condition. Occasionally a third carpal sac is found between the other two. The more common arrangement of this additional sac is for it to be wedge-shaped with the base above and the point separating the other two for a short distance. It contains in this case no tendon. More rarely it completely separates the other two sacs and contains the tendon of the deep flexor of the index. The superficial tendons of the index and middle fingers may as an exception have independent sheaths of their own in the palm of the hand communicating neither with one another, nor with the carpal sacs, nor the phalangeal sheaths. That of the index is the more common, and von Rosthorn found it particularly well developed in the hands of robust workmen. The superficial tendons of the fourth and fifth fingers have frequently imperfect synovial sheaths in the palm of the hand inside the carpal synovial sac and communicating with it.

This writer gives much attention to the curious question of how these tendons, when inclosed in synovial sheaths, receive their vascular and nervous supplies. He finds an arrangement of synovial folds perfectly analogous to that of the mesentery. Some tendons, like that of the thumb, have a true fold, others project partly into the synovial cavity after the fashion of the descending colon. Sometimes, however, the long fold is interrupted and then the comparison no longer holds. The vessels, of course, reach the tendon on the reverse side of the synovial membrane. There are many points of detail for which we must refer the reader to the original.

A word on the methods employed may not be out of place. We can bear witness to the difficulty of making trustworthy injections of synovial sheaths; that is, such as shall exclude all suspicion of extravasations. Debière and Rochet often inflated the sheaths with a subcutaneous syringe which makes so small a hole that the air does not escape when the tube is withdrawn. This is a useful method for study, but one which will not give permanent results. They also used injections of mercury which seems to us one of the worst possible masses for the purpose.

⁶Chirurgie, 1882.

⁷Sanitary Physiology. Série III. Tome 9, 1887.

⁸Deutsche Chirurgie. Band, xxxiv, 1887.

There are others that run as finely, are easier to manage and more durable when made. Von Rosthorn strongly recommends Teichmann's mass, which we believe is essentially sealing-wax dissolved in ether or other evaporating fluid. Some of his illustrations represent really beautiful injections. When the sheath is injected from the end of the finger there is often much difficulty in persuading the mass to run through the narrow passage, and it is useful to move the finger and rub it gently towards the palm. In the fingers whose sheaths do not join the carpal sacs, we gather that it is well to make a counter-opening for the escape of the synovia. Another method that gives less striking but valuable results is to distend the sheaths with tallow which is to be removed when they are hardened. Windows can then be cut where it is desired.

THE RELATION OF THE THYROID TO THE CEREBRAL CIRCULATION.

Professor Waldeyer⁸ made some remarks on this point before the Berlin Medical Society, which though not wholly new, deserve mention. He gives Staël credit for having pointed out relations between the superior thyroid artery and the internal carotid. It is well known that the latter enters the skull through a canal that cannot be distended, however violent the heart's action may be, and also that the artery is very tortuous, thereby protecting the brain. The effect of both these arrangements is to make it probable that there is occasionally a certain "backing up" of the blood in the internal carotid, and this artery very frequently has a dilatation just at its origin, which, under such circumstances, would come into play. Staël has shown that when the superior thyroid (the first branch of the external carotid) is small, this bulb is large, and when it is large the bulb is wanting. It is therefore probable that the thyroid acts as a reservoir to receive an excess of blood passing through the carotids and subclavians. Waldeyer points out that precisely the same relations exist between the vertebral and the inferior thyroid arteries. This strikes us as rather a strong statement, but an analogy is evident. Comparative anatomy seems to support the theory of a relation between the circulation of the brain and that of the thyroid. Only in the apes do the vertebrals nearly equal the carotids. In lower mammals the vertebrals become less important and the carotids alone supply the brain. In the ox and the horse the occipital artery takes a part in the cerebral circulation. Now in the majority of mammals both the thyroid arteries come from the carotid; that is, from the artery supplying the brain. Waldeyer believes that he has found an arrangement in the thyroid, fitting it to receive sudden extra supplies of blood. The capillaries have numerous diverticula which allow them in case of need to expand into sponge-like structures.

THE PHARYNGEAL OPENING OF THE EUSTACHIAN TUBE.⁹

Casimir von Kostanecki has written an elaborate and very valuable paper on the eustachian tube and its relations, especially at the pharynx. Much of it is necessarily so technical that it seems unadvisable to attempt an abstract of it. One point to which we

would call especial attention is the great individual variation of the arrangement of parts in the pharynx. The cartilage at the back of the opening presents many shapes and degrees of development, and on this, together with the thickness of the mucous membrane and the amount of adenoid tissue, depends the prominence of the fold between the orifice of the tube and the fossa of Rosenmüller. There are many admirable illustrations that show the various forms with a clearness that a description cannot have, and which will repay careful study. The author gives several measurements of the distance of the orifice of the tube from other points. First, the distance from the anterior nasal spine varies from 5.3 to 7.5 centimetres. Second, the distance from the level of the hard palate changes greatly during life: In the fœtus the opening is below the hard palate, at birth it is at about the same level, and in the adult on the average about one centimetre above it. Third, the average distance from the roof of the pharynx is about eleven or twelve millimetres. Naturally, the amount of adenoid tissue in the roof must affect this measurement considerably. Fourth, the distance from the posterior wall of the pharynx varies from the same cause. The mean is twelve millimetres. Fifth, the distance from the inferior turbinate bone is extremely variable, ranging in the adult from 4 to 14.5 millimetres. The cause of this is chiefly in the turbinate bone and in the thickness of its covering. Both the size and the shape of the opening are very uncertain.

THE STRUCTURE AND FUNCTION OF THE THYROID-ARYTENOID MUSCLE.

The relation of this muscle to the true vocal cord has not been determined beyond dispute. According to some, the muscle runs along the side of the fibrous tissue of the cord; according to others, the muscular fibres join the fibrous elements. Dr. Alexander Jacobson¹⁰ has shown by series of horizontal and frontal microscopic sections that the latter view is the correct one, and that, accordingly, this muscle may separate the vocal cords, thus sharing with the posterior crico-arytenoid the honor of being an opener of the glottis.

THE MORPHOLOGY OF THE SACRAL PLEXUS IN MAN.

Dr. A. M. Paterson¹¹ has obtained some very interesting results by his dissections of this plexus. The generally received idea of its formation is that "the nerves unite without much interlacement into an upper large, and a lower small, cord or band." As a starting point, Dr. Paterson insists on the absence of connecting nerve-fibres between the two great branches of the great sciatic nerve, the external and internal popliteal nerves, which are entirely distinct. Sometimes, indeed, they arise independently from the plexus being separated by a part of the pyriformis muscle. Now the sacral plexus is formed by the anterior primary divisions of a part of the fourth and fifth lumbar nerves, the first three and a part of the fourth sacral nerves. The two popliteal nerves have a distinct and definite origin. The descending branch of the fourth lumbar nerve, and the following three nerves each all divide into an anterior and a posterior branch. The anterior branches uniting form the internal popliteal, and the posterior branches the external popliteal. The former receives an additional branch from the third

⁸ Deutsche Medizinische Zeitung, 1887, No. 22.

⁹ Archiv. für Mikroskop. Anatomie. Bd. xxix.

¹⁰ Archiv. für Mikroskop. Anatomie. Bd. xxix.

¹¹ Journal of Anatomy and Physiology, Vol. xxi, April, 1887.

lumbar. The small sciatic and the pudic nerve are associated at their origin. The two gluteal nerves each arise from posterior branches of the nerves that form the plexus and thus are associated with the external popliteal, while the nerves supplying the hamstrings are derived from the internal popliteal.

The two largest nerves of the lumbar plexus present striking analogies. The obturator and the anterior crural nerves are (as a rule) derived from the second, third, and fourth lumbar nerves, which divide into anterior and posterior parts. The anterior branches unite to form the obturator, and the posterior ones the anterior crural. A glance at the illustration in "Quain's Anatomy" will show this arrangement, though the fact that certain branches are anterior and others posterior is not mentioned in the text. Dr. Paterson goes on to show the areas of distribution of the nerves of the lower extremity. The front of the thigh, knee, leg and foot, together with the glutei and tensor vaginae femoris are supplied by the anterior crural and the external popliteal nerves; that is to say, by those formed by the posterior branches, and these parts belong to the dorsal aspect of the bud, which in very early embryonic life is the precursor of the limb. The parts which come from its ventral surface, to wit, the back and inner side of the thigh, the back of the knee, leg, and the sole of the foot are supplied by the obturator and internal popliteal nerves which arise from the anterior or ventral branches.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

HERBERT L. BURRELL, M.D., SECRETARY, *pro tem.*

THE President, DR. O. F. WADSWORTH, in the Chair.

DR. J. C. WARREN reported a case of

GASTROSTOMY FOR THE RELIEF OF CANCER OF THE OESOPHAGUS.

A man, fifty-six years of age, presented himself at the Hospital, in the autumn of 1886. After attempts at keeping the stricture patent with probings had failed, the operation was performed January 1, 1887. The method of stitching the stomach to the abdominal wall was that known as House's method. The stomach was opened on the ninth day. The fistula, becoming enlarged, was kept closed by a valve-like apparatus, which effected the purpose tolerably well. The patient lived four months after the operation.

DR. M. H. RICHARDSON had seen Dr. Warren's case, and felt that operations of this description were only tentative, and were indicated where starvation is imminent. The indications are analogous to those for which we do colotomy for intestinal obstruction from malignant disease, or tracheotomy for malignant disease of the trachea or larynx. He believed that the double row of stitches took too long for their application, and considered that time was very important in all such operations. Dr. Richardson considered the McCormick's method of the application of stitches all-sufficient. Regarding the immediate opening of the stomach, it had the advantage of at once relieving the urgency of the symptoms, and he did not consider that

it was necessary to withdraw through a needle any of the contents of the stomach in order to verify that viscus.

DR. WARREN then showed a number of valve devices for gastric fistulae. He then described an attempt that he had made to form, in animals, after the establishment of a gastric fistula, a valve composed of a fold of mucous membrane; this was simply a pleat in the mucous membrane that hung down valve-like, over the opening. This valve was in imitation of the one which existed in the celebrated case of Alexis St. Martin, and which added so much to St. Martin's comfort and welfare.

DR. F. S. WATSON then reported

A CASE OF PAPILLOMA OF THE BLADDER IN THE MALE, SUCCESSFULLY REMOVED BY THE SUPRAPUBIC METHOD,¹

and showed the patient.

DR. GANNETT showed, in a microscopic preparation, the bit of tissue, removed from the bladder at the first washing out, on which the diagnosis of papilloma was made.

It consisted of several papillae, formed of delicate stems of connective-tissue supporting bloodvessels and covered by a many-layered epithelium. These papillae were adherent to a common base made up of a vascular connective-tissue covered with epithelium. Finding such bits is absolutely diagnostic of papilloma of the bladder; and the surgeon may operate with the assurance of finding a new growth.

DR. CABOT said that he had examined Dr. Watson's patient some days before operation, and had distinctly felt an increased sense of resistance over the right portion of the fundus of the bladder, and was much surprised subsequently, at the operation, to see how small the tumor was, which had made itself thus manifest to the rectal touch.

In regard to the question of drainage or suture of the wound after operation, there are two important points to remember. First, that urine, even though foul, flowing freely over a wound, does little damage compared to that which comes about when urine perfectly fresh is forced into the tissues. So that although it is true that the supra-pubic drainage exposes the wound to contact with the urine, still this is by no means so dangerous a condition as we have when a bladder suture gives way and releases the urine into the prevesical space more or less tightly closed by suture of the skin.

Much of the danger of this last accident is of course to be avoided by the introduction of drainage-tubes through the skin down to the proximity of the wound in the vesical wall.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, October 17, 1887.

DR. J. LEWIS SMITH, who was President of that Section, read a paper entitled,

A REVIEW OF SOME OF THE MORE IMPORTANT PAPERS PRESENTED TO THE SECTION OF CHILDREN'S DISEASES OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The papers referred to were four in number, and

¹ See page 421 of this number of the Journal.

some of them, for lack of time, had been read only by title at the Congress. The first, on

PERTUSSIS AND ITS TREATMENT BY RESORCIN,

was by Prof. Moncorvo, of Brazil, who, Dr. Smith said, had made a special study of whooping-cough, and was now universally regarded as the highest living authority on that disease. The paper was written in French, and Dr. Smith proceeded to read a translation of its more important parts. In the year 1887, microscopic examination of the sputa of whooping-cough patients was made by a number of competent observers, and, believing in the bacterial origin of the disease, Moncorvo, himself, carried on an extended series of microscopical investigations; examining the sputa both of the catarrhal and the spasmodic stage, and of patients under treatment and not under treatment. Having given a *résumé* of these observations and their results, he stated that he was fully confirmed by them in the opinion that pertussis is due to the presence of specific micrococci. It was found that these were abundant during the spasmodic stage of the disease, and that they disappeared on the application of local disinfectants. Moreover, when the throats of guinea-pigs were swabbed with a solution containing these micrococci, a spasmodic cough was produced in the animals.

Moncorvo, therefore, concluded that pertussis was a disease having its seat in the entrance to the air passages, and the result of micrococci. In seeking for an appropriate remedy for local use he gave the preference to resorcin, among other antiseptics, on account of its solubility and lack of acidity; using it first in a 2 per cent. solution. In 1883 he published a first series of thirty cases treated with it, and in 1884 a second series of forty cases. In the meanwhile he had increased the strength of the solution used from 2 per cent. to 8 per cent. In 1885 he began to apply a 10 per cent. solution of hydrochlorate of cocaine before using the resorcin; and this he found lessened the intensity and frequency of the cough before the resorcin had had time to destroy the specific germs of the disease. This combined use of cocaine and resorcin was, in his opinion, the best treatment for whooping-cough now at our disposal, and if resorted to at the beginning, would sometimes reduce the length of the attack to four or five days. Of the efficacy of the treatment he had also had many assurances from medical men in various parts of the world. Any complications occurring in the course of an attack of pertussis were, of course, to be treated according to the nature of the trouble.

Having exhibited a number of plates showing the micrococci in the sputa which accompanied the paper, Dr. Smith went on to give an abstract of a paper written by Jules Simon, Physician to the Hospital for Sick Children, Paris, on

CEREBRAL IRRITATION OF YOUNG CHILDREN, AND PARTICULARLY OF INFANTS AT THE BREAST.

While many of the cases were doubtless due to alcoholism, insanity or syphilis in the parents, these would not explain them all. Having described the symptoms characterizing the condition, he stated that it might appear in the first month of life and usually terminated towards the age of five years in recovery, or in sclerosis or meningitis. Though, as had been said, some of the cases are due to hereditary influences,

it was a fact that a large proportion of them resulted from the deplorable mismanagement of children at the breast that was unfortunately too common. It was not infrequent for nursing infants to be subjected to too much excitement, to noise, to bright lights, and other similar causes of nervous derangement, as well as to be given drinks such as tea, coffee or spirits, which had a similar effect.

The treatment for this form of cerebral irritation which Simon recommended was both hygienic and medicinal. It was necessary that a special and strict hygiene should be enforced, and all sources of excitement were to be suppressed. The child should be kept in the open air, and it was better, if possible, to remove it to the country, and preferably to the seashore. The remedy found most useful was bromide of potassium, which might be given in doses of from one and one-half to six grains to a child under one year, of nine grains to a child over one year, and of fifteen grains to a child over two years of age. Occasional intervals of three days' cessation of the drug were recommended. Laxatives were also often of service. In this way the predisposition to permanent neuroses could sometimes be checked, as there was always a condition of nervous irritability which preceded definite lesions.

In remarking upon this paper of Jules Simon, Dr. Smith said that it related to a matter of great importance, and one which he thought had not received sufficient attention from practitioners in general. Infants such as were described in the paper were often met with in American households, and the symptoms were apt to be attributed by their mothers and friends to dentition or intestinal worms. The causes of the cerebral irritation, however, were now always looked for elsewhere by the most intelligent physicians, and it was fully recognized by them that the vermifuge and the gum lancet, formerly so readily resorted to, were apt to do harm. There could be no doubt that in addition to hereditary influences the treatment the infant received had much to do with this nervous excitability, and that the habits of modern society interfered to no small extent with a well-regulated management of the nursery. While there were no structural lesions at first in this condition, it was important to remember that it might end in grave disease, such as sclerosis or meningitis; and this was a fact which ought to be known in every household.

In such cases he said he had, like Simon, been accustomed to use both hygienic measures and the bromide of potassium. It was beyond a question that the bromides were capable of relieving cerebral irritation when this was not due to any structural lesion. It was his practice to give two or three grains of the bromide of potassium to an infant of six months. In conclusion he said that he thought that Simon's paper was a very timely one, and would no doubt prove of much service in enabling practitioners to arrest the onset of irremediable cerebral disease.

The last two papers taken up by Dr. Smith were both by St. Germain, of Paris, on surgical subjects. The first related to

PRÆPUTIAL DILATATION.

Since circumcision was sometimes followed by serious accidents, among which profuse hæmorrhage and diphtheria were prominent, it was desirable that dilatation should be substituted for it in all cases, except

those in which the latter procedure was found to be impracticable. An examination of the statistics of the subject showed that this was the case in about one in every three hundred patients. The dilator that he employed was essentially the same as Nélaton's, except that there were two blades, instead of three, as in Nélaton's. Gradual and slow dilatation of the præputial orifice was practised, and afterwards, daily movement of the prepuce, alternately uncovering and covering the glans.

The other paper was on

IGNI-PUNCTURE OF THE TONSILS.

This, he believed, was an operation that was destined to replace tonsillotomy, when its merits were fully recognized by the profession. It was a perfectly safe procedure, and, therefore, free from the objections incident to tonsillotomy, on account of its danger. By the aid of a Smith's gag, a thermo-cautery was introduced into the mouth, and inserted into the tonsil to the depth of one centimeter. The operation was repeated every eight days, and from two to four sittings were required, at the end of which the tonsil would be found to be completely shrivelled up. It had proved very successful in the hands of St. Germain, and although he had now resorted to it in a large number of cases, no bad results had ever been noted.

Dr. Smith said he had applied to Dr. A. D. Rockwell for an expression of his opinion in regard to the procedure, as he knew of no one more competent to judge of its merits; and Dr. Rockwell had written that while St. Germain's reputation was such that a measure so highly recommended by him was worthy of the closest attention, his description of the method was too brief and vague to render a satisfactory discussion of the matter possible. He had used the thermo-cautery only in small external tumors, but, from our general knowledge of the action of this agent, he thought the claims of St. Germain very plausible. The galvano-cautery had the advantage over the knife of giving rise to much less danger of hæmorrhage or pyæmia; but, as its application was painful, and required from six to eight minutes at a time, he thought it very doubtful whether it could be successfully used in the case of young children. Igni-puncture, on the contrary, he believed, could be employed with facility, for the reason that it acted instantaneously, while it gave rise to much less danger of hæmorrhage, and would be followed by far better healing than tonsillotomy.

In regard to circumcision, Dr. Smith said that a number of cases of diphtheria had been reported as following the operation. The essential point about it was the removal of the smegma, and breaking up of any adhesions that may exist, and this, he thought, could be accomplished more successfully with dilatation. For dilating the prepuce, he was in the habit of using the long, slender forceps made for removing foreign bodies from the ear. The retraction of the prepuce could be best accomplished by the fingers, not oiled, and sometimes with the assistance of a simple probe. In the out-door department of Bellevue Hospital, Dr. Holbrook had informed him, this had been the plan of treatment resorted to for the last sixteen years.

DISCUSSION.

Dr. C. A. LEALE said that he thought Dr. Smith

was mistaken in supposing that the great mass of intelligent American practitioners did not recognize or appreciate the importance of the existence of cerebral irritation in infants and young children. It was a subject with which most good physicians were perfectly familiar, although there were no appreciable pathological changes at first. The only suggestion that he would make as regards treatment was that the bromide of sodium should be substituted for bromide of potassium, as he had found that, as a rule, it was much better borne by the stomach than the latter.

Dilatation of the prepuce had long been successfully practised in America, and St. Germain's paper in regard to it was nothing new here. There was one source of irritation which he had not seen alluded to by authors; namely, the existence of minute ulcerations under the prepuce. He was in the habit of touching these with nitrate of silver, after which they usually gave rise to no further trouble.

Dr. J. R. MACGREGOR said, in regard to whooping-cough, that, in addition to the primary cause, he believed there was an intense neurosis, which it was necessary to control in order to deal satisfactorily with the disease. Almost every physician had some favorite remedy; and, personally, he had found that he could get the best results with oxalate of cerium. It was his practice to give five grains of this remedy once a day, early in the morning, in exceptional cases repeating the dose again at night. As to the prevention or removal of cerebral irritation in young children, he thought a great deal could be accomplished by simple education. This condition was, no doubt, often due to mistaken treatment on the part of parents, the children being played with too much, or otherwise subjected to over-excitement and stimulation of the nervous system. He could see no great objection to circumcision, and believed that many of the cases of diphtheria reported as following it were due to carelessness, on the part of the operator, with instruments, etc. He had tried dilatation, but had to confess that he had found it somewhat difficult and unsatisfactory.

Dr. C. S. WOOD said that there was one point to which he desired to call attention in connection with the subject of cerebral irritation, and that was the condition of the mother when nursing her infant. The importance of quiet and tranquility at this time, on account of its influence on the child, was fully recognized by many mothers, as they had themselves observed the injurious effect produced by excitement, strong emotion, or over-fatigue. A useful hint, he thought, was afforded to physicians.

Dr. J. W. S. GOULEY said that, in ordinary cases, the retraction of the prepuce, and washing away the smegma was sufficient; but when the præputial orifice was very narrow, it was not safe to attempt this, on account of the danger of producing paraphimosis, which was always a serious matter with children. In such cases, there was no question in his mind that excision of the prepuce was generally the best treatment. No sutures were required, and the wound readily healed, if left to itself. Dilatation, or, more properly, divulsion, was not an easy operation, and the younger the child, the more difficult it was to perform. It could be most satisfactorily accomplished by means of Trousseau's tracheotomy dilator, but the procedure was always to be condemned when the prepuce was narrow and indurated.

DR. ALFRED L. CARROLL read a paper on
MINERAL-WATER MIRACLES,
after which DR. GOULEY presented a specimen of
DERMIC CYST OF THE SCROTUM,

in which fatty degeneration had been followed by calcareous infiltration, with the development of a small amount of osseous tissue, true bone-walls being found under the microscope.

Recent Literature.

Evacuant Medication (Cathartics and Emetics). By HENRY M. FIELD, M.D., Professor of Therapeutics, Dartmouth Medical College. Philadelphia: P. Blakiston, Son & Co. 1887. 228 pages.

To the two groups of remedies, cathartics and emetics, considered in this work, it is well to have the attention of the practitioner directed, and if he reads this book, he will learn some things of interest not easily found in the text-books on therapeutics.

The author has written a work which includes more than would be found in a single text-book, but a large part of what is most useful would be found in any good one. The chapters on emetics are less valuable than those treating of cathartics. A diagram of the gastro-salivary circulation, page 152, may also be found on page 316 of Dr. Brunton's work, and a diagram of the mechanism of reflex nausea, according to the author, "adapted from one first proposed by Lauder Brunton," is identical with one to be found on page 324 of Dr. Brunton's work, edition 1885.

Leçons sur les Maladies du Système Nerveux, faites à la Salpêtrière. Par J. M. CHARCOT. Tome troisième, (deuxième fascicule). pp. 129-518. Paris: 1887.

The publication of a volume by Charcot may well be regarded as a noteworthy event in the literature of diseases of the nervous system, even at a time when so many works of value as have been published in the past year have rendered the reviewer's task no small one. The present work which completes the third volume of Charcot's lectures on diseases of the nervous system, is, of course, made up of the reports of his lectures that have appeared from time to time in *Le Progrès Médical*, but all who have read them there will welcome them in their more accessible form. These lectures treat of double sciatica, word-blindness, soul-blindness, the amyotrophies, chorea, spiritualism and hysteria, isolation in the treatment of hysteria, hysteria in the male, hysterical monoplegia, hysterical coxalgia, hysterical contracture, and hysterical mutism. As it will be seen, the main part of the work is devoted to the functional neuroses, especially to hysteria and hypnotism. It is needless to speak of the value of these observations; the work of Charcot at la Salpêtrière on hysteria is known by reputation throughout the world, and the great clinical teacher's acumen was never more brilliantly displayed than on this subject. We cannot speak in detail of the observations here collected, but we must cite briefly his conclusions as to the etiology of traumatic hysteria. In his hypnotized patients, he finds that he can, by suggestion, produce symptoms that simulate precisely those presented in traumatic hysterical monoplegia,

coxalgia, contracture, etc. He therefore concludes that the trauma which precedes and is supposed to cause these paralyses or other symptoms, really brings on a state of "nervous shock," which is allied to the hypnotic state. Of course, this state of "shock" is produced most easily in subjects predisposed to nervous troubles. In this state of "shock," or "obnubilation of the ego," as in the hypnotic state, any slight injury will act as a suggestion and produce the idea of motor impotence, which ultimately develops into a complete paralysis, hysterical paralysis, the paralysis dependent on idea, or the Schrecklähmung of the Germans. In his analysis of the cases reported, he demonstrates most convincingly their hysterical character and their relations with the phenomena of the hypnotic state. We have space to call attention to but one more point, and that is the proofs that he gives of the necessity for isolation in the treatment of hysteria—not isolation from other patients necessarily, for his cases recovered in the wards of la Salpêtrière surrounded by all the hysterical patients there, but absolute separation from the patient's family and home surroundings—a *sine qua non* in the treatment of the disease.

Massage as a Mode of Treatment. By WILLIAM MURRELL, M.D., F.R.C.P. Third edition. Philadelphia: P. Blakiston, Son & Co.

The appearance of the third edition of Dr. Murrell's interesting little book at the end of nine months from the first, is proof of the favor with which it has been received. Having undergone the full period of utero-gestation, we predict for it a long life; for its digestion and assimilation of the most recent developments in the use of massage in medicine and surgery, evince a keener appetite and a sturdier growth than we expect to find at such an early age. Like its predecessors it makes a vigorous plea for the proper administration of massage in suitable cases, and it has many choice selections from various sources well connected with the author's own experience. Our readers will find it worth while to see what it says about the use of massage in heart disease, intermittent fever, fractures, chloral poisoning and the morphia-habit.

Reference to the case of "played out" should have been omitted, for massage is not mentioned in connection with it. We await with interest the result of the announcement that many surgeons are now employing massage in joint affections in England.

The plates at the end of the book are worse than useless, and we wish that the author had given the source from which he obtained them, so as to relieve himself of the responsibility of having reproduced them. The style of the American reprint has improved, and there are but few typographical errors.

D. G.

— The Crown Prince of Germany has recently had while at Toblach, a sharp attack of inflammation of the trachea and larynx. This fact, together with the cessation of bulletins in the English papers, after the Prince left that country, and a general undefined apprehension on the subject, has led the public press to express alarm as to his condition. Sir Morell Mackenzie authorizes the statement that up to October 22, the Prince's condition was highly satisfactory, there being nothing in the throat that need cause present alarm or well-grounded apprehension for the future.

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QUARANTINE ARRANGEMENTS AT THE
ATLANTIC SEAPORTS.

WE referred last week to the danger of an importation of cholera inseparable from the arrival at our seaports, and especially at the port of New York, of vessels direct from the infected ports in lower Italy and Sicily, bringing large numbers of Italian immigrants of the lower classes and of filthy habits. We then knew a growing uneasiness existed, and was justified, in regard to what had already occurred at New York in the case of the *Alesia*, the *Britannia* and the *Independente*, and the possibility of the future occurrence of similar incidents could not be denied. This uneasiness has since found expression in the report¹ of a committee of the College of Physicians of Philadelphia rendered October 28th, and in a report of the chairman of the committee on Hygiene of the Medical Society of the county of New York, at a recent meeting of the society.

The Committee of the College of Physicians of Philadelphia was appointed October 5th "to consider the present danger of the importation of cholera into this country, and to secure concerted action among the Medical Societies in urging upon the State and National authorities the adoption of a uniform and efficient system of quarantine for all exposed ports," and consisted of Drs. J. C. Wilson, Shakespeare and Cleeman. This report considers first, the question of what are the requirements of an efficient maritime quarantine against cholera; secondly, to what extent do the existing arrangements at the ports of New York, Philadelphia and Baltimore fulfil these requirements. The committee only had time to visit these three ports, and therefore draw their conclusions from them. Dr. J. C. Peters in the report to the New York Society confined his statements to the quarantine arrangements at the port of New York only. Both reports are substantially agreed as to the facts in regard to arrangements at Hoffman's

Swinburne islands in the lower bay at New York and in the unfavorable conclusions which the

reporters draw from their observations. The truth seems to be simply this: that whilst the buildings themselves are sufficient, they are not fitted with the necessary furniture or appurtenances, the water-supply is improperly located, the water-closet and washing arrangements are insufficient or out of order, and there is no resident physician, there are not suitable nurses. There is a fatal lack of surveillance on these islands.

The quarantine establishments at Philadelphia and Baltimore, the Committee of the College of Physicians points out, fail in the most essential requisites of the necessary number of properly equipped buildings for the isolation and observation of a large number of immigrants, but they have some bedsteads and bedding which are lacking at New York; moreover these stations, though without sick, are provided with resident physicians.

Dr. Peters thinks \$5,000 would be sufficient to put Hoffman's Island — where immigrants are detained under observation — in complete and efficient order. If so, the discredit of the present state of things is the greater, especially at a port like New York, where the sum total of the fees is enormous, although we believe they are not responsible for such expenses. Dr. Peters suggests that the State Legislature order that a fixed sum should be appropriated annually out of the quarantine receipts to keep the buildings and apparatus in full efficiency, and the medical staff complete.

There is, of course, the other side to this question, which cannot be overlooked, which is, that we have to do with a very dirty people, of almost barbarous habits, in dealing with the southern Italian immigrants, and it is easier to provide knives and forks, wash-basins and water-closets, than to make them use them. It would be better for our country if this immigration could be stopped entirely while cholera is prevailing as at present in Southern Italy and Sicily. As things are at present, or were until very recently, the *Alesia's* passengers might be detained under observation all winter, unless the cold ultimately did the work which the quarantine should have done at once.

We are glad to feel assured that the provisions for observation of the apparently well, and for the care and isolation of the sick at the quarantine station of the port of Boston are sufficient, and could be made in a few hours entirely satisfactory for any demand at all likely to be made upon them. Fortunately, for Boston, there are no steamship lines trading with southern Italy, and the only immediate duty liable to fall upon her health officials is the hunting up of the families or individuals, who, having slipped through New York, come here as they may go elsewhere through the country. The thorough disinfection of the effects of such arrivals, especially of their *old soiled clothing or bedding*, is of the first importance, and we understand that proper precautions have already been taken in the few instances where such unwelcome travellers have arrived and have been discovered.

PROFESSOR SARGENT ON THE ATHLETE.

THE November number of *Scribner's Magazine* has a paper by Dr. Sargent, Director of Gymnastics at Harvard University, which deserves attention. He discusses the physical characteristics of a few students (if the word is allowable) at Harvard and Yale, who have distinguished themselves in certain branches of athletics, and compares the types of the rower, the sprint-runner, the pitcher, etc., one with another, besides alluding to the proportions of one or two celebrated professional athletes. The article is illustrated by admirable reproductions of photographs of which we hesitate to say all we think, lest we should appear partisan by our praise. The various measurements are represented by plottings on charts showing the departure of each from the mean. Dr. Sargent has described this method in an earlier paper, to which and to the present one we must refer those who would follow this investigation in its details. We offer only a general view.

The proportions of a certain short-distance runner are very interesting. Tall and spare, with clean-cut but not large muscles, long legs, and a good chest, this young man looks fitted to be a marvel of fleetness. That his looks do not belie him is proved by his record of one hundred yards covered in ten seconds, and better still, two hundred and twenty yards in twenty-two. Dr. Sargent holds that the characteristics of a sprint runner are relatively long legs, short body, full chest and small bones. The advantage of lightness of skeleton for the execution of rapid movements through long curves by the ends of long bones is quite evident. The height of short-distance runners is, we believe, generally above the mean (it is so in every case of which Dr. Sargent publishes the record) but there are exceptions, and in these especially it appears that a relatively long lower leg is of value. Myers is quoted as an instance. This celebrated professional runner is but five feet seven and one-half inches tall, but the length of his lower leg corresponds to that of a man of more than five feet ten, and his thigh to that of a man of five feet nine, while his sitting height is that belonging to a man of but five feet four inches. The characteristics of long-distance runners stand out less sharply, which is perhaps to be accounted for by short races being more fancied at college than long ones, so that there are fewer men who become really good in the latter. To our mind the most important characteristic that Dr. Sargent has observed in this class is the great girth of the lower part of the thorax.

The photograph of a Yale student, distinguished as a pole-vaulter, shows a striking but somewhat one-sided development. The muscles of the chest and shoulder are remarkable, but seem out of proportion to the rest of the figure. The lower part of the chest is small but the legs are finely modelled. In fact, this gentleman holds the inter-collegiate record for broad-jumping. In contrast to the sprint-runners are three

members of the University crews and of the foot-ball teams of their respective colleges. They are marked by heavy frames, great muscular development, long backs and short powerful legs. Dr. Sargent attributes this great and well-distributed strength to foot-ball and to the gymnasium rather than to rowing. Foot-ball in spite of its dangers must, as he points out, be a great strength producer by its demands on all parts of the frame in running, pushing, pulling and resisting. Rowing as practised in these days of sliding seats makes great demands on the back and legs and tells less on the muscles of the chest and arms than of old. Dr. Sargent maintains, however, that it is a great exercise for enlarging the chest. The photographs of two base-ball players show much more symmetrical proportions than any we have as yet alluded to, but, unfortunately for any generalizations therefrom, we find that one is also a foot-ball player.

It is clear that some of the elements of success in certain sports are inborn and not acquired. If a short trunk and long legs are of great advantage to a sprint-runner and a long trunk and short legs to an oarsman, a young man who has the characteristics of either of these classes well marked can hardly hope to attain eminence in the other. Professor Sargent's theory of what should be done in such cases is a very sound one. "Add," he says, "to this inheritance the prolonged training that tends to cultivate these special powers to the extreme and we get sometimes a prodigy, but more often a failure." Now the aim of Universities in regard to physical culture is, we take it, to send out finely developed young men good for "all round" work and not prodigies in particular departments of athletics. Hence the man with naturally strong legs should take such exercise as will develop his weaker arms, and *vice versa*. Dr. Sargent protests against the error into which a careless reader of his papers might easily fall, that the normal man is one whose every proportion shows the mean development. This is as much as to say that the normal man is one of symmetrical mediocrity. What is to be aimed at is to have all parts exceed the mean as nearly in equal proportion as may be. Needless to say that such acquired perfection is to be desired rather than attained. A man of precisely the mean height and the mean girth of chest cannot hope to increase the former in equal proportion to the latter. The principle, however, is an excellent one that the young man should labor to strengthen his weaker points rather than to develop indefinitely his stronger ones. We do not know that it is desirable that young men should aspire to be "record-breakers" in particular sports. It seems to us better that they should be moderately good in all, but we recognize that while human nature is what it is many will aspire to special excellence. It would be a curious problem for some expert in animal mechanics to decide just how a man should be built to use his strength to the greatest advantage in certain contests. Dr. Sargent raises the question but leaves the answer to time and statistics. "It would,"

he writes, "be of interest to know if an inch added to Myers' legs would have made him a greater runner than an inch added to his sitting height; or an inch added to Hanlan's long body would have made him a greater oarsman than an inch added to his relatively short legs."

There is one very important aspect of this subject that we are glad is not overlooked; it is, whether the athlete has the strength of constitution necessary to stand the strain of severe muscular exercise. We notice that, in the cases of two of the three foot-ball players and rowing men, the lung capacity is said to be insufficient to support the fine muscular development. Indeed, other factors have to be reckoned in this inquiry, and some of them do not lend themselves to tabulation. There are men whose organs show no defect, but who cannot bear the strain of prolonged exertion, especially if severe. Some cannot sleep, some cannot eat, some have nervous disturbances, all of which suggests that mental qualities are involved, as well as bodily ones, in the production of the athlete. We have heard the statement made, by one who well knew what he spoke of, that college men who aspire to success in both studies and athletics suffer in their constitutions. To restrain such from exertions that they cannot safely make should be, and, we believe, is, one of the duties of the professor of physical culture.

This topic suggests a number of interesting and vital questions. Space allows us merely to mention some of them. For instance, what exercise is to be recommended to the hard student? He has, perhaps, no knack for games; the weights or the bars are to him as cheerful as a treadmill: he cannot afford a horse, even if he knew how to ride. To him, a walk is about all there is left. It is cruelty to compel him to do work which he loathes, and he is likely to get little encouragement to learn games that he does not know. On the other hand, there are those to whom proficiency in games is an instinct, and the *gaudium certaminis* a stimulant—almost an intoxicating one. To advise these men to take sober walks, that they may avoid over-exertion and broken bones, is an absurdity, but they may accept and profit by advice as to how to best develop their powers. Still, to these the monotony of a gymnasium will, in the long run, be irksome. The tennis-player will admit that his right arm exceeds his left, without caring to correct it. In point of fact, he cannot correct it without taking time from his favorite game, and thereby injuring his proficiency. Is it likely that he will make this sacrifice from an abstract love of the symmetrical? and, after all, is it reasonable to ask that he should?

When we consider the numberless varieties of temperament and disposition, of health and courage, of inherited and acquired tastes, we see that the physical education of young University men is a task as difficult as it is important, a task likely to tax the best judgment of university authorities, as the Committee on Athletics at Cambridge could probably testify.

MEDICAL NOTES.

—The United States Consul-General at Rome, in his dispatch to the Treasury Department, under date of October 10, 1887, states that the vice-consul-general has just succeeded in obtaining from an official source the following facts in regard to the cholera in that city:

"From August 16, 1887, to October 7th, included, there were buried in the cemeteries of this city 204 bodies of persons certified in a special official register to have died of Asiatic cholera.

"As the ordinary portion of deaths in cases of cholera in Italy during the last four years have been a little less than 50 per cent., it may be safely assumed that there have been in Rome, between August 16th and October 7th, more than four hundred cases of cholera. There has been at no time more than ten burials in consequence of deaths by cholera during any one day since August 16th, and during the week ending October 7th, the average number of such burials was less than two per day. On October 6th and 7th, there was one such burial on each day. There were, on October 7th, ten cholera patients in the lazaretto, and thirty persons detained under surveillance in the house of observation. At one time in August or September, there were nearly three hundred persons so detained."

Dr. J. Y. Porter, United States quarantine inspector at Tampa, Fla., reports, under date of October 26, 1887, "a total of 225 cases of yellow fever, and 34 deaths to date. Fourteen new cases yesterday. About 80 sick now."

The Health Officer of the Port of New York, Dr. Wm. M. Smith, reports, under date of October 26, 1887, as follows: "The steamship *Britannia* was detained in first instance because diagnosis of surgeon of cases died at sea was unsatisfactory. On the 16th, a case developed that was very suspicious. Autopsy and biological examination confirmed suspicion of cholera—day after conclusion of investigation, 23d; another the 24th. The infection among the *Alesia's* passengers destroyed, there need be no apprehension concerning the *Britannia*."

—It is pleasant to see ourselves as foreigners see us. In the report of the Ninth International Congress by Dr. E. P. Hurd in the last number of the *Bulletin Général de Thérapeutique*, the venerable Dr. Leidy is transformed by the malicious types into Lerdy, and Drs. Warren and Parvin are merged into one personality—Warren-Parvin.

—We learn from an English contemporary that a well-known ex-executioner, Binns, is at the present time travelling in that country with an exhibition illustrating his method of dispatching the victims of the law. The performance is prefaced by a lecture account of Binns' own life and history, which is delivered by an assistant, and at its conclusion the executioner steps forth, while a curtain ascends revealing a gallows and drop of the regulation pattern, and

dummy figure pinioned and standing ready for the adjustment of the noose. This last operation is next methodically gone through, and the final act of the drama completed by the withdrawal of the bolt and disappearance of the wax figure beneath the drop. The public attendance is large, the profits of the exhibitor are greater than the exercise of his practice on the living subject, and the effect on the public morals is about as bad as can be.

— Dr. Achilles Nordmann, of Basle, has, says the *Lancet*, published a description of twenty-five bowel lesions due to the operation of administering enemata. They include three complete perforations and ulcers, and wounds of various depths and sizes. The causes of these lesions seem to have been the use of defective instruments, ignorance of the direction of the rectum, catching of the transverse fold on the tube, extreme irritation of the mucous membrane of the bowel, and obstructions caused by certain conditions of the uterus, the foetal head, or an enlarged prostate. As a rule, these lesions are to be found on the anterior wall of the rectum, from one to seven centimeters from the anus. They are not always easy to diagnose, as other foreign bodies or caustics may produce similar appearances. Tubercular and hæmorrhoidal ulcers may be mistaken for them; these are, however, generally higher up. A perforating wound gives rise to paraproctitis, but this is not necessarily fatal, though a stricture generally results.

BOSTON AND NEW ENGLAND.

— The annual meeting of the board of corporation and lady visitors of the Free Hospital for Women was held in Boston, October 27th. The whole number of patients admitted during the year was 129; of these, there were discharged cured or relieved, 98; discharged unrelieved, 3; left against advice, 6; entered for diagnosis only, 18; died, 4. The longest time of any one patient in the hospital was 216 days, the shortest stay one day, and the average 41, 12–31 days. In the out-patient department, there were 2,375 patients treated, being nearly double the number last year. During the year, Dr. C. P. Strong has been elected by the trustees to fill the vacancy occasioned by the resignation of Dr. J. W. Elliott, and Dr. Arthur W. Clark has been elected surgeon to out-patients, in place of Dr. F. W. Johnson. The Treasurer's Report showed the expenses for the year to be \$7,562.86, of which about \$1,000 was for legal expenses in defending a suit against the Hospital. The receipts, including a legacy of \$5,000, were \$14,539.

A committee of five was appointed to take into consideration the matter of erecting a new hospital building, and to select plans for the same. The election of officers for the ensuing year resulted as follows: Board of Trustees: George Dexter, President; Alfred Rodman, Treasurer; Nathaniel U. Walker, Secretary; Henry W. Daniel, William H. Baker, M.D., Grant Walker, Edwin H. Sampson, Henry C. Haven, M.D., Joseph W. Woods. Medical Staff:

William H. Baker, M.D., Visiting Surgeon; F. H. Davenport, M.D., Assistant Surgeon; Charles P. Strong, M.D., Assistant Surgeon; Surgeons to Out-patients, Drs. C. P. Strong, J. B. Swift, Arthur W. Clark; Pathologist, W. F. Whitney, M.D.; Consulting Board, Drs. D. H. Storer, A. D. Sinclair, J. P. Reynolds, F. Minot. Financial Committee, Alfred Rodman, Henry L. Higginson, William H. Baker, M.D. The meeting then dissolved.

— At the meeting of the Norfolk District Medical Society, last week, Dr. B. E. Cotting read extracts from an interesting paper prepared by him, containing reminiscences, personal and professional, of the fifty years of medical practice which he has just completed. At the close of the meeting, Dr. Cotting entertained the members most hospitably at luncheon.

— The one hundredth anniversary of the founding of the Berkshire Medical Association for the improvement of the Art of Physick was agreeably and suitably celebrated last Thursday, October 27th, at Pittsfield by a dinner given by the Berkshire District Medical Society, at which Dr. Abner M. Smith, of Pittsfield, presided, Dr. Andrew M. Smith, of Williamstown, read an interesting historical retrospect, and Dr. J. F. A. Adams, of Pittsfield, read a poem. There was some after-dinner speaking in which U. S. Senator Dawes, Dr. Whittlesey, president of the Society, Dr. Thaddeus K. De Wolf the oldest living member, and others took part. The JOURNAL was represented by Dr. George B. Shattuck.

NEW YORK.

— At a meeting of the Medical Society of the County of New York, held October 24th, Dr. John C. Peters, Chairman of the Committee on Hygiene, made a report on quarantine and cholera, which gave an unfavorable account of the condition of affairs in the lower bay. "I found," he said, "great deficiencies on Hoffman's Island, and was told that far greater ones prevailed four weeks ago, when the *Alesia* landed her six hundred steerage passengers there, although all had had four years' continuous warning of cholera in Egypt, France, Italy, or South America. I heard that only \$5,000 was wanted to put Hoffman's Island in complete and efficient order, and that, for the want of this paltry sum, not only this great city, but the whole country, had been, and still was, running great risks from various contagious or pestilential diseases, including cholera. . . . In default of table knives and forks, the emigrants are obliged to use their pocket-knives and fingers. This fact led me to my first clue to the persistence of cholera on Hoffman's Island. In order to be operative in the human body, I believe the poison has to be swallowed in food or drink. Cholera water contamination causes sudden and extended outbreaks of the disease, and the water-supply is inadequate at Quarantine. If dirty, cholera-soiled hands are put into the food, those who partake of it from the same dishes

will be liable to an attack. I learned that twenty-eight out of twenty-nine cases occurred in one room. In the infected room, families and groups of associates and messmates have been particularly unfortunate, because they ate out of the same dish. This seemed to me to be the clue to the whole mystery."

The best remedy for the existing evils, Dr. Peters thought, would be for the Legislature to order that a fixed sum should be appropriated each year out of the quarantine receipts, sufficient to keep the buildings and apparatus in full efficiency, and the medical staff complete.

— Considerable dissatisfaction has been found with Health Officer Smith for having permitted the passengers of the steamship *Independente*, many of whom were from cholera-infected ports in Italy, to land without being subjected to any detention at Quarantine, and for having allowed the *Britannia*, among whose passengers, at least, two cases of cholera, with one death, have since occurred, to come up to, and remain for several days, at Upper Quarantine, in free intercourse with persons from the mainland.

— At a meeting of the Quarantine Commissioners held October 27th, a dispatch was received from Dr. Smith, stating that there had been no sickness on the *Britannia* since October 24th. Some time was spent by the Commissioners in discussing what measures could be taken to prevent immigration from infected districts, and a resolution was passed requesting the President of the Board to communicate with the Secretary of the Treasury, as to whether ships with immigrants on board, from ports where cholera is prevailing, cannot be sent back again, and request that, if power to return such immigrants to the ports of embarkation lies with the Department, it should now be exercised.

— Dr. James Knight, surgeon-in-chief of the Hospital for the Relief of the Ruptured and Crippled, died October 24th. He was born at Tarrytown, Maryland, in 1810, and was graduated from the Washington Medical College, Baltimore, in 1832. He was the founder of the hospital referred to, which was built in 1870. In 1868 he published a work on the "Improvement of the Health of Children and Adults by Natural Means," and in 1874 one on "Orthopædics," a second edition of which appeared ten years later.

— By the will of the late Frederick H. Cossitt, a large number of charitable institutions, among them St. Luke's, the Presbyterian, and the Women's Hospitals, the House of Rest for Consumptives and the Home for Incurables, have received legacies; the amount in most instances being \$5,000.

— Dr. John M. Carnochan, the well-known surgeon, who was Health Officer of the Port for two years, under Governor Hoffman, died of apoplexy, October 29th. Dr. Carnochan was a native of Savannah, Ga., and was born July 4, 1817.

Correspondence.

GLEDITSCHINE-STENOCARPINE.

BOSTON, October 29, 1887.

MR. EDITOR,—In view of the commendation by Dr. Mattison of the so-called "newly-discovered alkaloid, gleditschine-stenocarpine," given upon page 419 of this week's issue of your JOURNAL, a paper on "What is Stenocarpine (Gleditschine)," by Prof. F. G. Novy, in Ann Arbor, contained in the November, 1887, number of the *Pharmaceuticale Rundschau*, may be of interest. The article concludes as follows: "The so-called gleditschine or stenocarpine consists, therefore, essentially of 6 per cent. of cocaine hydrochloride; 0.50 per cent. of atropine sulphate, and about 0.33 per cent. of salicylic acid. The latter is used as a preservative." The article ends with the final word "*Humbugs*."

Yours respectfully,
BENNETT F. DAVENPORT, M.D.

THE MANY-TAILED BANDAGE IN FRACTURES ABOUT THE SHOULDER.

ROXBURY, October 26, 1887.

MR. EDITOR,—My attention has just been called to some remarks on the above head in the JOURNAL, of September 29, 1887, page 299, in an article by Dr. H. L. Burrell, Surgeon to Out-patients at the Boston City Hospital, comprising a record of "Four Months' Experience in Minor Surgery" at that institution. After mentioning several other appliances for the purpose of fixing the shoulder, namely, Velpeau's, Sayre's, Kelly's and Whitney's, (all by the names of their inventors), he goes on to say that the "many-tail" bandage" (which is named first, and seems to have been oftener used than the others), "is open to the objection that it frequently cramps the arm and hand, so that the patient has not infrequently complained more of the bandage for the first forty-eight hours than of the injury for which the bandage is applied. This, of course, is true of all retention bandages in which the arm is flexed upon the chest, but has been especially marked in the 'many-tail' bandage."

Now I believe I had the honor of first suggesting the use of a many-tailed bandage for the purposes above described at a meeting of the Norfolk District Medical Society, held November 25, 1885. I there showed the form of bandage which I had devised, and also a model with the apparatus applied. I remember that one, at least, of the City Hospital surgeons was present at this meeting. The same appliance was afterwards exhibited before the Surgical Section of the Suffolk District Medical Society on June 6, 1886. At this meeting, two, at least, of the City Hospital surgical staff were present, both of whom, I recollect, did me the courtesy to commend personally my little contrivance.

Finally, a description of the same was published in the BOSTON MEDICAL AND SURGICAL JOURNAL, January 6, 1887, pp. 10 and 11, in an official report of the Surgical Section of the Suffolk District Medical Society, under the heading "An Apparatus for the Treatment of Fractured Clavicle." The only error in that report is in the date of the meeting at which the apparatus was shown, being January 6, 1886, instead of May 5, 1886, as stated in the report.

The apparatus (*vide loc. cit.*), consists of a broad belt of sticking plaster to go round the chest, and a many-tailed bandage of stout cloth sewed across the back of the plaster by two parallel seams, three inches apart. The plaster belt is then adjusted round the chest so that the space between the seams will fall exactly in the mid-axillary line, the axilla padded if necessary, and the cloth "tails" brought round the arm and pinned. This bandage does not, and cannot produce pain, unless drawn too tight.

What kind of a "many-tail" bandage Dr. Burrell made use of in his experiments is not stated, but I have reason to know that an exceedingly ill-conceived imitation of my bandage was introduced into the City Hospital very shortly after the exhibition of my apparatus before the two learned

societies above named. On July 19, 1886, (six months after the showing of said apparatus, and six months before the published description of it in the JOURNAL), I was told by a personal friend, then a student of the Harvard Medical School, that he had seen a bandage similar to mine used at the City Hospital the previous spring, and heard it described to the students as a new device (though without mention of my name), and that the hospital surgeons (or their assistants) had made the "tails" which go round the arm of *sticking-plaster* instead of *cloth*, as used and recommended by me.

Now, it is perfectly self-evident that these plaster strips must exert most painful traction on the skin, obstruct the free circulation of the limb, and increase the danger of compression, swelling and gangrene; whereas cloth yields a little, and can be loosened or tightened according to the patient's feelings. Then, if the space between the two seams on the inside of the arm, especially intended to pre-

vent pressure on the brachial vessels and nerves, happened to be left out also, and the ends drawn smoothly and tightly as possible, after the manner of the artistic hospital dresser, it is easy to see how the hospital bandage *might* have produced all the ill consequences which Dr. Burrell charges against it. I am sure I have never experienced any such results, nor do I understand how any surgeon, possessed of that reasonable amount of skill and science which the public has a right to expect, could be capable of applying a bandage which, during the first forty-eight hours, produced more pain to the patient than the injury for which it was applied. (1)

The question remains to be answered, as it seems to me: *First.* Whether the condemned bandage was properly made?

Second. Whether it was properly put on?

Yours respectfully,

EDWARD T. WILLIAMS, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 22, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	616	237	19.52	14.24	5.12	1.44	7.68
Philadelphia	993,801	328	109	18.30	14.10	2.10	4.80	9.00
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	155	63	16.90	9.75	5.85	1.20	5.85
Boston	400,000	200	58	15.00	16.00	4.50	3.00	4.00
New Orleans	242,750	137	35	18.98	10.95	6.57	.73	11.68
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	77	23	24.51	10.32	6.45	9.03	2.58
Pittsburgh	210,000	72	27	36.14	12.51	2.78	11.12	19.46
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	59	32	18.59	3.38	1.69	1.69	10.14
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	29	9	20.70	20.70	13.80	3.45	—
Charleston	60,145	38	12	18.41	10.52	5.26	5.26	8.89
Portland	40,000	12	4	20.00	16.66	—	—	25.00
Worcester	68,383	17	4	11.76	16.64	—	—	11.76
Lowell	64,051	23	6	34.80	8.70	8.70	8.70	13.05
Cambridge	59,660	20	7	15.00	10.40	—	5.00	10.00
Fall River	56,863	21	10	33.33	9.52	14.28	—	9.52
Lynn	45,861	7	—	28.56	14.28	—	—	28.56
Lawrence	38,825	7	2	14.28	28.56	—	14.28	—
Springfield	37,577	8	2	25.00	—	12.50	—	12.50
New Bedford	33,333	20	9	35.00	10.00	—	—	35.00
Somerville	29,992	10	3	20.00	10.00	—	10.00	10.00
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	7	—	14.28	14.28	—	14.28	—
Chelsea	25,709	13	4	30.76	—	—	—	—
Taunton	23,674	8	—	12.50	37.50	—	12.50	—
Haverhill	21,795	7	2	—	28.56	—	—	—
Gloucester	21,713	4	2	—	—	—	—	—
Brockton	20,783	7	2	14.28	—	—	—	14.28
Newton	19,759	6	1	16.66	16.66	—	16.66	—
Malden	16,407	6	3	—	33.33	—	—	—
Fitchburg	15,375	3	1	—	33.33	—	—	—
Waltham	14,609	7	—	—	28.56	—	—	—
Newburyport	13,716	8	—	—	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,828: under five years of age 667; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 389, consumption 258, lung diseases 179, diphtheria and croup 100, diarrhœal diseases 85, typhoid fever 61, malarial fever 24, scarlet fever 24, cerebro-spinal meningitis 10, whooping-cough 10, measles seven, puerperal fever four, erysipelas three, small-pox (New York) one. From malarial fever. New York 11, New Orleans five, Baltimore and District of Columbia three each, Philadelphia and Nashville one each. From scarlet fever, New York 10, Philadelphia and Boston four each, Chelsea three, Baltimore, Pittsburgh and Lowell one each. From cerebro-spinal meningitis, New York, Fall River, and Springfield two each, Boston, Baltimore, Milwaukee and Chelsea one each. From whooping-cough, New York and Philadelphia three each, Baltimore, New Orleans, Pittsburgh, and Milwaukee one each. From measles, New York four, Boston, Baltimore and Milwaukee one each. From puerperal fever, District of Columbia

two, Boston and New Orleans one each. From erysipelas, New York two, Baltimore one.

In 24 cities and towns of Massachusetts with an estimated population of 1,109,534, the total death-rate for the week was 19.28 against 18.92 and 20.71 for the previous two week.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 8th, the death-rate was 17.5. Deaths reported 3,099: infants under one year of age 815; acute diseases of the respiratory organs (London) 986, scarlet fever 96, diarrhœa 95, whooping-cough 66, fever 58, diphtheria 38, measles 46, small-pox (Sheffield) 13.

The death-rates ranged from 13.9 in Bradford to 30.1 in Preston; Birmingham 15.5; Blackburn 24.1; Hull 15.6; Leeds 19.1; Leicester 17.5; Liverpool 19.3; London 15.7; Manchester 25.6; Newcastle-on-Tyne 19.9; Nottingham 18.4; Sheffield 19.1.

In Edinburgh 18.4; Glasgow 18.7; Dublin 24.2.

The meteorological record for the week ending October 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Oct. 22, 1887.																			
Sunday, ... 16	30.33	50.0	63.0	35.0	52.6	33.0	79.0	55.0	S.W.	S.W.	S.W.	12	14	10	C.	C.	C.		
Monday, ... 17	30.17	58.0	69.0	45.0	86.0	55.0	94.0	78.0	S.W.	S.W.	S.W.	8	16	8	O.	F.	O.		
Tuesday, ... 18	29.96	61.0	71.0	56.0	89.0	70.0	80.0	80.0	S.W.	N.W.	N.W.	14	8	8	F.	O.	O.	1	.01
Wednes., ... 19	30.09	48.0	57.0	46.0	83.0	83.0	85.0	84.0	N.	E.	N.	10	12	8	O.	C.	C.		
Thursday, 20	30.05	47.0	54.0	38.0	88.0	68.0	87.0	81.0	N.	E.	S.E.	8	12	10	C.	O.	O.		
Friday, ... 21	29.52	48.0	51.0	46.0	100.0	86.0	79.0	88.0	E.	N.W.	W.	24	18	24	R.	O.	O.		
Saturday, ... 22	29.90	42.0	48.0	38.0	71.0	68.0	73.0	71.0	S.W.	E.	W.	18	24	13	C.	O.	O.	12	.96
Mean, the Week.	29.900	50.6	59.0	43.0				76.7										12 ½	.97

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 22, 1887, TO OCTOBER 28, 1887.

GREENLEAF, CHARLES R., major and surgeon. Will proceed from this city to the places hereinafter named, in the order in which they are named, for the purpose of investigating the methods of examining recruits at the depots and rendezvous located thereat, and of instructing recruiting officers in matters pertaining to such examinations: Baltimore, Md., Philadelphia, Pa., Camden, N. J., New York City and David's Island, N. Y., Boston, Mass., Portland, Me., Albany and Buffalo, N. Y., Cleveland, Ohio, Detroit, Mich., Chicago, Ill., Milwaukee, Wis., St. Paul, Minn., Jefferson Barracks, and St. Louis, Mo., Cincinnati, and Columbus, Ohio, and Pittsburgh, Pa. S. O. 248, A. G. O., October 25, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to proceed from Fort Huachuca to Fort Melbourn, and report to the commanding officer for duty as post-surgeon. S. O. 111, Department of Arizona, October 18, 1887.

RICHARD, CHARLES, captain and assistant surgeon. Granted leave of absence for one month to take effect when his services can be spared by his post commander. S. O. 247, A. G. O., October 22, 1887.

BURTON, H. G., captain and assistant surgeon. Ordered from Plattsburgh Barracks, N. Y., to Watervliet Arsenal, N. Y.

MERRILL, J. C., captain and assistant surgeon. Ordered from Watervliet Arsenal to Frankford Arsenal, Pa. S. O. 249, A. G. O., October 26, 1887.

JARVIS, NATHAN S., first lieutenant and assistant surgeon. Ordered for field duty in Department of the Platte. S. O. 246, A. G. O., October 21, 1887.

JARVIS, NATHAN S., first lieutenant and assistant surgeon. Ordered from Department Platte to Department Missouri, for duty in the field. S. O. 249, A. G. O., October 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 29, 1887.

BATES, N. L., medical inspector. Ordered to hold himself in readiness for orders to the "Trenton."

HESLER, F. A., assistant surgeon. Ordered to examination for promotion.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting will be held at the Medical Library, 19 Boylston Place, Monday evening, November 7, 1887. Dr. Vickery will present a paper upon "Appendicitis, with Report of Cases."

CHARLES P. STRONG, M.D., Secretary.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, November 9th, at 7.45 o'clock. Business: the Election of a Chairman for the ensuing year. Papers: Dr. E. O. Otis, "Hints to Physicians sending their Patients to Colorado." Dr. E. L. Caul, "A Case of Chronic Pancreatitis, with Symptoms resembling Malignant Disease." Dr. Douglas Graham, "Local Massage for Local Neurasthenia."

ALBERT N. BLODGETT, M.D., Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, November 10th, at 4 o'clock, P.M. Paper: "A Year's Experience in Hospital Practice," by Dr. H. O. Marcy.

H. J. HARRIMAN, M.D., Secretary.

AMERICAN ASSOCIATION FOR THE CURE OF INEBRIETY. — This Association will hold its semi-annual meeting at the Turkish Bath Hotel, Columbia Heights, Brooklyn, November 9th, at 12 M. The following is a list of the papers and addresses to be read: The President's Address, "On the Responsibility of the Inebriate," will be delivered by Joseph Parrish, M.D., Burlington, N. J. "Report on the Colonial Congress on Inebriety, in London," by Dr. T. D. Crothers, Hartford, Ct. "The Pathology of Inebriety," by Dr. Norman Kerr, London, England. "The Physiology of the Drink Impulse," by Dr. J. T. Searcy, of Tuscaloosa, Ala. "Cocaine Toxicæmia," by Dr. J. B. Mattison, Brooklyn, N. Y. "The Power of Alcoholic Influence," by Dr. T. L. Wright, Bellefontaine, Ohio. "Turkish Baths in Inebriety," by Dr. C. H. Shepard, Brooklyn, N. Y. "Hygiene in the Treatment of Inebriety," by Dr. Albert Day, Boston, Mass. "Report on Asylum for Inebriates in New Zealand and Australia," by Dr. D. McGregor, Gov't Inspector, New Zealand. "Sexual Insanity in Inebriety," by Dr. L. D. Crothers, Hartford, Ct.

OBITUARY.

PROFESSOR VON LANGENBECK.

Bernhard Rudolph Konrad von Langenbeck, one of the most illustrious surgeons of the world, died September 30th, in the seventy-seventh year of his age, at Wiesbaden, where he had resided of late years. He was born in 1810 at Horneburg. He studied at Göttingen, and graduated in 1835 with the dissertation, "De Retinæ Structuræ Penitiore." Soon after he published his essay on the "Origin of Venous Cancer and the Possibility of Transferring Cancer from Man to Animals." He then became Extraordinary Professor in Göttingen, and wrote an essay on "Persistent Spasm of the Fingers and the Application of Division of Muscle and Tendon in its Treatment." Subsequently he busied himself with the questions of "Stammering and the Employment of Myotomy in Defects of Speech arising from Spasm," and the "Immediate Union of Wounds by Exclusion of Air." In 1842 he became Professor of Surgery and Director of the Friedrichs Hospital. In 1848 he was Director-General of the army of the Duchies against Denmark; and in 1847, after Dieffenbach's death, he was appointed Director of the Clinical Institute for Surgery and Ophthalmic Surgery. Amongst other essays of minor importance are the following: "Subcutaneous Osteotomy"; "The Permanent Warm Water Bath in the Treatment of Large Wounds, especially of the Stumps after Amputation"; "On the Extirpation of Interstitial Uterine Fibroids"; "The Osteoplastic Resection of the Upper Jaw"; "Essays on the Surgical Pathology of Veins"; "On Cleft Palate"; "On Resection of the Ankle in Gunshot Wounds"; "On Gunshot Wounds of the Joints"; "On the Terminations of Resection Operations in War"; "On Extirpation of the Pharynx"; "On Gummatus Tumors."

BOOKS AND PAMPHLETS RECEIVED.

Seventh Annual Report of the State Board of Health of New York. Transmitted to the Legislature January 19, 1887. Albany: The Argus Company. 1887.

Clinical Lecture.

SYMPTOMS INDICATING INJURY OF THE ABDOMINAL ORGANS. RECOVERY UNDER MEDICAL TREATMENT.¹

BY JOHN H. PACKARD, M.D., *Surgeon to the Pennsylvania Hospital.*

GENTLEMEN: The first case that I shall show you this morning is a man who was admitted to the hospital twelve days ago. He was injured by the fall of an archway, burying him under a large quantity of bricks and timbers. On examination, it was found that he had fracture of the femur, fracture of several ribs, and very severe contusions about the abdomen. I wish to call your attention particularly to this latter injury. This class of cases often present considerable difficulty.

When this man was admitted, there was a good deal of shock, the temperature being 98°. As I have said, there was marked contusion of the abdominal walls. There was distinct tympany, the abdomen being greatly distended. There was a great deal of pain and distress, and occasionally, a large quantity of wind would be expelled, with relief. There was difficulty in urination, and a catheter had to be employed for several days. During the first few days, the urine contained blood. The bowels were constipated, and it was difficult to secure a movement. The tongue was dry and brown. The pulse was rapid, and the temperature, which had been 98°, went up to 100°, and, on one occasion, to 101°. It was a serious question with me whether or not there had been some damage to the abdominal viscera, and whether it would not be right to make an exploratory laparotomy, and treat the injury so far as might be possible. Several times, I was about calling a consultation to consider the question, but, on each occasion, on going into the ward, the patient was found in such good condition that the matter was postponed, and he finally improved to such an extent that the idea of any operation becoming needful was abandoned.

The treatment has been expectant, consisting in the use of small doses of spirits of turpentine internally, with turpentine stupes and poultices externally. Under this course, the patient has progressed in an entirely satisfactory manner. Another symptom which I omitted to mention was that, while the tympany was present, there was marked distension of the superficial abdominal veins. This distension always indicates some obstruction to the circulation within the abdomen. If the internal circulation is free, the superficial veins are not apparent. In Cruveilhier's "Atlas of Pathological Anatomy," you will find illustrations of some marked instances, where, as a result of abdominal disease, causing pressure on the internal veins, the superficial veins have become greatly distended.

The points of special interest in this case were the gravity of the abdominal symptoms, the question that arose with reference to the propriety of operative interference, and the subsidence of the symptoms under strictly medical treatment.

A METHOD OF PREVENTING STIFFENING OF THE HIP JOINT IN FRACTURE OF THE THIGH.

This little boy, nine years of age, has a fracture of the thigh, which was received four weeks ago. The

limb is in very good line, and there is no shortening whatever. As you see, the child is sitting up in bed. When I was a resident in this hospital, something over thirty years ago, such a thing would not have been allowed. The child would have been kept flat on his back for six weeks, at least. It is to this point that I shall ask your attention in the consideration of this case. This fracture is, I think, now in such a condition that the boy may be allowed to sit up without fear of any disturbance of the union. If he were going to sit up for any length of time, I should have extension applied.

Under this method of treatment, the period of confinement is materially shortened, and, while this may not be a matter of moment in this instance, it is sometimes very important. In some cases of fracture of the neck of the thigh-bone in old persons, the stiffening of the hip-joint is among the most serious of the after-consequences, and it is one of the most difficult to obviate. After recovery from the fracture, the patient finds it necessary to use crutches, and can only go about with the utmost care for some time, on account of the stiffening of the hip-joint. To obviate this, I make the patient begin to sit up about the tenth day, while the extension is allowed to remain. I gradually set him up more and more, keeping the hip-joint limber, and when he is able to get out of bed, there is a considerable degree of motion in the hip, and he is often able to walk without a crutch, or even a cane.

Some time ago, I was called to see a man seventy-two years of age, a workman in a carriage-factory who had fractured the neck of his femur by tripping over some obstruction and falling backwards. He was a man of perfectly sober and temperate habits. I stated, thought, and told him that he would not be able to walk again without the use of a cane or a crutch. Extension was applied, and, at the end of the tenth day, I made him sit up in bed, still keeping up the extension. Fourteen weeks after the fracture, there was no appreciable shortening. Calling at the factory, I learned that the man was at work. For a short time he used a cane, but he soon discarded this, and was able to go up and down stairs without either a crutch or cane, and, while walking on a level, there was no apparent limp. I exhibited this man at the Philadelphia Academy of Surgery, and, from an examination of the man's movements, none of the members were able to state which was the injured limb. Both thighs could be raised with equal facility. When, however, the limbs were examined with care, there was a slight amount of callus, which showed the seat of the original injury.

STAB-WOUND IN THE BACK.

This man was admitted to the hospital ten days ago, with a stab-wound at the lower portion of the posterior aspect of the left chest. The wound was apparently made with a sharp knife. Over and around this region there is now dulness on percussion, and, on auscultation, I am able to hear nothing, although, a little higher, the respiratory sounds are quite distinct. I think that there is no pleuritic effusion, but that the reason that I hear nothing on auscultation is the presence of the large amount of thickening of the tissues external to the pleural cavity. The resident surgeon informs me that friction-sounds were present a few days ago. It is not at all improbable that, as a re-

¹ Delivered at the Pennsylvania Hospital, April 20, 1887.

sult of the inflammation, there has been a localized pleurisy, giving rise to a few adhesions. There is evident thickening of the external tissues. The point of principal interest in connection with this case is that it has been treated in an entirely expectant manner. If we had enlarged the wound under the impression that we must do something, we might have done serious damage. The man could scarcely have done better under any circumstances.

RELAXATION-SUTURE.

The next case is the man from whose buttock I removed the tumor four days ago. On the day following the operation, the temperature went up to 100°, but since then it has been normal. Such a rise of temperature often occurs just after an operation; it does not mean anything, and is not an indication of serious trouble. The relaxation-sutures have been removed, and, as you see, there is a slight mark left where the thread was carried across the wound. You will remember that, in this case, I passed the relaxation-sutures across the deep portion of the wound, and, after securing the thread on each side to pieces of catheter, to prevent cutting of the skin, carried the free ends across the wound, and tied them together. This is not as satisfactory as the plan which I usually employed, but which I omitted on this occasion, on account of want of time. This I do as follows: I have three or four needles threaded with fine silk, the ends of the sutures being formed into loops. Through the loop is passed the relaxation-suture, and carried across the deep portion of the wound, and the fine thread removed, leaving a double ligature across the wound, with a loop on one side, and free ends on the other. The remaining relaxation-sutures are applied in the same way. A piece of catheter is then slipped through the loops on one side, and, on the other side, the free ends are tied over a similar piece of catheter. This, which is simply the old-fashioned quill-suture, has the advantage that there is no cross-tension. Instead of having a tendency to pull across the wound, the tension is downwards, and the external wound is left free. While this groove in the skin does no harm, the application of the suture in the latter way would have been better. The wound is doing very well, and, in a short time, will heal, leaving scarcely any scar.

PROLAPSE OF THE RECTUM. TREATMENT BY THE ACTUAL CAUTERY.

The last case which I shall bring before you is a case of prolapse of the rectum, which is well worth your seeing, as it occurs under somewhat peculiar circumstances. You often find in weakly children, or in old persons enfeebled and broken down by disease, such relaxation of the sphincter that prolapse takes place. In this case, however, the prolapse has been produced in a manner similar to that which obtains in cases of stone in the bladder. It frequently happens in cases of vesical calculus that, in the straining efforts during urination, the bowel comes down, and, in weak children, the bowel often comes down without straining. This man is forty-eight years of age, although he looks older. Until ten years ago, he enjoyed good health, with the exception of an attack of malaria in 1878. Ten years ago, he was treated for stricture of the urethra, which was dilated three times a week for two months. Six years ago, he had a sudden attack

of retention of urine. He then went to a hospital, and was treated with bougies. He left the hospital, and, three months later, went to another institution, where he says he was operated on for hæmorrhoids. A few months later, he again had retention, and bougies were again employed. Two and one-half years ago, he first noticed that the rectum came down. This has been gradually getting worse, until, on admission, every time he passed water there was a great prolapse, and an involuntary discharge of feces. Trying to pass an instrument through the urethra, I found that it was stopped at the prostate. I then used a gum instrument, with a stilette, and passed it into the bladder without difficulty.

Ten days ago I applied the actual cautery, making eschars radiating from the centre, applied carbolized oil, and returned the bowel. This has been attended with good results. There is now much less straining, and much less of the rectum comes down. There is, however, still some displacement. I shall, to-day, give ether to the first insensibility, and shall make a few more applications of the cautery. In this case, there is no enlargement of the prostate gland, and, in fact, the prostate is unusually small for a man of this age. There has probably been abscess of this gland, and loss of its substance. Hence, there is no point of support either for the bladder or for the bowel, and, as a result, the relaxed rectum comes down with great ease.

Original Articles.

A DISSECTING MESENTERIC ANEURISM.¹

BY E. N. WHITTIER, M.D.,
*Assistant Professor, Clinical Medicine, Harvard Medical School;
Visiting Physician, Massachusetts General Hospital.*

It is my privilege to present a case, exceptionally complete, in demonstration of the subject of this paper:

A. B., male, twenty-one years of age, entered the Massachusetts General Hospital early in October, 1886, remained in the Hospital six-and-a-half months, and died there, and the report of the autopsy by Professor Fitz establishes the diagnosis, as given above.

What might well be called the pathological career of this patient began four years before he came under my care, was somewhat marked between the years 1882 and 1886, but became continuous and progressive from the date of his admission to the Hospital until his death.

The family history was good. There was neither specific taint nor alcoholic habit. In 1882, he had two attacks of rheumatic fever of marked severity. From their immediate effects, he enjoyed singular immunity; but, in July, 1886, while on his vacation, and among the mountains, making prolonged and violent over-exertion, there were well-defined indications of circulatory disturbances — vertigo, palpitation, dyspnoea, occasional orthopnoea, cough, with bloody expectoration, and functional disorders of digestion, with loss of weight, strength, and color.

The earlier Hospital examinations proved the existence of great cardiac enlargement, with well-marked cervical pulsations, extreme distinctness of arterial movements in all the superficial arteries, and the "tone" in radials, crurals, and tibials associated with

¹ Read before the Boston Society for Medical Observation, October 3, 1887.

incompetence of the aortic valves; there was, also, to be felt the hammer-pulse, less than is usually accepted as diagnostic, rendered less by the weakness of the heart's action, and strengthening the opinion formed by those observing the patient, that the limit of cardiac compensation had been nearly reached. The hands and feet were cold, the face was dusky, the lips were cyanotic, there was much dyspnoea, and great weakness. The temperature was irregular and somewhat elevated, and, for the first two weeks, resembled that seen in mild typhoid, tuberculosis, the lower grades of septic infection, as well as in pernicious anæmia and pseudo-leukæmia. In the third week, occurred the first of a series of phenomena which made this case noteworthy. The records describe joint-pains, with redness and swelling of the elbows, wrists and hands, knees and ankles, controlled by salicin. At first, no change was observed in the character or quality of the heart-murmurs noticed on entrance, but, with increasing cardiac disturbance and præcordial distress, an endocardial murmur developed. This was heard best over the dilated ventricle, was loud and harsh over the aortic area, and was propagated upwards. Between the middle of October and the 10th of November, there were three separate attacks of joint inflammation, and a constant increase in the evidences of concurrent endocarditis.

November 10th. The record states that, during the night, the patient was seized with severe pain in præcordial region and left hypochondrium, quickly collapsed, and was with great difficulty revived. The next morning, temperature was 96.5° (102° previous evening), the pulse was 130, and respiration 40.

Thirty-six hours later, a similar outbreak of pain was recorded, with like effects.

November 12th. The urine was bloody, albuminous, and contained casts. There was vomiting. The condition of the patient was extreme. Hands and feet were cold, pulse varying from 120 to 140, and there was great pallor.

The heart's apex was found to have been displaced upwards from the sixth to the third interspace, on left side, and dulness merging into flatness extended from the sixth rib, axillary region, down through left hypochondrium and left lumbar region, nearly to crest of ilium, and transversely almost to the umbilicus, while, from the lower margin of rib, on left side to crest of ilium, and quite to median line in umbilical region, a firm, resisting body, regular in outline and surface, and tender on pressure, could be mapped out by palpation.

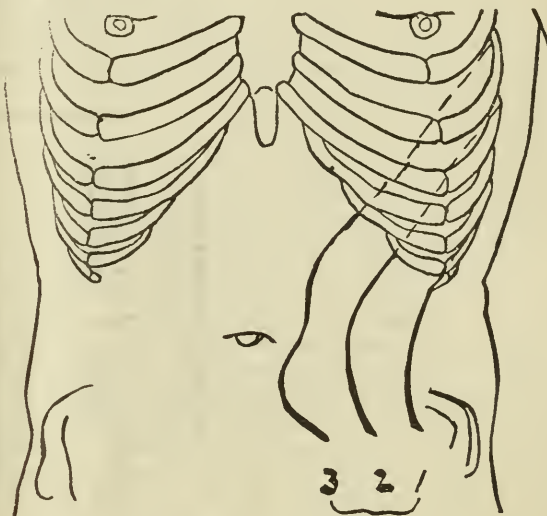
But slight change was noted for several days, when it was recorded that the skin was sallow or yellowish in hue, suggesting absorption of blood-coloring matter; and, on the same day, mention is made of return of severe pain, this time in left side, midway between ribs and crest of ilium. This pain was quickly followed by an increase in the size of the tumor, with diminished respiratory movements of left chest, dulness, on percussion, through whole left front, and deficient respiration-sounds; the position of the heart's apex was as before, on the upper margin of fourth rib, mammary line.

The length of this paper forbids detailed description of each outbreak, for they were numerous, each characterized by similar features, and every interval marked by subsidence of the tumor, its contents slowly ebbing, as if by absorption, or rapidly increas-

ing, as by blood escaping into a cavity limited by retaining walls.

Mention should, however, be made in the report that, from November 10th to February 27th, there were six painful paroxysms, characterized, as already described, by severe constitutional symptoms and the development of an abdominal tumor, or the increase in size of one previously developed, but subsequently diminishing, until, in the latter part of February, the attacks of pain were nearly every day, and the sign and position of the tumor quite constant.

On March 8th, at the time of the morning visit, the patient was found to be articulating with difficulty, tongue protruded to right side, and motion of right arm and leg greatly impaired. Partial recovery from this took place quite quickly. During the rest of March and the early part of April, there was gradual failure of all powers, and the patient died on the 15th of April, after a few hours of semi-coma, in which there were strongly-marked evidences of great circulatory embarrassment.

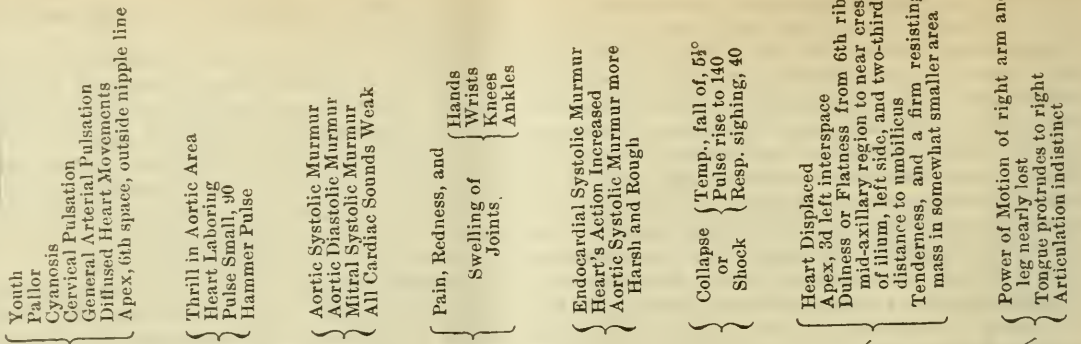


I avail myself of the opportunity presented by this case, to ask your consideration of a plan or scheme of study with reference to greater accuracy in diagnosis.

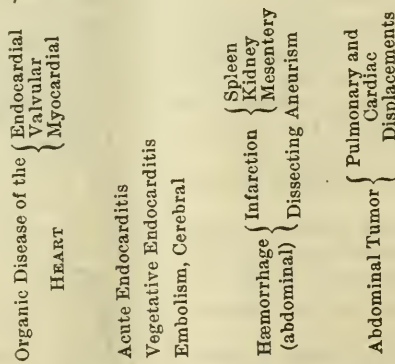
The plan which I have pleasure in placing before you readily explains itself, in the tabular view of symptoms arranged as rational and physical signs, and grouped in the order of diagnostic values. It is analogous to the methods of analysis adopted by the most accomplished clinicians, and although susceptible of modification and improvement (for the art of discriminating disease is progressive), I believe it can be confidently appealed to as a safe and reliable guide to reach desired conclusions.

"The study of any complicated subject tends of necessity to its arrangement into branches; closely connected as these are and forming always part of a whole, they are not only capable of distinct treatment, but frequently become more intelligible as they are so treated." I know of nothing to which this axiom is more applicable than to the analysis of the complex phenomena of disease, and it is with full confidence that it will receive your commendation that I lay before you the accompanying diagram as a study of the subjective and objective signs or symptoms found in the case reported this evening.

PHYSICAL SIGNS.

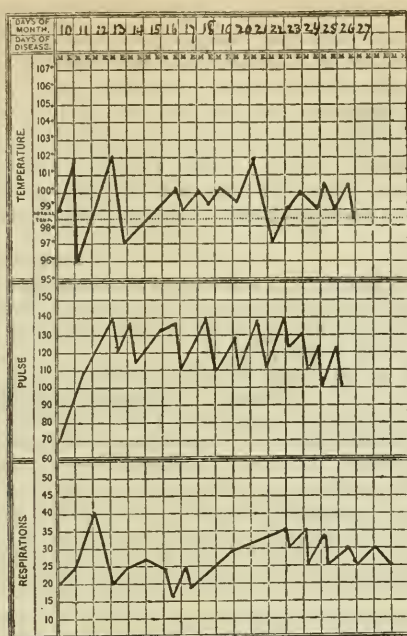


CLINICAL DIAGNOSIS.



Tabular View or Scheme.

Subjective and Objective Symptoms.



Dr. Fitz kindly consents to the use of the report of the autopsy in connection with the clinical history of the case.

AUTOPSY SEVENTEEN HOURS AFTER DEATH, BY PROFESSOR R. H. FITZ, M.D.

Body much emaciated; skin and lips unusually pale, right elbow and hand swollen, feet strongly flexed, slight rigor mortis.

Head. Not opened.

Pericardium. Contains half-pint clear yellowish fluid.

Heart. Nearly twice the usual size; apex broad and round, formed by the left ventricle. Sub-pericardial tissue gelatinous. Aortic valves did not hold water, pulmonary valve sufficient, the mitral admitted two fingers, the tricuspid four, the right side of the heart widely distended with a differentiated clot, the left ventricle also contained considerable dark clotted blood. The aortic crescents, thickened, moderately retracted, covered with numerous opaque, white, moderately firm adherent excrescences. The anterior crescent torn through. The aorta just above the valve showed similar excrescences, others were found attached to the parietal endocardium, below the crescents also near the free edge of the aortic curtain of the and mitral valve, projecting from each surface. The anterior sinus of Valsalva was dilated into a pouch as large as a cherry-stone, a smaller pouch was found in an adjoining sinus, its intima opaque and corrugated; no other abnormal appearance observed in other valves. Both ventricles, especially the left, dilated, the wall of the latter moderately thickened. The posterior wall showed numerous patches of fibrous thickening, and occasional spots of ischemic necrosis. The branches of the coronary artery leading to these parts contained emboli, the largest of which were of the size of a grape-seed and resembled in color and consistency the vegetations attached to the aortic valves.

Left Pleural Cavity wholly obliterated by old adhe-

sions. Pleura not remarkably thickened. Occasional dense and firm pleural adhesions on the right side.

Lungs. Both lungs extensively oedematous, and moderately infiltrated with solid material producing a reddish-gray color, with smooth surface. In the right pleural cavity was a pint of clear yellow fluid.

Spleen. The spleen was nearly doubled in size, somewhat softer than normal and pale in color. A more or less wedge-shaped nodule of reddish color, as large as a walnut, extended from the surface of the spleen towards the centre near the upper third of the organ; another smaller and similar nodule was found near the lower border; on section the structure of the spleen was readily made out.

In the region of the left kidney was a renal-shaped sub-peritoneal tumor 9 x 6 x 4 inches. It was soft, some fluctuating and was composed of clotted blood in part discolored and laminated, in part of a dirty red color and of homogeneous consistency. The mass lay upon the kidney and was crossed by the descending colon. Further examination shows by dissection the mesentery two aneurisms near the intestinal attachment. The upper was of the size of a small cherry and had a thick wall. The lower was the hæmatoma previously described, and was filled with a thrombus: The walls of the aneurism were relatively thin. Further dissection of the wall of the peri-nephritic hæmatoma showed that the former were wholly outside of the kidney, which was very much flattened, the wall was quite dense towards the kidney, the absence of any evidence of the supra-renal capsule, and the discovery of the mesenteric aneurism suggests that the peri-nephritic hæmatoma may have been a dissecting aneurism.

Kidneys. The left kidney was flattened, pale and gray, the outer two-thirds lost in the tumor, the pelvis and calices were considerably dilated, and the ureter was shrunk, diminished in size, perhaps one-half, and imbedded in somewhat indurated fibrous tissue, from the kidney to the brim of the pelvis. The left renal artery and vein showed nothing abnormal outside the kidney. The left supra-renal capsule could not be found. The right kidney was somewhat enlarged, of a pale gray color, the capsule readily detached. On section, nothing abnormal noticed with the exception of a cheesy patch of necrosis at the bottom of a scar seen upon the surface.

Bladder. Showed nothing abnormal.

Liver. Not particularly altered in size, was of a purple color; on section the lobules were distinct, the central portions unusually voluminous and of a reddish-brown color.

Stomach. Contracted, its mucous membrane thickened and opaque, besmeared with a moderate quantity of thick gray mucus.

Intestines. The small intestine showed nothing abnormal. In the lower part of the large intestine were numerous, slightly elevated opaque linear adherent patches surrounded by an injected margin.

Mesentery. In the mesentery were found a dark reddish-gray homogeneous nodule as large as a cherry.

PATHOLOGICAL DIAGNOSIS.

Chronic Aortic Endocarditis.
Valvular Disease.
Chronic Myocarditis.
Hypertrophy and Dilatation.
Acute Vegetative Endocarditis.

Embolism of { Coronary Artery.
 { Spleen.
 { Kidney.
Ischæmic Necrosis of { Spleen.
 { Kidney.
Aneurism of Mesenteric Artery.
Perinephritic Hæmatoma, — aneurismal (?).
Chronic Adhesive Pleurisy.
Desquamative Pneumonia.
Diphtheritic Colitis.

SYMPTOMS FOLLOWING INJURY TO THE HEAD AND BACK.¹

BY E. S. BOLAND, M.D.

FEBRUARY 3, 1886, I was asked by an acquaintance to see his sister, who had been hurt seventeen months before by being thrown from the platform of a car, and falling some distance down an embankment. I was told that she had brought suit against the railroad company, and had won her suit, but the defendants had talked of appealing, so there was every prospect of delay and uncertainty as to compensation, with the added worry of attendance on court, medical examinations, and expense which they could ill afford.

The bearing of these facts on the case is evident. On calling, I found a large, fleshy woman, who seemed quite weak, not over communicative, evidently suffering, and possibly apathetic. She lay on a sofa in her room in a boarding-house, her right shoe was unbuttoned on account of the swelling of her foot, and her clothing exhaled a urinous smell — not ammoniacal. On being aroused and told who I was, by dint of questioning, the following history was obtained:

Age, forty-five. Born in Maine; married. Has one daughter, now sixteen years of age, and in vigorous health. The patient is one of a family consisting of three or four sisters and two brothers. With the exception of one sister, who was hurt at the same time with the patient, and another who has cancer, the family are healthy. Patient's father died about the age of fifty, of some acute disorder. Her mother is living and active, though eighty. One of her grandparents lived to be more than one hundred. Says she has always been strong and healthy. Menses began at seventeen, and were regular and painless. Says she left home, when quite young, to earn her own living, as her family were in reduced circumstances. Did housework in private families and hotels, worked as a factory-girl some, and later, since her marriage, as a seamstress at home at times. Tells me that she was never nervous, and never fainted but once, and gave an adequate reason for that. Has weighed one hundred and ninety pounds, and now cannot be far from one hundred and sixty pounds. Does not look like a nervous woman. After a year's acquaintance, I regard her as an honest, even-tempered, unambitious woman, strictly temperate, industrious, and willing to enjoy life as it comes. Education limited.

She tells me that in October, 1884, she was about to step from a railroad car, having reached her destination, when the train started up, and she fell, or was thrown, down an embankment, the car having already passed the outer end of the station-platform. Be-

lieves she struck on the right side of her head, and also on her back, and was stunned, but was able, with assistance, to walk to the omnibus, which took her to the house of her sister. She says she remembers nothing from the moment she found herself falling until three hours after, when she came to herself, and found herself in bed. Says the fall was about fifteen feet. Here she was seen by Dr. —, who, in answer to some inquiries, favors me with this letter:

—, February 9, 1887.

DEAR DOCTOR,— Yours at hand. I saw Mrs. X. about 9.30 P. M., after the accident. She was not unconscious, but complained bitterly of pain in the side of her head, and in the lumbar region of back.

There was no scalp wound or contusion, but the back was quite severely bruised. Complained of headache and dizziness all of the time I cared for her. The back was better at times, but never wholly easy and painless during the six weeks. There was no rise of temperature.

She was confined to bed most of the time for six weeks, because of weakness of the back and inability to stand or sit erect, as it made her nauseated. Her stomach was rebellious, and very intractable to treatment. The bowels were irregular, and the stools were bloody and painful at times.

The urine was scanty, and loaded with phosphates and bile pigment, but contained no albumen or sugar. Menstruation was irregular and painful. Said she was always free from pain and regular before injury. Had some leucorrhea; none before. There were no bed-sores. She complained a great deal of loss of vision and hearing; at times, stated that all objects were yellow, and at other times, black. At that time, she was very much jaundiced. Sometimes lower extremities were cold. I never felt for a moment that she was assuming any aches or pains for the benefits that she might derive from the railroad company. Her case, I think, was at the time, and since has been obscure in many respects, as far as I have been able to learn. I wish I were able to give you more facts, instead of the few that I have to offer.

I remain yours sincerely, —.

P. S. Am sorry to say that I did not examine her uterus.

She says she remained here almost two months, most of which time was spent in bed, amid much suffering and generally deranged health. Wet and soiled herself at times, ate little, and, when she was able to sit up, she could not stand or walk without assistance. Going down to her home in Maine, she remained there about a year. In January, 1886, she came to Boston to attend to her suit against the railroad. While in Maine, she was under the care of a local practitioner. He treated her for her back pains locally, and gave more or less general treatment, but, she says, with little apparent benefit. Whether he recognized the general anæsthesia and impairment of the special senses is uncertain. During this year, she left her room but twice.

On returning to Boston, she was examined by experts, both for herself and the defendants. The two medical men under whose care she had been since the injury were also summoned. Just what was claimed or what was proven I have never learned, other than that she won her case. I was told the railroad company talked of carrying the case to another court, and rather than endure another trial, a compromise was finally effected at a smaller sum than the court awarded. She complained much of the circumstances of the examination by the experts, the excitement and efforts incident to the trial, and was, I believe, temporarily

¹ Read at a meeting of the Boston Medico-Psychological Society, March 17, 1887.

made worse by them. It was a few days later when I first saw her.

When, in February, 1886, she came under my care, she made the following statements to me:

That she has never been well since the injury, having changed from an active, healthy woman, who made her own living and enjoyed life well, to a comparatively helpless invalid. That her menses are irregular and painful. That she cannot see nor hear well, and cannot taste nor smell at all. Cannot feel heat, cold, nor touch. That her appetite has been very poor till lately, and that she has lost flesh. That she has and does suffer from irregular periodical pains in her back and head. That she occasionally has "bleeding from up in her head," which, when it occurs, as it usually does, at night, runs down her throat, to nauseate her when she awakes. That she sees double with her right eye, but not with her left. She further states, in answer to leading questions, that she has not sneezed, had hiccough, or a "natural headache" for months. That she cannot hold her urine well—must go at once, and wets her clothing when she coughs. Says she sleeps poorly, and thinks her memory is impaired. (Subsequent observation, in so far as memory for events since the injury goes, confirms this statement.) Says her hair has been turning since the injury, though it is still strong and abundant. Says she does not know where her hands or feet are. Has to *look* for her pocket, and cannot, with her eyes shut, tell when her hand touches her nose.

Together with one of our members, who saw her in consultation, I made the following observations:

Cutaneous Surface. Does not feel pricking or pinching her skin anywhere, except on the neck, upper eyelids, and lips. Does not feel pulling the hair on the scalp, legs, or eyebrows. Does not know that her feet are quite cold. Does not feel the direct current from a Gaiffe faradic battery at all, and can feel the induced current only on the neck, distribution of the left ulnar nerve, on the end of the nose, and on the right cheek, when the electrode is over a tooth with metallic filling.

Muscular System. Grasp quite weak in both hands. Muscular efforts all slow and feeble. Gets on her feet with apparent effort, and walks on the level floor in a very unsteady way, and then only by the help of a chair or somebody's help. Extension and flexion of the feet very slow and feeble. Cannot stand with eyes either open or shut, unless supported. No ankle clonus. Knee-jerk short and delayed. No muscular reaction to the faradic current, either direct or induced. (The galvanic current was not tried till later.)

Eyes. No ptosis, squint, or disorder of the muscular apparatus. Conjunctival injection to a slight amount after the tests, or much use of the eyes. Pupils equal, normal in size; react to accommodation, but not very energetically to light, as ophthalmoscopic examination is easily made without a mydriatic. Media clear; no gross change in papillæ or vessels. Field of vision somewhat diminished in left eye, and very much contracted in the right eye. Can read Snellen XX at two feet with left eye, and cannot name the letters at all at any distance with right eye. Sees two fingers at six inches as four, and one finger as two, in the right eye. Sees floating specks in right eye, but not in the left. Has never used glasses. Was conscious of no failure of sight, or unequal power of eyes, before her injury.

Taste. Cannot taste the fresh juice of a lemon on either side of her tongue, nor did she taste the solution of strychnia sulphate, though given $\frac{1}{2}$ gr. dose to the tablespoonful, until she had been under treatment for thirty-seven days. Says she does not relish her food, because she does not taste it.

Digestive Tract. Tongue slightly coated. Occasionally, vomiting after the pharyngeal hæmorrhages. Bowels obstinately constipated.

Ears. Both ears normal as to meatus and drum-head. The left alone inflates (is felt to inflate) by Valsalva's method. Can hear the watch only while in contact with the right ear. Hears the watch at four inches in the left. Hears ordinary conversation without difficulty.

Olfactories. Cannot, in either nostril, smell orange or lemon peel, cologne, or chloroform liniment.

Bladder and Kidneys. Control over bladder imperfect. Urgent and intolerant when partly filled. Never retention. Urine increased in amount; acid, pale, clear; specific gravity, 1010. No bile, sugar, or albumen. No deviation from the normal constituents. Negative microscopically. Pulse 80 to 90, temperature normal. Heart and lungs sound. Fortunately, we were not urged for a diagnosis. A very uncertain prognosis was given, and only rational, energetic treatment promised.

Treatment. At the suggestion of the consultant, general faradization, blistering the upper dorsal spine, and compound syr. hypophosphites, with solution of sulphate of strychnia, was given, and persisted in, with some variations or additions, for about three months. One week after beginning treatment, massage was added to the other treatment. This was given once a day thoroughly, and usually repeated to some extent by her daughter in the evening. Occasionally, $\frac{1}{4}$ gr. morphine had to be given for the pains. Cathartics were used as needed. After six weeks' treatment, when, with returning feeling, pains began to be felt in the limbs, the constant current, from eighteen to twenty-four cells of a McIntosh galvanic battery, were used, on alternate days, with the faradic current.

Progress. I shall quote from the notes taken almost daily while under treatment:

February 13th. She began to feel the induced current over the anterior tibial nerves.

February 16th. Double vision disappeared from the right eye; otherwise, but little change in the special senses. Left hand the stronger and more sensitive. In fact, the entire left side was less severely affected, and began to improve sooner than the right.

March 10th. Much more muscular response to the induced current, and she feels it more. Sleeps poorly. Menses more prompt since the electrical treatment was begun. Neither massage nor electricity, however, seemed to help her constipation, and cathartics had to be given continuously.

March 14th. Combed her hair for the first time.

March 16th. Began to use a modified, combined chest-weight and rowing apparatus, which admitted of a stirrup movement. The first attempts were feeble and awkward. Up to this time, some active movements on her part had been comprised in the massage.

March 17th. Tasted the solution of strychnine for the first time to-day, the dose being about $\frac{1}{2}$ gr. in a tablespoonful of water.

March 22d. Was given special deep manipulations

over the great nerve-trunks. Can hear the watch one inch from her right ear. Grows more hopeful, as she begins to see improvement.

March 23d. The constant current used for the first time. Fair response on the left side, and some response on the right, on making and breaking the circuit. Feels deep manipulations over the median, sciatic, and perineal nerve-trunks. As the strychnine had now reached about $\frac{1}{4}$ gr. in all daily, some stiffness of the jaw was felt, and the amount reduced to $\frac{1}{10}$ gr. daily. Has got rid of the urinous smell, and does not now lose control of her bladder, except when she coughs.

March 25th. Can walk a little without support, and has attempted some light household work.

April 1st. Is doing well. Gains in strength and sensation.

April 5th. Felt that her left foot was cold to-day for the first time. Notices the smell of tobacco smoke and tastes and relishes her food. Felt her "head itch" to-day and can feel the compass points on the scalp, except for a space corresponding with the parietal bones, though not quite so wide from before backward.

April 11th. Complained of the blister over her dorsal spine—heretofore she has not felt the blistering. Abdomen still anæsthetic to touch, but feels the faradic current. Can hear the watch at four inches in the right ear. Reads Snellen XX at ten inches with right eye. Can go up and down stairs by the hand-rail and the use of her cane. Rides out, but is easily tired.

May 1st. Pharyngeal hæmorrhages recur every week or two. Sneezed to-day, the first time for many months, she says. Left side so much better, both as to motion and sensation, that from this time on most attention as to massage, electricity and exercise shall be given to the right side.

May 6th. Walked six squares to-day, by taking hold of her daughter's arm. Tired out, but none the less elated in consequence.

May 8th. Right ankle weak, and she begins to complain of pain in the region of the os calcis and up the tendo-Achilles. The space between the tendo-Achilles and ankle-joint is tender on pressure and pains when dorsal flexion of the foot is attempted. Prefers to walk on her right toes. Reads Snellen XX at twenty inches with right eye, and hears the watch at ten inches in right ear.

May 13th. Felt me tickle the sole of her left foot to-day for the first time. Has severe pains in her back, and being unwell suffered more than usual.

May 16th. Rode eighteen miles in a carriage to-day. Tired out.

May 18th. Can read Snellen XX at *six feet*, with right eye, and hears the watch in right ear at twelve inches.

May 21st. Walked six squares again yesterday. The right side of face, right hand and arm, right leg below the knee, and foot still below par as to strength and sensation. Cannot distinguish the compass points on right hand nearer than one and three-fourth inches except on ring and little finger. Can feel a single point quite distinctly. Right cheek and brow cannot feel the points nearer than one and one-half inches. Left side almost normal as to strength and sensation. Left sole ticklish but the ribs not ticklish. Does not

feel distinctly on ribs near spine. Sight and hearing on left side normal.

At this date she left Boston for Maine, and the treatment which for the previous hundred days had been daily and as thorough as I could give, became imperfect or irregular. Shortly after she returned and settled near Boston. Since this time I saw her only at irregular intervals, going two or three times into the country, and treating her for three or four days at a time when she would come to Boston. Have not seen her since November 30, 1886. Ever since last summer the right ankle has been weak and painful and has not fully regained sensation. It has been treated by friction, electricity, elastic compression, bandaging, position, and more lately with a fixed dressing of silicate of potash; the latter being still in use and gives more relief than any other measure. There are still some back and head pains and an occasional pharyngeal hæmorrhage. Hydrastis, fluid extract ergot, iodide of potash and Fellow's syrup hypophosphites compound, have all been tried—the latter seeming to give the best results—probably from the contained quinine and strychnine. She has used a Hall's faradic battery at home, but probably not very efficiently. Sometimes after an interval an examination would not give as good a result as at a former period.

It is hardly necessary to refer to the diverse views held as to these cases of functional trouble following railroad injury. Though the literature is abundant, the pathology, so far as ascertained, is scanty and unsatisfactory.

To Erichsen probably, more than to any one else must we ascribe the credit—if credit it is—of having popularized the idea that grave and lasting injury may be sustained by the spinal cord from slight railroad and other accidents, which are not accompanied by visible injury. He says: "Not only do most serious, progressive, and persistent symptoms of concussion of the spinal cord often develop themselves after apparently slight injuries, but frequently when there is no sign whatever of external injury."

Ross takes practically the same ground and admits further that "violent mental excitement appears to be able to produce the symptoms of spinal concussion occasionally." Herbert W. Page, in his late book on "Injuries of the Spine and Spinal Cord," questions these positions, and argues for the existence of mechanical lesion somewhere in the cerebro-spinal axes, or surrounding structures, except in the cases where there is intentional fraud, or merely functional disturbance.

Dr. R. M. Hodges, in this country, has done much to bring about a vigorous skepticism of the views of Erichsen.

Was this a case of "railroad spine"? Remember it was not the result of a collision. It might have been due to a fall from a carriage, stairway or landing. As the car was just starting and the motion at most being at right angles to her fall it could not have given her much impetus. As the fall was less than sixteen feet, it would occupy a little less than a second. This would be about equal to ten miles an hour.

The case had this in common with ordinary collision accidents; namely, the liability of the railroad for damages. There was, therefore, the possibility of assumed or exaggerated injuries. This, I kept in mind and

tried to be impartial and discriminating. In favor of entire veracity were the facts that the suit had gone in her favor and there was less occasion for maintaining an assumed condition of invalidism. Besides, the examinations were distasteful and the treatment exacting and expensive. Still a clever and practised imposter could give the same results as to sight, hearing, muscular strength, smell, taste, pains, and to some extent to the electrical tests. The suppression of the normal response to the faradic current could not well be assumed, nor is it probable that the induced current could be taken on face and arms without the patient evincing suffering.

That she was severely injured, suffered much, improved under treatment and is still far from well, I believe as firmly as I do the Apostles' creed, but must confess I could as little prove one as the other by incontestable evidence. The fact that she made more improvement in three months following the settlement of her claim than in a year previous does not impugn her honesty. Who does not admit the therapeutic value of satisfaction and certainty? No doubt the electricity and massage were factors in her improvement.

Page says: "Even in perfectly genuine cases—and it is these to which we now refer—compensation acts as a potent element in retarding convalescence, as evidenced in numberless instances by the speed with which recovery sets in as soon as the settlement of pecuniary claim has been accomplished."

Dr. R. M. Hodges is more guarded: "Recovery or improvement of a fixed and permanent character, never takes place until after the adjustment of any existing claim for compensation; and so long as this is final it makes little difference whether the settlement is a favorable or unfavorable one for the claimant."

In this case is it probable that the seat of the injury was cerebral rather than spinal? In such cases, Gowers admits that such a condition is probable.

There was functional disorder of the spinal nerves as to motion and sensation, there was spontaneous pain and tenderness to deep pressure; but there was no complete paralysis, contracture or trophic change (unless the swelling of the right foot and ankle be so regarded), at most there was suspended action.

That the spinal column, with its seventy-two joints—not to mention the rib articulations—its complicated and various structures should endure such a fall without receiving some wrench, strain or fibrillary rupture does not seem probable; but that such wrench, strain or rupture induced trauma of the cord or led to hæmorrhagic pressure, or subsequent inflammatory changes is not shown by the clinical history. If any one will recall the situation of the spinal cord surrounded by the pia and suspended in the fluid-filled dural sheath and this loosely attached to the walls of the firm but flexible spinal canal it seems hard to believe that so small a mass of matter, so perfectly situated, could suffer from "vibratory jar," sufficient to induce molecular change. How different it is from the brain when there is great mass and little packing. As to the immediate visceral disturbances mentioned in the doctor's letter—vomiting, jaundice, intestinal hæmorrhages, etc.—we are not now concerned, though the vomiting might indicate head trouble. Injury to the cord in the cerebro-spinal region might explain the amblyopia, but how would any merely spinal

lesion account for the auditory, olfactory, gustatory or trigeminal symptoms? The unilocular diplopia, which had every appearance of being genuine, must in the absence of apparent defect in the media be regarded as central.

If the trouble was cerebral, what and where was the lesion?

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

ANILINE POISONING.

F. MULLER¹ found free aniline in the urine of a person poisoned with aniline; the urine reduced Fehling's solution, but had no action on polarized light. Each 100 cc. of urine contained 4.75 mgrms. of free sulphuric acid, and 76.1 mgrms. of combined sulphuric acid. When a portion of the urine was boiled with concentrated hydrochloric acid, neutralized with sodium hydrate and shaken with ether, an ethereal extract was obtained, which gave, when tested, the blue indophenol reaction. The ether extract of the unboiled urine did not give this reaction; consequently the aniline must have been secreted as paramidophenyl sulphate. The striking resemblance which patients treated with acetanilide show to persons poisoned with aniline, led the author to compare the urine in the two cases. In both cases methæmoglobin was found in the blood. Aniline was not found in the urine after the ingestion of acetanilide, but the indophenol reaction was obtained. There was also a noticeable increase in the amount of combined sulphuric acid. From this the author concludes that acetanilide is separated from the system in the same form as aniline; namely, as paramidophenyl sulphate. The latter may be detected by boiling the urine a few moments with one-fourth its volume of concentrated hydrochloric acid, adding a few cubic centimetres of a three per cent. phenol solution, and then a few drops of a chromic acid solution. If paramidophenol is present, the liquid becomes red, and then changes to blue upon addition of ammonia.

COLCHICINE.

Experiments made by Mairet and Combemale² on dogs and cats, show that colchicine is an irritant poison which may act upon all the organs, but acts especially on the intestinal canal and kidneys. The minimum toxic dose is variable, according as it is administered hypodermically or introduced into the stomach. In the former case it is 0.571 milligram, in the latter 1.25 milligram for each kilogram weight of the animal experimented upon. Its effects are produced more rapidly when it is administered hypodermically. It is eliminated through different channels, but especially with the urine; but elimination is slow, and colchicine may therefore behave as a cumulative poison if administered in non-poisonous and relatively small doses at short intervals. Colchicine produces congestion at the articulations and in the marrow of the bones.

Experiments on men, dogs, and cats,³ show that colchicine in therapeutic doses acts either as a diuretic or a purgative, according to the dose, and this action

¹ *Chemisches Centralblatt*, 1887, 8, page 193.

² *Journal de Pharmacie et de Chimie*, April, 1887, page 355.

³ *Ibid.*, p. 357.

is a result of irritation of the kidneys or alimentary canal. The therapeutic effects are the same, whether the drug is administered hypodermically or by the mouth; but the action is more rapid in the former case, and the dose necessary to produce the effect is less. Man is three times more sensitive to its action than are cats and dogs. A dose of two or three milligrams is sufficient to produce the diuretic action, and five milligrams the purgative action. Colchicine causes an increase in the amount of uric acid excreted.

ANTIDOTES TO STRYCHNINE, RESORCINE AND PICROTOXINE.

Professor Anrep⁴ has proven experimentally that urethane possesses properties antagonistic to the convulsive drugs, such as strychnine, etc., and believes that urethane may be employed in cases of poisoning by these substances. It is superior for this purpose to hydrate of chloral; it is less dangerous, and may be administered in large doses with perfect safety. The author concludes that, in the case of man, it is necessary to administer it in doses of four to six grams as an antidote to the poisons above mentioned.

E. Koch⁵ states that butylchloral hydrate is useless as an antidote in cases of strychnine-poisoning: in picrotoxine-poisoning, it fails to overcome three times the minimum fatal dose, behaving in this respect like chloralhydrate. Picrotoxine may be successfully used as an antidote to the narcotic effects of butylchloral hydrate and chloral hydrate. According to A. Bockal⁶ paraldehyde is a powerful antidote to strychnine. Ten times the fatal dose of strychnine may be safely administered to dogs that have previously received paraldehyde. Strychnine is not, however, an antidote to paraldehyde.

ESTIMATION OF STRYCHNINE AND BRUCINE.

Holst and Beckurts⁷ have based a volumetric method on Dunstan and Short's observation that strychnine is completely precipitated from aqueous solution of its sulphate, whilst brucine is not. If a 0.5 to 1 per cent. solution of the two alkaloids, strongly acidified with hydrochloric acid, is treated with potassium ferrocyanide until a filtered portion of the solution gives a blue stain with ferric chloride paper, the whole of the strychnine is precipitated as acid strychnine ferrocyanide, whilst the brucine remains in solution.

The amount of strychnine can thus be determined by using a standard solution of ferrocyanide, 244 parts potassium ferrocyanide corresponding to 334 parts of strychnine. If the solution contain less than 0.5 per cent. the separation is too slow; also the ferric chloride paper should not be allowed to get perfectly dry before use. A mixture containing 0.145 gram strychnine and 0.036 gram brucine gave 0.148 gram of strychnine. To estimate the alkaloids when occurring together, the total weight of the two is ascertained, then, according to Schweissinger, an excess of centinormal hydrochloric acid is added and the excess determined by centinormal soda solution. The neutral solution thus obtained is concentrated sufficiently and titrated with standard potassium ferrocyanide. A mixture containing 0.1 gram strychnine, and 0.05 gram brucine gave 0.1017 of the former and 0.04915 of the latter.

THE ACTION OF TOBACCO.

Observations by Grammatschicow⁸ and Ossendowski have led to the following conclusions: The assimilation of nitrogenous matter is lessened. Digestion is prolonged. The consumption of tobacco hastens the assimilation and elimination of potassium iodide. The influence of tobacco on the processes of nutrition and assimilation is especially noticeable in those just commencing its use.

Walitzkaja⁹ has made an examination of more than one thousand workers (men, women and children) in tobacco, and has in addition undertaken a series of experiments on animals in the laboratory of Prof. Anrep. The workmen who are constantly exposed to an atmosphere filled with the powder of tobacco, suffered chiefly from nervous symptoms; such as dilatation of the pupils; cardiac neuroses; exaggerated tendon and vasomotor reflexes; trembling of the hands; dyspnoea. They are subject to headache, attacks of fainting, gastralgia, and cramps. Next to the nervous system the respiratory organs suffer most frequently. Bronchial and laryngeal catarrh and empysema of the lungs are common. Phthisis does not appear to be frequent.

Experiments upon dogs and rabbits clearly established the fact, that the nervous troubles observed in the workmen are really due to tobacco. The symptoms of poisoning are the same after injection of nicotine, as after exposure to an atmosphere impregnated with tobacco; and these symptoms are identical with those observed in workmen.

PHOSPHORUS.

Poleck¹⁰ reports a case of phosphorus-poisoning, in which phosphorous acid was detected in the contents of the stomach and intestines, and in the heart, liver, kidneys, and brain, three months after death. No free phosphorus could be detected.

INFLUENCE OF POTASSIUM IODIDE UPON THE ELIMINATION OF MERCURY.

According to Dr. Souchow,¹¹ the elimination of mercury commences later, and the quantity eliminated is relatively less in those cases in which the patient takes potassium iodide in conjunction with the mercurial preparation. If the iodide is administered during or after the mercurial course, the quantity of mercury eliminated daily is lessened. The iodide, therefore, appears to prevent the elimination of mercury, instead of hastening it, as has been believed by some, and would seem to be useless in cases of mercurial poisoning.

TIN.

Ungar and Bodländer¹² have already proven by experiments on dogs and rabbits that tin may be absorbed and detected in the organs and urine of these animals. They have also detected it in the urine of man in two cases. They have now made experiments to determine whether any injury to health can result from the introduction of tin into the system. The experiments were made upon frogs, rabbits, and dogs, and the compounds employed were stannous chloride, the tartrate of tin and sodium, and the acetate of triethyl, administered in part by way of the stomach,

⁴ Journal de Pharmacie et de Chimie, May, 1887, page 505.

⁵ Chemisches Centralblatt, 1886, page 811.

⁶ Ibid, 1886, page 622.

⁷ Journal of the Chemical Society, London, September, 1887, page 863, from Archiv der Pharmacie.

⁸ Journal de Pharmacie et de Chimie, Sept. 15, 1887, page 276.

⁹ Ib id, p. 277.

¹⁰ Archiv. der Pharmacie, March, 1887, p. 190.

¹¹ Journal de Pharmacie et de Chimie, April, 1887, p. 367.

¹² Chemisches Centralblatt, 1887, p. 644.

in part by subcutaneous injection. The results show that the introduction into the system, even of non-corrosive tin-salts, will produce morbid symptoms, and finally, death; also, that very minute amounts repeatedly introduced into the system gradually undermine the health, and frequently result in death. Small doses of the acetate of tin-triethyl are far more poisonous than the tartrate of tin and sodium. This conclusion agrees with that reached by White, and suggests the fact that the action of the former compound is not due to the metal alone, but to the compound as a whole. The introduction of this compound into the system is followed, first, by a series of primary symptoms, quickly disappearing, due to the action of the compound as a whole, followed, after some days, by a train of symptoms due to the action of the metal. The results of the authors' experiments lead them to the conclusion that the question of the poisonous action of the tin compounds, aside from any local effect, must be answered in the affirmative.

SILVER—ABSORPTION IN PLATE—WORKERS.¹³

Observations made on eight hundred silver-workers in Berlin have shown that all of them had the characteristic patches of coloration. These patches are round or oval in shape, varying in size from a millet-seed to a broad bean. As a rule, they are not raised; they are anæsthetic, and occur principally on the dorsum of the left hand. Only workers in silver are thus affected, and not those who manipulate gold or copper. The absorption of the metal seems to have no effect on the general health. Microscopical examination shows that the patches are caused by the deposit of metallic silver in the tissues, and they are soluble in nitric acid and potassium cyanide. It was noticed that the men affected were invariably those who had some ulceration or abrasion of the hands, through which the metal was absorbed. The nature and shape of the metallic deposit warrants the supposition that the metal enters in a soluble form, and is then precipitated. Three workmen who were being treated for syphilis with mercury developed a number of fresh stains in a comparatively short space of time.

THE FATE OF CERTAIN CHLORINE COMPOUNDS IN THE ORGANISM.

A. Kast¹⁴ first gives some hitherto unpublished results of Mylius, showing the influence of the administration of chloroform on the amount of chlorine in the urine of the dog, from which it appears that the administration of chloroform is followed by a great increase of sodium chloride in the next day's urine. Kast has now pursued this research further. The effect of the inhalation of chloroform was first tried on a dog, and the increase of chlorides was found to be very marked after chloroform narcosis, whilst ether produces no effect. A similar result was obtained in experiments on man. Chloral was next investigated, and it was found to have no such effect in producing an increase in the chlorides of the urine; this substance leaves the body as urochloralic acid, and does not part with its chlorine. Similar investigations with carbon tetrachloride, methyl chloride, and ethyl dichloracetate also gave negative results; but ethyl trichloracetate, on the other hand, produced a very decided increase in the output of chlorides.

¹³ The British Medical Journal, August 6, 1887, p. 321.

¹⁴ Journal of the Chemical Society, London, June, 1887, p. 612, from Zeit. physiol. Chem., 11, 277.

SUGAR—REACTIONS.

With reference to the new reactions for sugar described by Molisch, D. Lindo¹⁵ has found that a one per cent. starch or gum solution gives the reaction with thymol, as does also one part of cane-sugar in 200,000 of distilled water, and that all samples of normal human urine do so also, even when diluted with fifty volumes of water. He considers, however, that this fails to prove the presence of sugar in normal urine, which, as a complex fluid, must be acted on by the sulphuric acid. He finds that nitrates give the same characteristic color reactions and precipitates on dilution, and that similar results are obtained when menthol is substituted for thymol; menthol has also the advantage of not giving with nitrates or nitrites any reaction that could be mistaken for that of sugar. Chlorides or hydrochloric acid do not impair the delicacy of either test, but sugar cannot be detected by either, in the presence of notable quantities of nitrates or nitrites.

PECULIAR MODIFICATION OF UROBILIN.

Salkowski¹⁶ has met with a urine which was extraordinarily rich in urobilin, but from which the urobilin completely disappeared after standing in a flask for some months, the urine, however, undergoing no perceptible change in color. The change did not depend upon alkaline fermentation of the urine, and micro-organisms apparently had nothing to do with it.

Urobilin is a body very easily decomposed, and it passes over, gradually upon standing, quickly upon heating, into a modification which is still colored, but which shows no absorption bands, which does not fluoresce in alkaline solution with zinc chloride, and which is not removed from acid alcoholic solution on shaking with chloroform.

It appears probable that those dark-yellow or brownish-yellow urines, which apparently contain urobilin, but in which neither urobilin (except, perhaps, in traces), hæmoglobin, methæmoglobin, nor biliary coloring matters can be detected, contain this decomposition product of urobilin. The author thinks it possible that most normal urines contain, together with urobilin, this modification of urobilin.

NEW PATHOLOGICAL URINARY COLORING MATTER.

Leube¹⁷ reports the case of a patient suffering from osteo-malacia, cystitis, and nephritis, whose urine assumed a dark violet to black color on being exposed to the air. The coloring matter is amorphous, and soluble in ether, and can be extracted from the ethereal solution by dilute alkalis, but not by acids. The alkaline solution is, at first, brownish-red, later, yellow. The coloring matter is soluble in hot water, chloroform, benzol, and alcohol; the alkaline solution is decolorized by zinc-dust, and regains its color upon subsequent exposure to the air. Its solutions are not fluorescent, and do not show any characteristic absorption bands.

NEW NORMAL URINARY COLORING MATTER.

According to Giacosa,¹⁸ the chromogen of a new urinary coloring matter occurs normally in the urine of man, dogs, and rabbits, from which it can be ex-

¹⁵ Journal of the Chemical Society, London, August, 1887, p. 751, from Chemical News.

¹⁶ Virchow's Archiv, 109, p. 361.

¹⁷ Archiv der Pharmacie, 1887, p. 784.

¹⁸ Archiv der Pharmacie, 1887, p. 785.

tracted by amyl alcohol, and precipitated in great part by basic lead acetate. Its solutions show no absorption bands, thus differing from solutions of the uroresin of Neucki and Sieber. Solutions in ether and in chloroform show a beautiful green fluorescence; a solution in amyl alcohol is weakly fluorescent, one in ethyl alcohol not at all. A process is given for the extraction of this coloring matter from the urine.

CHANGES EFFECTED IN THE URINE BY A MILK DIET.

According to Chibret,¹⁹ the amount of urea excreted daily is very largely increased under the influence of a milk diet. When the milk diet replaced wholly the ordinary mixed diet, the increase amounted to sixty per cent.; when the milk formed only a part of the diet, the increase amounted to thirty-five per cent. These statements are based upon the daily estimation of the urea excreted by two patients before, during, and after a milk diet of two months' duration, and a comparison of these results with those obtained from the urine of a person in health. As one of the patients, who was somewhat obese, lost flesh, while the other, who was thin, increased in weight, and the same results were obtained in the two cases, it is evident that the increase in the excretion of urea was not caused by denutrition.

C. Méhu²⁰ has frequently detected sugar in the urine of patients with albuminuria, who had been kept on a milk diet for a longer or shorter period. The quantity of sugar was ordinarily so small as to be easily overlooked in applying the ordinary Fehling's test. The amount present did not, as a rule, exceed 0.2 per cent., and only rarely amounted to 0.4 per cent. When the milk diet was suspended, the sugar gradually disappeared.

Similar results were obtained in scarlet-fever patients with or without albumin in the urine. In those cases in which the largest amount of sugar was detected, the urine was passed in small quantity, and was rich in urea and mineral salts, although, ordinarily, a milk diet tends to increase the amount of urine. The author has not determined whether the variety of sugar present was glucose or lactose. He has estimated it as glucose.

The author considers that the presence of a notable quantity of sugar in the urine of scarlet-fever patients is possibly an indication that the kidneys have not as yet regained their normal physiological power.

Clinical Memorandum.

A CASE OF ACUTE LOBAR PNEUMONIA WITH PROTRACTED FIRST STAGE.

BY J. D. JONES, M.D., UTICA, N. Y.

BENJAMIN J., aged twenty-two, of good constitution, but a hard drinker, was in his usual health up to September 28, 1887, when he had a severe chill. He was so ill that he kept his bed, but did not call a doctor till October 2d. He was then complaining of headache, a slight cough and vomiting. His pulse was 120; temperature, 104.5°; Respiration normal. Pneumonia was suspected, but physical examination of the lungs revealed nothing abnormal. His bowels

were loose, owing to some "opening medicine" he had taken. Gurgling was obtained in the right ileo-caecal region—a sign found in looseness of the bowels from any cause. He was given some antipyrine to reduce his temperature.

October 3d. A. M. Pulse, 102; Temperature, 102.5°; Respiration normal. Headache, cough and persistent vomiting. P. M. Temperature, 103.5°; other symptoms the same as in the morning. As six days had now elapsed since the chill, and physical examination of the chest revealed nothing abnormal, and owing to the prevalence of typhoid fever in the city, the case was reported to the board of health as one of that disease.

October 4th. He was delirious last night and to-day he complained of severe stitch in his right side. Severe epistaxis. A. M. Pulse, 102; Temperature, 102°; Respiration, 32. P. M. Pulse, 104; Temperature 103.75°; Respiration 32. A crepitant rale was heard over the lower lobe of the right lung posteriorly.

October 5th. A. M. Pulse, 108; Temperature, 103.5°; Respiration, 48. The physical signs of consolidation were heard over the posterior aspect of the right lung.

October 6th. The whole of the right lung is now consolidated. It will not be necessary to give the details of pulse, temperature, respiration, etc., the case pursuing the usual course of a severe pneumonia with active delirium throughout, and ending fatally October 14th, ten days after the crepitant rale was heard, and seventeen days after the chill.

Dr. Wilson Fox, in his article on "Pneumonia" in "Reynolds System of Medicine," says, "Rigors may precede by a period of from twelve to twenty-four hours, or even in some cases, of from three to four days, all other symptoms and local signs of pneumonia with the exception of pyrexia." Other authorities give three to four days as the extreme duration of the stage of engorgement.

I report this case lest others may be misled by their text-books on this point—and, possibly, to spare them the humiliation of having reported as typhoid fever, what subsequent events proved to be a case of acute primary pneumonia.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. P. STRONG, M.D., SECRETARY.

MEETING October 3, 1887, DR. J. W. SWIFT in the chair.

DR. BLODGETT showed the organs from an autopsy which had been made on the day of the meeting.

The case was one of carcinoma, which was peculiar in the seat of its primary development, it having arisen from the cicatrix in the centre of the umbilicus.

The umbilicus presented the appearance of being much enlarged, and protruded about one centimeter beyond the level of the surrounding skin. Its centre was the seat of a loss of substance by ulceration, by which a cavity had been formed, about one centimeter in depth, and the same in diameter.

The panniculus adiposus was remarkably developed, the layer of abdominal fat being more than an inch in

¹⁹ Journal de Pharmacie et de Chimie, September 15, 1887, p. 275.

²⁰ Journal de Pharmacie et de Chimie, August 15, 1887, p. 145.

thickness. The peritoneum was thickened and brawny, so that it resembled a fascia much more than a serous membrane. On opening the cavity of the abdomen, the omentum was found to be thickened to a most surprising degree, and to be of very hard and resisting character, so that it formed an unyielding capsule over the organs concealed beneath. The peritoneum was adherent to the omentum, and this to the viscera, so that the entire contents of the abdominal cavity formed a single agglomerated mass, in which little could be distinguished, and still less could be separated. The parietal surface of the peritoneum was much thickened, its texture changed to a mass of elevated, hard nodules, some of which were in a state of softening, and others were firmly attached to neighboring parts, which lay in apposition to them. The adhesions were most numerous and strong in the right hypogastrium, where the intestine, both in its ileum and colon divisions, was entirely obscured by the mass of firmly adherent and enormously developed new tissue. At other parts of the intestinal canal, there were isolated nodules of disease, from extension of the cancerous disease into these structures.

The cancerous disease had ascended towards the right hypochondrium, and had enveloped the pyloric end of the stomach by a dense and undistinguishable mass of firm tissue, in which the duodenum could not be traced, and which was attached to the neighboring portion of the liver. There were several large nodules in the substance of the liver, and some of these were already in a commencing stage of softening; they were situated mostly in the extreme right portion of the organ, although one isolated nodule was located in the apex of the elongated left lobe of the liver, which was lying in close proximity to the spleen. The stomach was the seat of invasion of the malignant process, and, in one place, it was so softened that the tissues were torn, even by the most careful manipulation, while being removed from the body. At the pylorus was a firm and dense infiltration of the gastric tissues, by which the lumen of that orifice was much reduced, and, at one point, the disease had perforated the mucous membrane, and appeared as a rounded prominence in the interior of the canal. The spleen presented a distinct nodule of cancerous nature upon its upper border, where it was much softened, and easily broke down. The entire organ was smaller than usual, and seemed to be in a state of moderate cirrhosis. There was no noticeable infiltration of the mesenteric glands, nor did the disease anywhere pass through the diaphragm. The kidneys were not invaded, nor were the organs of generation noticeably diseased. The cancerous infection of the organs within the abdomen seems to have proceeded by contiguity from one point to another, rather than by general infection through the lymph or the vascular channels, unless the invasion of the liver may be thought to have resulted from the emigration of portions of the diseased tissues from some part of the domain of the portal circulation in the mesentery, where there were numerous centres of disease, which had in some places undergone softening. There was no enlargement of the axillary, inguinal, or other superficial glands, or any appearance of further metastasis of the disease. The head was not examined.

DR. PORTER inquired as to any possible cause of irritation, or the existence of any previous ulceration.

DR. BLODGETT replied that there was nothing ever

noticed previous to the uncertain existence of a "lump." The daughter is said to be subject to transient attacks of an erysipelatous character, and the mother the same, but the speaker knew nothing as to the nature of them.

DR. PORTER asked if the peritonitis was general cancerous peritonitis.

DR. BLODGETT said it was, and that its development could be well traced through the influence of gravitation. There was one symptom which the speaker had not infrequently noticed in cases of malignant disease; namely, increased susceptibility to high temperature, although, by the thermometer, the patient's temperature showed no elevation.

DR. KINGMAN read a paper upon

ANÆSTHESIA IN NORMAL LABOR.—SECOND PAPER.

DR. BLODGETT condemned the use of the saturated ether sponge, because he had seen several cases of ether habit arising in this way. He had, personally, had very satisfactory results from the use of cocaine, which diminished the pain, and made the patient comfortable, simply by introducing a solution from time to time into the vagina during labor.

DR. DUNN said that he had an antipathy to ether, and had but once employed it in a normal case. In every case in which he had had a post-partum hæmorrhage, ether had been used.

DR. STRONG said that the arguments advanced in the paper were not such as to induce him to abandon the use of chloral in the first stage of labor for ether. He thought the unsatisfactory results which were sometimes reached with chloral were attributable, not to the drug itself, but to its improper administration. To secure the best results, the medical attendant should not direct the nurse to give small doses of ten grains or so at intervals of thirty or forty minutes, as is quite customary, but, beginning with a full dose of fifteen to twenty grains, should remain with the patient, and administer one, two, or more doses of the same amount, at intervals of twenty minutes, thus securing a full physiological action of the drug. In the speaker's experience, there are no strictly normal cases where the treatment has not proven perfectly satisfactory. Of course, in cases where there is an extremely rigid os, neither chloral nor small doses of ether will prove sufficient, but complete surgical anæsthesia is demanded. The speaker took decided grounds against those who claimed that ether induced post-partum hæmorrhage.

DR. KINGMAN, in closing the discussion, asked concerning the method of applying cocaine, and then explained that he had omitted the drug from consideration in his paper because it did not seem to him of sufficient value, in labor, to come in competition with the anæsthetics mentioned. He had never used it, as he had seen no really favorable reports of its action, and doubted its ability to relieve the highly complex pains of parturition.

Referring to the remark of one of the members to the effect that, in a large obstetric practice, he had gotten along very comfortably without ether, the speaker questioned whether the patients had fared so comfortably, and urged with warmth the consideration in this matter of the question of humanity. "True our grandmothers bore children without ether, and so they did without antiseptics, or even true cleanliness, but they died by hundreds of septicæmia. We have

offered women immunity from that dread disease, and hold in our hands the means whereby we can relieve their pain. Shall we refuse to use it simply because, so far, some have gotten along without it?"

Dr. E. N. WHITTIER then read a paper upon

MESENTERIC ANEURISM.¹

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

MARCH 17, 1887. DR. H. R. STEDMAN in the Chair.

Dr. E. S. BOLAND read a paper,

SYMPTOMS FOLLOWING INJURIES TO THE HEAD AND BACK.¹

Dr. KNAPP said that he saw the case in consultation in February, 1886, and at that time he made a provisional diagnosis of hysteria, giving a rather favorable prognosis. Further consideration of the case had led him to reconsider his diagnosis and to give a bad prognosis. The pupillary symptoms, the loss of control over the sphincters of the bladder and rectum, and the loss of electrical excitability in the muscles were not symptoms that could be produced by hysteria, but they pointed unmistakably to some structural change. He had had an opportunity of late to study many cases of nervous disease produced by injury occurring in the ordinary occupations of life, where there was no disturbing element of damages to complicate matters, and, in his experience, hysteria was a very rare result of such injuries. Neurasthenia was commoner, but still rare. Moreover, he thought that the favorable prognosis sometimes given in hysteria or neurasthenia of traumatic origin was a mistake. He saw no reason why the prognosis should be better than it is in idiopathic cases; and, in fact, he had seen cases of hysteria and neurasthenia where the symptoms had persisted for twenty years after the injury.

Dr. FISHER said that we get genuine nervous symptoms in "railway spine," from concussion of the brain and cord, but the lesion was still unknown. Of course there was room for fraud; yet one case that he saw eighteen years ago, remained an invalid for years. Another case, where there may have been exaggeration, but not entire deception, was awarded \$35,000 damages, and soon after recovered so as to be able to walk about with a plaster jacket. The symptoms were not always proportionate to the injury. A patient simply sat down on the ice, and now, four years later, is helpless and somewhat demented. He had once saved a road from damages by proving a previous hysteria. Most cases were without doubt genuine, some being functional and others organic.

Dr. COWLES said that we saw all degrees of disturbance from slight causes, even from minor injuries. It was hard to differentiate the cases, for, as there is room for fraud, even genuine cases may be doubted.

Dr. BULLARD said that in a large number of the cases that he had seen there was very little reason for simulation. In many cases the trouble lasted a long time, and sometimes they never recovered. Many cases, which are apparently functional, last a long

time after any reason for simulation had passed away. A case of brachial paralysis, with reaction of degeneration in the muscles of the shoulder, had also hemianesthesia. The symptoms were present three months after the trial, since which time the patient had disappeared. Here there was no deception. Great caution was necessary, but many persons who are injured find it hard to prove it.

Dr. C. F. FOLSOM said that there was a certain group of symptoms which justified the diagnosis of organic disease, but there was no group of symptoms which justified us in excluding it. Hysteria is often a symptom of organic disease. Simulation is often practised, and is hard to exclude. He cited a case where four men of great experience in such cases testified in a patient's favor, the patient in consequence getting a verdict of \$1,500. In a fortnight after, the man was well. A shaking up may cause a pure insanity, — a mild, affective functional trouble which may go on for years. Some patients get well in a few years, but they don't realize the fact until they get a sudden stimulus, such as the mind-cure. The commonest class of cases is called "hysteria," — a doubtful diagnosis. Very few of them recover completely, and in some of the worst cases there is no question of damages. One man had all the symptoms of "railway spine," after a highway robbery. He could not work for four years, and he is not well yet. In such cases, as Westphal thinks, there are probably minute patches of sclerosis. Hysteria is very rare. There is probably a slight injury, with degeneration of isolated cells, causing no exact symptoms, yet interfering with the general physical and mental health. A confident diagnosis of hysteria is unjustifiable.

Dr. J. B. AYER said that the therapeutic value of settlement was marked. A man was struck by a horse-car, receiving various injuries which gave him a good claim upon the company. He stayed in bed, and it was hard work to get him out of bed. The claim was settled, and he improved so as to walk about, but some weeks later he was seen again on crutches, because he thought he had another claim against the city! On being convinced that he had no further claim he abandoned his crutches.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, October 20, 1887.

Dr. CLINTON WAGNER read a paper on

COLORADO SPRINGS AND DAVOS-PLATZ COMPARED AS WINTER HEALTH RESORTS.

Dr. Herman Weber, he believed, was the first to recommend high, dry altitudes for patients suffering from phthisis. Not long since, warmth and equability were considered the essentials for a climate adapted to this class of cases, and many physicians were still of the same opinion; but the change that had taken place in the minds of a considerable proportion of the profession was forcibly shown in the popularity of such resorts as Davos and Colorado Springs, at one of which there was snow on the ground fully half the year, and at the other of which there was sometimes a difference of 130 degrees Fahrenheit between the day and night temperature. There was, in fact, no section of country in the world which combined warmth and equability with dryness. Dr. Denison, of Colorado,

¹ See page 450 of the Journal.

¹ See page 446 of the Journal.

in one of his valuable papers had said that variability was characteristic of dryness, and equability was found only associated with dampness.

Dr. Wagner said that he could speak of both Colorado Springs and Davos from his own personal observations while residing at these resorts. Colorado Springs was at an elevation of more than 6,000 feet above the level of the sea, and five miles to the west of it was Pike's Peak, over 14,000 feet in height. It had the dryness of an inland desert, the climate was exhilarating, the atmosphere more clear than that of Italy, and its scenery compared with that of Switzerland. From September to the latter part of April or first of May there was no rain. There were no fogs or mists, and while snow occasionally fell, it rapidly disappeared. The sun shone for 330 days in the year, and in the sun the temperature was warm — 90 to 130 degrees. There was always at least 50 degrees between the temperature of the sun and shade. If the atmosphere were not cold and dry, the heat of the sun would be unbearable. Sometimes at night the thermometer fell considerably below zero.

One great advantage of Colorado Springs was that the invalid could be so constantly out of doors. The wind was the most disagreeable feature of the place, and this was worst in the months of November and March. On the whole, however, there was less wind than in the resorts of the Riviera. In pulmonary diseases the results were excellent, and cases with tuberculous cavities had been reported as cured. Nervous and irritable patients, with a tendency to vascular excitation, should never be sent to Colorado Springs, as the climate was too stimulating for individuals of this class. From all that he could learn, this resort was not contra-indicated in laryngeal phthisis, provided the patient were improving in other respects. He had seen one case of this kind cured, and one other that was improved and on a fair way to recovery.

The hotels and boarding-houses were excellent, and good furnished houses, provided with all the modern conveniences, could be secured at reasonable rates. There are fine churches, schools, libraries, a theatre and a club. The society was excellent, and there were plenty of horses, which could be bought or hired cheap; so that riding and driving constituted a conspicuous feature of the life there. Moreover, the accessibility of the place was a great recommendation to Americans.

Davos was an Alpine valley in Switzerland, 5,300 feet above the level of the sea, and protected from the winds by high ranges. The climate in many respects resembled that of Colorado Springs, although the temperature in the shade averaged lower — from zero to 25 degrees. The north wind was thoroughly exhilarating and bracing, but the south wind was enervating, damp and disagreeable. When the snow melted the atmosphere was naturally full of humidity. The snow usually lasted from the latter part of October to the early part of April. The invalid's day was very short, lasting only from ten to three. So far as his observations went, any serious cases did not recover at Davos, and he thought it was a resort better suited to patients with incipient phthisis and those who retained a certain amount of robustness. The air was entirely too cold to sit out of doors when there was no sun.

There were certain points of difference between the two places, and there could be no doubt that the advantage was on the side of Colorado Springs. Thus,

while at the latter there was an average of twenty-eight good days in the month, at Davos there was only twenty. At Colorado Springs there were eight hours of sunshine in the day; at Davos, four and one-half. At Colorado Springs the invalid could engage in riding, driving, tennis, picnics, etc.; while at Davos the out-door diversions were confined to skating and tobogganing, which involved too violent exercise for many patients. At Colorado Springs the invalid could enjoy the comforts and advantages of home-life; while at Davos he was compelled to stay in a hotel, and it was well known that hotels frequented by many phthisical patients always partook more or less of the character of hospitals and were depressing in their influence. At Colorado Springs the patient could remain throughout the year; but at Davos he was obliged to leave early in the Spring, on account of the dampness from the melting snow.

At Davos the hotels were excellent, and there was plenty of amusement. Formerly the drainage of the place had been very defective; but within the last few years a most efficient system of drainage (said to be the best in Europe), had been introduced. As much could not be said for Colorado Springs, where there was no public system of sewerage whatever, and cess-pools and old-fashioned privies were still in use. He understood, however, that a complete system was now in contemplation, and with the natural facilities of the place for good drainage, he had no doubt that it could be made very perfect. On the whole, he would say that while Davos was unquestionably the best high altitude health resort in Europe, the advantages of Colorado Springs were greatly superior in many respects.

Moreover, there were at Manitou conditions very similar to those at Davos, although it was at an altitude of more than a thousand feet greater, and the shortest days for the invalid was six hours in length. It was well sheltered from the winds, and also possessed some excellent mineral springs. At present, however, it was comparatively deserted in the winter.

DISCUSSION.

DR. ALFRED L. LOOMIS said that the climatic treatment of phthisis was constantly being regarded with more and more favor, and deservedly so. Eighteen years ago he had read a paper before the American Medical Association, in which he took the ground that it was wrong to send patients to warm climates, because a stimulating air was required in order to enable the patient to take out-door exercise. From his studies in connection with this subject since that time he had arrived at certain definite conclusions. In the first place, he did not believe that there was any locality which was *par excellence* the place for phthisical patients; but he recognized that two things were absolutely essential for a curative effect to be produced.

The first was a pure atmosphere, an aseptic atmosphere, if one chose to call it so. Pure air could be taken into the lungs on the same principle that antiseptics were employed in external disease and in surgical cases. He did not think it was possible to treat tuberculous cavities with antiseptic solutions, and doubted whether inhalations or other forms of applying antiseptic agents had any real effect upon the lungs. But if we could keep these organs constantly bathed in an aseptic atmosphere, we were doing all

that was in our power to arrest the disease. Under the beneficial influences of such an air the temperature was reduced and distressing nervous symptoms were relieved. This element, therefore, must be sought for in whatever locality was selected for the patient. Purity of atmosphere was naturally to be expected in high altitudes; but the number of inhabitants and various other circumstances might cause its contamination to a greater or less extent. He had no doubt that the air of Colorado Springs and Davos was originally aseptic; but since they had become crowded with hotels and consumptives, he feared that this was no longer the case, and he believed that the benefit of residing at these places would grow less and less until they would finally be altogether abandoned as health resorts.

The second essential for a curative effect was the presence of conditions conducive to the pursuit of out-door life. It was simply folly, he thought, for a phthisical patient to go to any resort and spend twenty hours out of the twenty-four shut up in a hotel or boarding-house. It was much better to remain at home; and if the patient was not well enough to take out-door exercise, he was not well enough to be sent to these places. This was why those in the first stage of phthisis were so often relieved; and the reason that those with cavities lived was because they went to the health resort in a condition rendering them able to live out-of-doors. It was, however, not necessary to go to Colorado to find a pure air, and besides, he did not believe that high altitude of itself was of the slightest practical importance. The great desideratum was purity of atmosphere; but as it was desirable that the patient should spend as much time as possible in the sun, Colorado Springs was to be preferred to Davos. As regards recovery in these places, if the patient did not remain in them for two or three years after all trouble had disappeared, the disease was almost certain to re-develop within a few months. This was the great objection to high altitudes for consumptives, and he thought it possible to secure a perfectly pure air at a lower altitude, and that, too, much nearer home.

DR. RUFUS P. LINCOLN said that he agreed with Dr. Wagner in believing that Colorado Springs was superior to Davos, and chief among its advantages over the latter was the larger amount of sunshine met with there. With the sun there was dryness; so that we would naturally look for the best results there. On the first of January at Davos, there was sun for only four hours and fifty-seven minutes; while at Colorado Springs, at the same date, there was sun for over nine hours, or nearly twice as long. There was also much less moisture in the air at Colorado Springs than at Davos. As to the advisability of sending a patient with laryngeal phthisis to high altitudes, there had been of late a considerable change in professional opinion, and Dr. Solly, of Colorado Springs, had told him that he had known three cases to recover at that resort.

DR. BEVERLY ROBINSON, who had been announced to take part in the discussion, but was unable to be present, sent a letter expressing his views, in which he stated that he could not say as much of any health resort in this country or in Europe as of Colorado Springs. A residence there, he thought, was of special benefit in the first stage of phthisis, and patients could there breathe the aseptic air to be ob-

tained only at high altitudes; while the remarkable prevalence of sunshine enabled them to pursue the out-door life which was so important a desideratum.

DR. KRETSCHMAR said that Dr. Wagner was mistaken in supposing that Dr. Herman Weber was the first to call attention to the efficacy of high altitudes in phthisis, as the first one to do this was Dr. Bremer, who did so in a work entitled, "The Curability of Phthisis Pulmonalis," which was published in 1852. He thought that Dr. Loomis was in error in supposing that the aseptic character of the atmosphere necessarily underwent a change in such health resorts as those referred to, as the statistics showed that before the year 1853, when Dr. Bremer established his famous hospital at Gerberstoffs, there were actually a greater proportion of deaths from phthisis in the place than there had been since, although more than 13,000 patients had been treated in it. It was also a fact that none of the Sisters who acted as nurses or other attendants in the institution had contracted the disease.

As regards Davos, Dr. Wagner was mistaken in his statement that there were no accommodations to be had except in hotels. There was no dust, which was an objection to Colorado Springs, and the snow unquestionably was of service in helping to preserve the aseptic condition of the atmosphere. In the spring, when the snow melted, the patients very properly left. The most serious drawback that Davos had as a resort for consumptives was the admixture of pleasure-seekers and invalids, since the latter were tempted to indulge in habits which were injurious to them.

The President, DR. A. JACOBI, said that while certain places had a considerable immunity from phthisis, this immunity was only relative. While it might exist among the agricultural population, this would not be the case among those who engaged in in-door employment. One element claimed as an important one in the climatic treatment of phthisis had not been referred to this evening, and that was the necessity of ozone in the atmosphere. This was supposed to be due to sunlight, and it was found among mountains and evergreen forests, as well as near and on the sea. As to the immunity of the nurses and other attendants in Dr. Bremer's hospital, he understood that in this institution it was claimed that the air in the rooms was completely changed five times every hour.

DR. LOOMIS referred to the beneficial effect of antiseptic emanations, and said that many places which were not naturally aseptic were rendered so by such emanations, especially those from evergreen forests.

DR. WAGNER said that he saw no reason why a patient should not be taken to Colorado Springs, even if he were not able to take exercise. The journey could now be made with comfort in a comparatively few hours, and when he arrived he could sit or ride out in the open air, which was not the case at Davos.

Recent Literature.

A Practical Treatise on the Diseases of the Hair and Scalp. By GEORGE THOMAS JACKSON, M.D. New York: E. B. Treat. 1887.

This book is a compiled treatise upon the diseases which affect the hair and scalp. It is in two parts.

The first part, consisting of 59 pages, is given up to a consideration of the anatomy, physiology, and hygiene of the hair; while the second part, comprising 267 pages, is devoted to its pathology, and to the treatment of its diseases. A very complete and painstaking catalogue of the literature which has appeared upon the subject since the year 1860, closes a book which, presenting, as it does, in one volume, a carefully made collection of the existing knowledge and opinions upon diseases of the hair and scalp, will be found useful by those seeking information upon these subjects.

G. H. T.

The Modern Treatment of Disease by the System of Massage. By THOMAS STRETCH DOWSE, M.D., F.R.C.P. London: Griffith, Farran & Co. Boston: Cupples & Hurd.

Dr. Dowse's book consists of three lectures on massage which were delivered before the School of Massage and Electricity at the West End Hospital for Nervous Diseases. With the exception of a little elementary anatomy and physiology in the first lecture, they are better adapted to the understanding of advanced students and practitioners rather than to that of those whom it is proposed to turn into skilled manipulators in less time than it takes to ripen pears. The clinical portions of these lectures are well worth reading, but the method of doing massage must be more primitive than that which was practised in the days of Hippocrates. The first principle of common sense in *masséin* is utterly disregarded; namely, to apply as much as possible of the hands and fingers to the surface to be *masséed*. Just imagine any one drawing his knuckles over a patient and making a return stroke with the wrist! The whole palmar aspect of the hands and fingers is thus rendered useless, which could otherwise do much more efficacious, agreeable and economical work. Dowse has it that when both hands are employed in *pétrissage* they should move simultaneously in the same direction, while Murrell thinks they should move simultaneously in opposite directions, but in our opinion they should more often be made to work alternately in the same or opposite directions.

It is a great satisfaction to see an author so thoroughly familiar with the normal and pathological conditions of the nervous system as Dr. Dowse seems to be, and it is evident from this that he feels quite competent to evolve from his inner consciousness all that is necessary to know and to do about massage, with little or no regard to what any one else may have said or done. But we fear that his enthusiasm has occasionally carried him too far, as when he says, "if this sympathetic nerve of the neck were massaged (*sic*) and brought into healthy action, the eye doctor, the ear doctor, and the throat doctor would have comparatively little to do, and the spectacle maker would have to find some new occupation." Kneading dough and lemons teaches nothing about massage on living tissues. What does he mean by imparting energy by massage? His wood-cuts are as useful as if they represented the man who took the measure of a barn-door between his hands, for neither patient nor barn-door is included between the hands.

Amongst the few authors referred to in the index is Oliver Wendell Holmes. We should like to hear Holmes on massage. But it is not about this that he is spoken of by Dowse.

D. G.

THE BOSTON
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A SECOND GASTROTOMY FOR THE REMOVAL
OF A FOREIGN BODY FROM THE ŒSOPH-
AGUS.

It was the privilege of the readers of the JOURNAL last December, to read an account of an operation, at once original and successful, by Dr. M. H. Richardson, for the removal of a foreign body from the lower end of the œsophagus, where it had resisted attempts to dislodge it from above and was too low to be reached by an œsophagotomy. Dr. Richardson opened the stomach by an incision parallel with the border of the ribs, inserted the hand and forearm into the stomach, introduced two fingers into the œsophagus and drew the foreign body—a dental plate with false teeth—into and then out of, the stomach.

A second gastrotomy for a foreign body¹, this time a peach-stone, has just been published by Dr. William T. Bull, of New York. The subject of the operation was a colored boy sixteen years of age, and the operation itself differed in certain features from the prior operation of Richardson. The incision was three inches in length from the level of the ninth costal cartilage to two inches above the umbilicus; the upper limit was determined by noting the point where the percussion dulness of the liver disappeared. This incision was chosen because an incision in the median line would be nearer to the œsophageal opening than one parallel with the border of the ribs and the hand or finger operating through it would be less encumbered by the overhanging ribs. This incision exposed a part of the anterior wall of the stomach and its greater curvature about two inches and a half from the pylorus. At the part chosen for the incision into the stomach, two loops of silk were placed two inches apart in a vertical line, and the incision made an inch and a quarter long between them; additional loops in the edges gave greater control over the incision.

The finger, inserted into the stomach through this in-

¹ New York Medical Journal, October 29th.

cision, closed the wound entirely and was passed directly backward until the vertebral column was felt, and then upward till it entered the œsophagus, thus making the vertebræ a guide to the œsophagus. The anterior wall of the stomach with its loops of silk, followed the finger into the cavity, and was folded on itself like the invaginated scrotum in examination of the inguinal canal. The foreign body was felt and gentle attempts were made to extract it through the stomach. These failing, a slender bougie was passed along the finger, up the œsophagus and projected from the mouth; a sponge was attached by strong silk to the lower end and pulled through with a view to draw the peach-stone up from below. The first attempt was unsuccessful, but a second with a larger sponge brought the stone into the mouth where the finger met and extracted it. A rapid recovery without accident followed the operation.

The noticeable features of the case which contributed to its success are: the small wound in the stomach just sufficient to admit the index finger, the invagination of the anterior wall of the stomach, the control of the stomach wound by loops of thread so that it was held closed against the finger which acted as a plug and prevented the escape of the gastric fluids, and the very moderate manipulation of the stomach itself.

Dr. Bull emphasizes the advisability, when there is doubt as to the possibility of safely extracting a foreign body by œsophagotomy, of resorting promptly to opening the stomach.

THE MISQUOTING OF MEDICAL MEN.

To be misquoted is a misfortune not peculiar to poets. Indeed, in the ordinary affairs of every-day life, it is notorious that men cannot or do not use that accuracy of statement in repeating one another's remarks which public sentiment exacts in the description of other facts. One of childhood's sports is to procure the repetition of a remark through a series of mouths, when it appears, at last, in a form hardly recognizable to its originator.

There is reason to believe that scarcely any other class of men is so universally misquoted as physicians. Two persons discussing any ordinary subject possess, usually, such a common knowledge of that subject, that each can gain the other's thought, not only from what he actually says, but from what he implies. To his neighbor, one's words usually *connote* certain things in addition to what they definitely denote. Any exchange of thought depends upon what is implied, as well as on what is explicitly stated. Hence, there is little excuse if one cannot repeat the substance of views which he has heard stated on any subject in which he and his interlocutor possess an equal knowledge. But, if men fail so often in this, what wonder is it if they cannot correctly report what their physician tells them. When a physician gives an opinion

to a patient on his malady, there is rarely between the two that common ground of mutual understanding which makes the latter really understand what the former means. If, then, the patient undertakes to reproduce the conversation, he usually adds to what has actually been said an interpretation based upon his own previously conceived ideas of the subject — ideas which, it is needless to say, are not those of the physician.

Then there is the fallacy resulting from inability to make a verbal repetition. Even a synonymous word may lose the spirit of the original expression. The last words of Webster have been quoted as "I ain't dead yet," by men who thought they were really giving the classic expression of the dying statesman. The "yaller jaunders" is a diagnosis which has been attributed to more than one dignified and scholarly practitioner. Pelvic inflammation suffers comparatively little distortion when it is understood and repeated, as it always is, as "inflammation of the womb," but the often quoted "inflammation of the bowels," may mean peritonitis, typhlitis, enteritis, or colitis, some one of which the physician probably said, and then gave an explanation which was translated by the patient into what he supposed to be a synonymous term.

But, while it is probable that "gastric fever," "lung fever," and "brain fever" really convey as much of an idea to the patient's mind as the more scientific terms of which these are paraphrases, nothing so good can be said of the vagaries as to pathology and ætiology which the layman's previous conceptions have evolved out of the doctor's brief and guarded statement. One is sometimes confounded to hear these views soberly attributed to sensible practitioners, with no suspicion, apparently, on the part of the speaker of their grotesqueness. Indeed, it is not a rare experience for a physician to be quoted to himself as having told his patient on some previous occasion certain things, whose announcement, to his mind, would cast a serious imputation upon the intellectual integrity of any one who might really have entertained them.

The moral is obvious; namely, to accept with reservations any opinion that may be attributed by a patient to a previous attendant; not to consider that a physician, even though it be one for whom one personally entertains no very high regard, is necessarily a fool because a foolish diagnosis or an outlandish statement of any kind is attributed to him. An explanation always possible, often probable, is, as in the venerable conundrum, "the boy lied."

A CASE OF SUDDEN SUPPRESSION OF THE VISUAL MEMORIES.

RIBOT in his "Diseases of Memory," remarks that in physiology the distinction of partial memories is now currently received. "Memory resolves itself into memories, just as the life of an organism resolves it-

self into the life of the organs, tissues, and anatomical elements that compose it."

As memory is only the sum of partial memories, and all our knowledge (based on memory) is primarily derived through the senses, and as all the sense-organs have their centres in the cerebrum where the residua of sensations (to use Maudsley's expression) constitute the memories of each special sense, so certain diseased conditions may obliterate one set of sense-memories by destroying their anatomical substrata, leaving, it may be, intact the memories of other senses.

Charcot, in a recent lecture, has given us a good instance of this suppression of one of the forms of memory. It was a case of loss of the mental vision of objects — forms and colors — coming on suddenly in a subject noted for great intellectual activity, but especially for the strength of his visual memory. This individual would recall the principal features of a landscape, a painting, a play with extraordinary exactness and vividness; his imagination was keen, and he excelled in perspective. He could readily recall what he had read by the mental images of words, lines, sentences, etc., presenting themselves. His memory of persons and places was wonderful. After the accident to which allusion has been made, and what seems to have been of the nature of a limited embolism, he lost his visual memory of forms and colors, and was obliged in the management of his commercial affairs to have recourse to other forms of memory (the auditive, tactual, etc.), which were unimpaired. The city where he lived, his very home, and the faces and forms of the members of his family were at first strange to him; he recognized nobody except by the voice; he could only find his place of business by inquiry. Little by little his visual memories returned, but never completely. He had lost the faculty of drawing; could no longer sketch the form of any object which he had once seen. His memory of colors was gone; he could not form the mental image of black, white, red, etc., and when anything of a bright hue was presented to him, he could not recognize the color. The larger part of what he had learned by reading was forgotten, while the memory of what had been acquired by the auditory sense was as vivid as ever.

This gentleman wrote to Charcot that his "interior vision," once so active and perfect, "had completely disappeared." He could no longer represent to himself the forms and features of his wife and children, or any other person or object with which he had been familiar. His dreams were completely changed; he now no longer dreamed of persons and places, but of voices and words. A remarkable consequence of the loss of this mental faculty was the change of character which he had experienced. He found himself much less prone to sorrow, sympathy and moral emotion than formerly. Having recently lost a valued relative, he felt much less poignant grief than he would have felt could he have represented to himself

by the interior vision the physiognomy of this relative, the phases of the disease through which he had passed, and especially, if he could have pictured to himself the external effect produced by this death on the members of his family. He concludes his letter by the remark that he is now obliged to say to himself the things which he wishes to retain in his memory, whereas, before the occurrence of his cerebral lesion, he had only to *photograph them by sight* in order to remember them.

Charcot concludes some very judicious and instructive comments on this interesting case, of whose details we have given but an imperfect idea, by the following observations: "It cannot now be denied that the possible and actual suppression, in numerous instances, of an entire group of memories, of a whole category of commemorative images, without the participation of other groups, of other categories, is a capital fact in pathology as well as in cerebral physiology; it leads necessarily to the admission that these divers groups of memories have their seat in certain determined regions of the encephalon, and adds another proof to those already existing that the hemispheres of the cerebrum consist in a certain number of differential organs, of which each possesses its proper function, while remaining in the most intimate connection with the others. This last proposition is, moreover, to-day generally admitted by those who study the functions of the brain, not only in animals, in the laboratory, but also, and especially, in man, by the procedures of the anatomo-clinical method."

MEDICAL NOTES.

— The Medical Press and Circular says that "most if not all" foreign visitors to the Medical Congress at Washington suffered from more or less severe diarrhœa accompanied by painful abdominal sensations. The affection often failed to yield to remedies, and "some of the unlucky patients were fain to make haste to return to conditions of existence more congenial to their physical happiness." The cause of the malady is ascribed by our contemporary to the peculiarities of the American dietary, including abstention from alcoholic drinks, the use of ice-water and the non-filtration of the water. Query: if the same causes which produced the Englishman's diarrhœa will account for the American's heartburn on that occasion?

— The annual competitive examination for the post of *Internes* in the Paris Hospitals was fixed to take place on October 14th, but had, as we learn from foreign exchanges, to be deferred, on account of the disorder which occurred when the doors of the Examination Hall were opened. The limit of age for the male candidates has always been twenty-eight, but no limit had been fixed for women until after last year's examination. It would probably not have been done then if great discontent and consequent disorder had not, on that occasion, been caused by the admission to

the examination of Mlle. Klumpke, who was over twenty-eight years of age. In spite of the new rule, establishing equality of age for both male and female candidates, Mlle. Blanche Edwards, who is more than twenty-eight, succeeded in obtaining an exception in her favor. That favor was met with great hostility from the students, who, by their disorderly conduct, prevented the examination from being held. Immediately the doors were opened, they commenced shouting: "*A bas le Ministre! Vive le limite d'age! A bas Blanche!*" etc. As is usually the case with the Parisian mob of the present day, the immediate business in hand was varied with shouts of "*Vive Boulanger!*" There seems to be some ground for the suspicion that female medical students, or, at least, female candidates for the *internat*, are not altogether popular among their male companions.

NEW YORK. — CHOLERA ITEMS, ETC.

— In a letter to Surgeon-General Hamilton, Health Officer Smith denies that the steamer *Independente* passed New York Quarantine without proper disinfection. He states that the vessel was detained more than twenty-four hours, and that all baggage, parcels, and bundles were opened in the steerage and thoroughly disinfected, although the ship's surgeon had disinfected the steerage and passengers' baggage with sulphurous acid gas several times during the voyage. The letter goes on to say: "He had also caused the steerage decks to be washed with a solution of corrosive sublimate (1 to 500). The captain and other officers confirmed the surgeon's report, and the exceptionally good sanitary condition of the ship satisfied me of its truth. . . . There were no deaths during the voyage, and not a single case of illness among the passengers. Since cholera invaded Italy, in 1884, every steamer with passengers from Italian ports, on its arrival at Quarantine, has been detained until every package of baggage could be opened and disinfected."

In a letter in answer to one of inquiry from Mayor Hewitt, Mr. Bayles, President of the Board of Health, says: "It is undoubtedly true that the arrival of ship after ship, crowded with immigrants from cholera-infected ports or districts, is a public misfortune to be averted, if possible. In view of all the facts, I would respectfully urge the desirability of discouraging immigration, and the Board of Health would cordially second any effort you may be pleased to make to that end. If the Federal Government can in any way interpose to check immigration from ports infected with contagious diseases, it should be asked to do so."

— The packet ship *Washington* has been fitted up as an observation hospital by the Quarantine Commissioners, and the passengers of the *Alesia* have been transferred to it from Hoffman's Island. No new cases of cholera have developed among the *Britannia's* passengers, but measles has now broken out among them, and a considerable number of cases have been removed to Swinburne's Island.

OBITUARY. WM. M. CHAMBERLAIN, M.D.

— Dr. Wm. M. Chamberlain died of pulmonary disease October 31st, at Summit, N. J. He was born in 1826, at Hanover, N. H., where his father was a professor in Dartmouth College, and he was graduated both in arts and in medicine at this institution. After serving as an interne at Charity Hospital from 1851 to 1853, he engaged in private practice in New York, and, during the late war, he became a Brigade Surgeon. He served, afterward, on the Sanitary Commission, and, in 1863, resumed his practice in New York. He devoted himself more particularly to diseases of women, and succeeded the late Dr. Peaslee as attending physician in this department at the Demilt Dispensary. He was also identified for many years with Charity Hospital as visiting and consulting physician, and was, at one time, President of the Hospital Medical Board. Dr. Chamberlain was an accomplished member of the profession, and his numerous contributions to periodical medical literature were characterized by elegance of style, as well as originality and practical suggestiveness. For the past three years, his failing health prevented him from attending to his professional work as actively as formerly, and he was obliged to spend much of his time away from the city.

Miscellany.

CREOLINE: A NEW DISINFECTANT.

DR. F. VON ESMARCH, assistant at the Royal Institute for Hygiene in Berlin, publishes an important and interesting article in Vol. 2, Nos. 10 and 11, *Centralblatt für Bacteriologie, etc.*, upon a new disinfectant — *creoline* — which will at once arrest the attention of students, the more especially so, since Prof. Dr. Engene Fröhner, of the Royal Veterinary High School, has confirmed, by the most careful experiments, the views expressed by Dr. von Esmarch. Dr. Fröhner describes the results as "astonishing," both in regard to internal administration and external application, and believes that its use in mange and itch will be of value in political economic studies. Experiments were made with creoline and carbolic acid with decomposed material, Asiatic cholera, typhoid, and anthrax; the minutest tables of analysis are given in seconds, minutes, hours, and days, all the changes being noted, and, with the sole exception of the bacilli and spores of anthrax, creoline proved itself to be the most powerful germicide. As yet, Dr. von Esmarch is unable to say why it fell behind carbolic acid in anthrax. In the first trial the results were equal, but in the second experiment creoline did not manifest such germicidal power as the carbolic acid. Dr. von Esmarch says: "All of my liquids were thoroughly decomposed, and emitted a most offensive odor. This disappeared almost entirely when a small quantity of creoline was added, and the mixture agitated every few seconds. The same addition of carbolic acid produced no effect, even when a much larger percentage was used." He also adds: "The action of *creoline* preparations surpasses by far those of carbolic make." A comparison between creoline soap and a one per

cent. sublimate soap resulted largely in favor of the former. The attention of surgeons is especially called to its action upon the micro-organisms of wound-infection, and bespeaks for it careful investigation.

ENLARGEMENT AND DISPLACEMENT OF THE LACHRYMAL GLAND INTO THE UPPER EYELID.

At a recent meeting of the Medico-Chirurgical Society of Edinburgh, as reported in the *Edinburgh Medical Journal*, Dr. Argyll Robertson showed a case of this affection. The case was unique in his experience, and also, he believed, in ophthalmic literature. There were cases of enlargement into the orbit which tended to displace the globe. The displacement of the gland in this case was into the upper lid, in which it formed a tumor, occupying its whole length and part of the breadth, preventing its movements. From the history, that it commenced with a degree of uneasiness and increased lachrymation, and from its granular feel, and the circumstance that, though attached above, it was freely movable under the skin, Dr. Robertson came to the conclusion that the tumor was the gland displaced, and undertook its removal. During the operation, he came across the accessory portion of the gland in its normal position, and left it there to provide moisture for the eye, which had quite recovered from the operation. The lid did not move so readily as its fellow, but its movements were much better than before. The patient had deep-sunk eyes and abnormally small orbits, which afforded a probable explanation of the displacement into the lid, instead of into the orbit. The patient was a spirit merchant, and had sustained no injury to the eye, nor had he any inflammatory symptoms. The tumor was observed by the patient in January, when it was about the size of a bean, since which time it had gradually enlarged. The patient also stated that, in the winter of 1885, a small, similar swelling occurred in the lid, which, however, did not inconvenience him much, and disappeared. The removed gland was also shown.

A CASE OF PURULENT PUERPERAL PERITONITIS SUCCESSFULLY TREATED BY PUNCTURE.

THE *London Medical Record* (August 15, 1887), quotes from the *Archives of Tocologie*, an interesting case, reported by Besnier, of a woman twenty-six years of age, married two years previously, having had two miscarriages, who was delivered at term Aug. 23, 1886, after a normal pregnancy, the labor lasting fifteen hours. Four days after her confinement, the patient was seized with shivering, vomiting, and abdominal pain. These symptoms persisted, and the vomiting was particularly troublesome, the vomited matter being of a bright green color. Tympanites supervened, soon followed by profuse diarrhœa. On the fifteenth day the patient was taken into the country, where a certain improvement in her condition seemed to take place. The pain, however, remained, though less severe, and the abdomen gradually increased in size. After six weeks in the country the patient was brought back to Paris, where Dr. Besnier saw her for the first time on October 20th. She was then much emaciated, temperature 98°, pulse small and feeble,

100 per minute, profuse perspiration, preceded by slight rigors and general discomfort, bilious vomiting and diarrhœic stools, complete loss of appetite. The abdomen was distended to the extent of an eight months' pregnancy, but offered no zone of resistance on pressure, and tenderness was not marked. The percussion note above was hyper-resonant; below, absolute dullness prevailed, and the shock was distinctly transmitted from one side to the other. Change of position altered slightly the limits of the area of dullness. There had been no hæmorrhage after delivery, and the lochia had run the usual course. It was diagnosed to be a case of purulent peritonitis, and evacuation of the pus was proposed. This was ultimately agreed to, and on Oct. 30th a moderate-sized trocar was introduced into the left side, at the usual site in puncturing for ascites. Five and a half litres of pus came away in the course of half an hour, the belly being gradually compressed. The wound was dressed with iodoform. Immense relief was at once experienced, and no further accumulation took place. Towards the end of November the patient was able to get up, and soon recovered her health and strength. Menstruation returned soon after, without any untoward symptoms.

Correspondence.

PASTEUR ANTICIPATED IN 1812.

BOTANIC GARDEN OF HARVARD UNIVERSITY,
CAMBRIDGE, MASS., October 31, 1887.

MR. EDITOR,—In the course of my reading, I have chanced upon the following passage, which may prove of some interest to your readers. It is taken from "Observations on Hydrophobia," by James Thacher, M.D., Plymouth, Mass., 1812. It seems as if Dr. Thacher's project was in a fair way of being carried into successful execution, after a lapse of more than seventy years.

GEORGE LINCOLN GOODALE, M.D.

From page 300, of the work cited above, the italics standing as in the original:

"Experiments made upon the canine poison in brutes, might be considered as an arduous and hazardous undertaking, but it is not to be deemed altogether impracticable and I will suggest the following project for the purpose. In the first place, dogs when affected with madness, instead of being killed, should be confined and secured that the disease may run its course, and for the ascertainment of many useful facts connected with its several stages. If experiments on dogs should be deemed too hazardous, let other animals of little value be selected, provided a sufficient number can be procured. Having provided for their security in some proper enclosure, let them be inoculated with the saliva of the mad dog, by the point of the lancet, which would undoubtedly prove as effectual as the dog's teeth. The animals thus infected, are to be the subjects of various experiments and the most attentive observation. With some, the inoculated part might be cut out at different stages, to ascertain the latest period in which it may be done successfully. To others, various counter-poisons and specific remedies might be applied to the wound and administered internally. In fact, it would be difficult to determine, *a priori*, the extent of the advantages of this novel plan, if judiciously conducted. You may smile at my project, but however chimerical and visionary it may appear, I would rejoice to be the Jenner of the proposed institution; though I might fail in realizing my thousands, I could pride myself in being the candidate for the honor, and the author of an attempt to mitigate the horrors attending one of the greatest of all human calamities."

LETTER FROM BERLIN.

OCTOBER 11, 1887.

The Sixtieth Session of the Association of German Naturalists and Physicians met in its annual session at the beautiful city of Wiesbaden, so noted for its health-giving properties, as well as its encouragement of just such meetings and associations as this one. This Association is one of the most important of its kind in Germany, and draws attendance from all parts where the German tongue is spoken. It numbers many members. The city did its utmost to make the meeting a pleasant one. A large reception platform was erected at the depot and the principal street, Wilhelm Strasse, which leads from the depot to the Kursaal was highly decorated with flags and evergreens. The session was opened at 9.30 A.M., September 19th, by Prof. Dr. Fresenius, of Wiesbaden. The President, in his opening speech said that this was the third time he had the honor to preside over this assembly and it was the third time the Association had the pleasure of meeting in this city. Contrary to human experience the Association is becoming every year more vigorous instead of growing gradually weaker as the threescore years were attained. The growth of the Association during the last two decades was due, in a large part, to the union of the Fatherland, and the increase of freedom, for which we have largely to thank our worthy Emperor, whose interest in the advancement of science is so well known. Three cheers were then proposed for the Emperor, which were given with a will, and a telegram was sent to him. Dr. von Ibell welcomed the guests, as mayor of Wiesbaden, and dwelt on the great good done the city by hygiene.

The scientific papers were then begun, the first being by the renowned chemist, Professor Wislicenus, of Leipsic, and was "Concerning the Development of the Teaching of Isometric Chemical Connections."

Professor Preyer, of Jena, read on the subject "Science and Schools." He discussed the question of over-pressure in the schools, and was in favor of the development of the body as well as of the brain. He dwelt at length on the subject of short-sightedness among the scholars, which is no where so prevalent as here in Germany, and which is year after year becoming more prevalent, and which in fact can be noticed to become more and more aggravated as the classes are more advanced. The health of the children also suffers in other respects at school. He thought the short-sightedness was present in such great amounts on account of the poor light in the school-rooms, and on account of the faulty position of the scholars while at study. On account of the unreasonably long duration of the hours of instruction, five hours following after each other, the brain is overstrained, and that additional trouble is caused by the badly-constructed school benches and desks and the holding and carrying of heavy books and other materials. The classics, he thought, occupied too much time in the schools. They were studied by children of too tender years, and studied too much and too long. It were better were the modern languages, modern history and the sciences studied more to the exclusion of the dead languages.

The paper was received with great manifestations of pleasure.

Dr. Schwartz, of Cologne, read a paper on "Hygienic Problems which present themselves to the Physician who Treats Diseases which spread in Epidemics." The author cited the readiness with which the plague among animals was controlled by the authorities by prompt efforts to prevent its spread, and said that efforts in this direction with regard to infectious diseases among men were not nearly so prompt or efficacious, and left much to be desired. Many of the rules which are made for the prevention of the spread of disease among men, conflict more or less with private interests, and are thus rendered more or less ineffective. The public good is too often laid aside for private interests. It is very necessary that early and exact knowledge of a beginning epidemic be had.

Dr. Meinert, of Dresden, read on the "Influence of the

Temperature of the Atmosphere on the Mortality of Nursing Children from Diarrheas." This gentleman spoke of the insufficient ventilation and too great warmth of the houses during the summer months. It is worthy of observation that the death-rate in the different stories of the house is different. In the rooms of the cellar, which are generally cool, the death-rate from diarrhoeal diseases reaches only 4 per cent. It is highest, however, on the ground floor, where it reaches 12.75 per cent. This is supposed to be occasioned by the fact that this floor is exposed both to the direct rays of the sun and to the reflected heat from the ground. In the first, second and third stories the mortality is considerably lessened. Houses which cool off slowly, as brick and stone ones, and the houses of bakers, in which the bake-oven is built, thus keeping up the heat, have more children suffering from these diseases than others. In the working classes the mortality among children from this class of diseases reaches 61 per cent., in the middle classes, 23 per cent., and in the higher classes still less per cent. The better classes, by opening the windows, and clothing their children in a sensible manner avoid this high mortality. It is interesting to notice that in the south of Europe, for instance in Italy, where the houses are built with the idea of being as cool and well ventilated as possible, the death-rate from these diseases is not so high as in Germany, where this ventilation is not thought necessary.

Dr. Ludwig Wolf, of Berlin, read on "The Coast and Inland Climate of Africa." On the coast the rainy and dry periods exist, but in the interior there is no such sharp division. The temperature change in the interior is very great. In Central Africa malaria is the only disease which causes much trouble. Other diseases are present, but not so much as in Europe. He would not recommend emigration in large numbers to that part, as equatorial Africa is not well suited for Europeans. He thinks that males could go there and with care live in good health for a long time, but as to females he did not think they would do so well, as they are more subject to disease in equatorial lands, such as anæmia and its sequences.

Professor Rudolph Virchow read on "Transformismus or Darwinism." His paper was, as is always the case, full of interest and well listened to.

Professor Meinert, of Vienna, read on "The Mechanism of the Physiognomy."

The display of scientific instruments and appliances was a very large one and consisted of those from all parts of the world. The meeting closed its session on the 23d, and was one which will be well remembered by those who attended its sessions.

German gynæcologists have been busy with the statistics of the operation for the complete removal of the uterus for carcinoma. Material is now on hand to determine if the operation is a justifiable one. The testimony is to the effect that it is. It is, without doubt, superior to any other treatment of the cancerous uterus. Up to the close of the year 1886, 811 cases have been collected, with 47 deaths, or 15.1 per cent. With increased experience the mortality is gradually decreasing, and we may expect it to continue to do so. As to immediate mortality the operation shows better results now than the removal of the breast for cancer. The patients are usually prepared for the operation with an antiseptic vaginal injection. One stroke of the knife frequently suffices to open the pouch of Douglas and display to view the posterior fornix, after which the cutting is done cautiously, paring with the finger-nail. Warm water is kept running over the surfaces, and no sponges are used. The peritoneum is opened on the one side and one finger is passed in, which frees the broad ligament from the uterus. The ligament is then in like manner freed on the other side, up to which time the hæmorrhage is very inconsiderable. The bladder is then freed, which is done with the forceps and the knife. The cut borders of the vagina are then united to the peritoneum, just as was done on the other side. It seems to be of little import whether the uterus is removed through an incision made posterior to the neck, or at the side or front of it.

Some turn the uterus over, others draw it down and remove it. Some leave the opening in the floor of the pelvis, others close it. It may be drained either with iodoform gauze or a tube. If easily done the tubes are also removed. It is not the custom here in Germany as in France and England to use the clamping forceps to restrain the hæmorrhage from the ligamenta lata. The prognosis in the total extirpation of the uterus is quite as good as in the supra-vaginal operation, and is rapidly supplanting it.

Those attending laparotomies in the clinics of Olshausen and Martin, are required not to come in contact with any infectious material on the day before the operation, to wear clean linen and clothing, which has not been in the reach of infection, to take a full bath immediately before coming to the operation, to remove the coat, vest, collar, neck-tie, and suspenders before entering the room, not to touch any of the instruments or materials used in the operation. The operator and his assistants wear a suit of muslin, and are thoroughly antiseptic.

Sanger's method of performing Cæsarean section is rap-

idly gaining confidence among the Germans. Créde, Leopold, and Gusserow have all done the operation and recommend it very highly. Leopold recommends complete closure of the abdominal cavity with the continued suture after the protrusion of the uterus. The hæmorrhage after the uterine incision he controls by means of a rubber band or manual compression. He is careful to free the uterine cavity from decidua and that the uterine sutures are very exact in their coaptation. The uterus is opened with an incision, beginning near the fundus and extending down to the lower uterine segment, to the place where the peritoneum is movable, and sits loosely on the inferior uterine segment. The cavity is strewn with iodoform and the incision closed with eight silver sutures, which close the muscle without the decidua. About sixteen silk sutures are then applied which penetrate the peritoneum only. The operation is most successful in Germany. The first 50 cases after Sanger resulted in 36 recoveries or 72 per cent. After Porro, 29 died, or 58 per cent. After Sanger, 14 died, or 26 per cent. This shows a difference of 30 per cent. in favor of Sanger.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 29, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	673	237	18.95	15.75	3.75	1.95	10.20
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	278	95	24.84	8.64	2.32	2.16	12.96
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	149	55	19.43	18.09	5.26	2.01	8.71
Boston	400,000	193	68	15.66	14.58	4.32	1.62	7.02
New Orleans	242,750	130	42	16.17	10.01	3.08	—	6.16
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	83	32	14.40	19.20	2.31	1.54	3.08
Pittsburgh	210,000	70	22	65.78	8.58	32.89	12.87	20.02
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	19	6	26.30	10.52	—	5.26	—
Charleston	60,145	36	8	11.12	13.90	5.56	5.56	—
Portland	40,000	9	4	11.11	22.22	11.11	—	—
Worcester	68,383	30	11	29.99	16.66	—	10.00	10.00
Lowell	64,051	40	11	25.00	7.50	12.50	2.50	7.50
Cambridge	59,660	27	9	18.50	14.80	—	3.70	11.10
Fall River	56,863	19	7	15.78	10.52	10.52	5.26	—
Lynn	45,861	12	—	—	25.00	—	—	—
Lawrence	38,825	16	5	6.25	43.75	—	—	—
Springfield	37,577	11	7	63.63	9.09	—	—	45.45
New Bedford	33,393	12	0	—	16.66	—	—	—
Somerville	29,992	14	7	29.56	21.42	7.14	—	—
Salem	28,084	14	3	29.56	14.28	7.14	—	21.42
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	0	37.50	25.00	12.50	—	—
Taunton	23,674	6	2	—	16.66	—	—	—
Haverhill	21,795	11	2	18.18	9.09	—	9.09	9.09
Gloucester	21,713	11	3	9.09	18.18	—	9.09	—
Brockton	20,783	6	1	—	16.66	—	—	—
Newton	19,759	5	1	—	20.00	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	4	0	—	75.00	—	—	—
Newburyport	13,716	6	1	—	16.66	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,905: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 376, consumption 269, acute lung diseases 236, diphtheria and croup, 170, diarrhœal diseases 66, typhoid fever 49, scarlet fever 38, malarial fever 29, cerebro-spinal meningitis 14, measles four, whooping-cough three, puerperal fever two, erysipelas two. From scarlet fever, New York 13, Brooklyn 10, Boston eight, Somerville three, Cambridge, Lawrence, Springfield and Chelsea one each. From malarial fever, Brooklyn 10, New Orleans nine, New York six, Baltimore three, District of Columbia one. From cerebro-spinal meningitis, New York four, Worcester three, Boston two, Baltimore, Nashville, Lowell, Springfield and Brockton one each. From measles, New York two, Baltimore and Chelsea one each. From whooping-cough, New

York, Boston, and Nashville one each. From puerperal fever, District of Columbia two.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 15th, the death-rate was 17.8. Deaths reported 3,151; infants under one year of age 719; acute diseases of the respiratory organs (London) 280, scarlet fever 124, diarrhœa 68, measles 50, whooping-cough 50, fever 53, diphtheria 29, small-pox (Sheffield) eight.

The death-rates ranged from 14.2 in Leicester to 27.1 in Plymouth; Birmingham 15.1; Bradford 18.8; Leeds 14.7; Liverpool 17.9; London 16.7; Manchester 24.5; Nottingham 17.5; Sheffield 21.1; Sunderland 18.5.

In Edinburgh 16.1; Glasgow 23.4; Dublin 27.3.

The meteorological record for the week ending October 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Oct. 29, 1887.	Barom- eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, ... 23	30.20	44.0	52.0	34.0	69.0	40.0	82.0	64.0	W.	W.	S.	12	10	8	C.	F.	C.	40-60	*T	
Monday, ... 24	29.95	56.0	68.0	44.0	75.0	43.0	66.0	61.0	S.W.	W.	W.	24	22	14	O.	O.	O.			
Tuesday, ... 25	30.33	43.0	47.0	40.0	63.0	66.0	77.0	69.0	W.	S.W.	W.	8	12	10	O.	O.	F.			
Wednesday, ... 26	30.51	39.0	44.0	32.0	72.0	72.0	88.0	77.0	N.	N.E.	E.	12	16	12	C.	C.	O.			
Thursday, ... 27	30.46	44.0	46.0	39.0	76.0	65.0	85.0	75.0	N.	S.E.	W.	8	8	3	F.	O.	O.			
Friday, ... 28	30.26	47.0	49.0	43.0	78.0	79.0	86.0	81.0	N.W.	S.E.	S.E.	3	8	2	O.	O.	F.			
Saturday, ... 29	29.97	47.0	52.0	39.0	92.0	87.0	90.0	90.0	N.	S.E.	S.E.	4	12	7	O.	C.	F.			
Mean, the Week.	30.560	45.7	51.0	39.0				73.9										40-60	*T	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 29, 1887, TO NOVEMBER 4, 1887.

ADAIR, G. W., captain and assistant surgeon. The leave of absence for seven days granted on the 27th inst., by the commanding officer, Fort Brady, Mich., is extended twenty-three days. S. O. 231, Division of the Atlantic, October 28, 1887.

BROWN, PAUL R., captain and assistant surgeon. Leave of absence extended one month. S. O. 250, A. G. O., October 27, 1887.

MUNN, CURTIS E., captain and assistant surgeon. Relieved from duty at Fort Canby, Wash. Ter., and ordered for duty as post-surgeon at Fort Klamath, Oregon. S. O. 251, A. G. O., October 28, 1887.

BYRNE, CHAS. B., captain and assistant surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 231, Division of the Atlantic, October 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 5, 1887.

FITZSIMMONS, P., surgeon. Ordered to the United States Steamship "Marion."

ATLEE, L. W., assistant surgeon. Ordered to the United States Steamship "Marion."

BATES, N. L., medical inspector. Ordered to the United States Steamship "Trenton."

BEYER, HENRY G., passed assistant surgeon. Ordered to the United States Steamship "Trenton."

WHITE, STEPHEN S., assistant surgeon. Ordered to the United States Steamship "Trenton."

RIXEY, P. M., passed assistant surgeon. Detached from the United States Steamship "Trenton" and wait orders.

ASHBRIDGE, RICHARD, passed assistant surgeon. Ordered to the United States Receiving Ship "St. Louis."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING OCTOBER 29, 1887.

BAILHACHE, P. H., surgeon. To proceed to Buffalo, N. Y., Erie, Pa., Ashtabula, Cleveland, Sandusky, and Toledo, Ohio, as inspector, October 14, 1887.

FESSENDEN, C. E. D., surgeon. Detailed as Chairman of Board for the physical examination of cadets, Revenue Marine Service, October 15, 1887. To proceed to Cape Charles Quarantine Station as inspector, October 26, 1887.

SAWTELLE, H. W., surgeon. Detailed as Chairman of Board for the physical examination of officers, Revenue Marine Service, October 27, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To inspect unseizable property of Boston, Mass., and Portland, Me., to proceed to Vineyard Haven, and New Bedford, Mass., as inspector, October 8, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as Recorder of Board for the physical examination of cadets, Revenue Marine Service, October 15, 1887.

WHITE, J. H., passed assistant surgeon. Leave of absence extended four days, October 21, 1887.

CARRINGTON, P. M., assistant surgeon. Detailed as Recorder of Board for the physical examination of officers, Revenue Marine Service, October 27, 1887.

FATTIG, J. B., assistant surgeon. Granted leave of absence for seven days, October 28, 1887.

BETTUS, W. J., assistant surgeon. When relieved at Savannah, Ga., to proceed to Galveston, Texas, and assume charge of the Service, October 17, 1887. Granted leave of absence for thirty days, October 21, 1887.

KINYOUN, J. J., assistant surgeon. Granted leave of absence for fifteen days, October 19, 1887.

\$250 PRIZE; COMPETITION OPEN TO ALL THE WORLD.

COLLEGE OF PHYSICIANS, NOV. 1, 1887.

The first award under the William F. Jenks Prize-Fund, of The College of Physicians of Philadelphia, will be made by the Committee, for the best essay upon "The Diagnosis and Treatment of Extra-uterine Pregnancy," as soon after January 1, 1889, as may be practicable. Papers for competition must be written in English, and be presented by the said date. The prize essay is to become the property of the College. By order of "The Committee of the William F. Jenks Prize,"

ELWOOD WILSON, *Chairman*.

1517 Walnut St., Philadelphia, Pa., U. S. A.

PRIZES FOR ESSAYS ON MEDICO-LEGAL SUBJECTS.

The Medico-Legal Society of New York announces the following prizes for original essays on any subject within the domain of Medical Jurisprudence or Forensic Medicine: (1) For the best essay—One Hundred Dollars, to be known as the Elliott F. Shepard Prize. (2) For the second best essay—Seventy-five Dollars. (3) For the third best essay—Fifty Dollars. The prizes to be awarded by a commission, to be named by the President of the Society, which will be hereafter announced. Competition will be limited to active, honorary and corresponding members of the Society at the time the award is made. It is intended to make these prizes open to all students of Forensic Medicine throughout the world, as all competitors may apply for membership in the Society, which now has active members in most of the American States, in Canada and in many foreign countries. All persons desiring to compete for these prizes will please forward their name and address to the President and Secretary of the Medico-Legal Society of New York, to whom application should be made for further particulars.

CLARK BELL, *President*, 57 Broadway, N. Y.

ALBERT BACH, *Secretary*, 140 Nassau St., N. Y.

DEATH.

Died in Springfield, Mass., November 5, 1887, Pierre Le Breton Stickney, M.D., M.M.S.S., aged seven-thirty years.

ERRATUM.

In the JOURNAL of November 3, 1887, page 442, second column, third paragraph, ninth line, for "June" read "January."

Original Articles.

CLINICAL NOTES ON PEDICULOSIS.¹

BY F. B. GREENOUGH, M.D.

At one of the recent meetings of this Association, the Chairman of the Committee on Statistics, in calling attention to the various interesting points that were shown in their report, stated that the number of cases of pediculosis reported from Boston was largely in excess of those from the other sections. An examination of the statistics published in the Transactions of this Association for the last nine years shows that this was not only the case during the year referred to, but that the excess has been a constant one.

Having looked up the statistics in regard to a class of cases in which I have always been interested I venture to lay before you a few of the results, although I fear that, to many of you, the subject will appear unimportant and uninteresting.

That practically, however, it is not unimportant, in Boston, at least, is, I think, shown by the fact that, out of 15,551 cases of cutaneous disease recorded on the books of the Department for Skin Diseases at the Boston Dispensary, I find 914, or very nearly 6%, entered as being caused by the presence of one of the three varieties of pediculi.

The following table is condensed from the Transactions of the Association, and gives the numbers of the three varieties of pediculosis reported during the past nine years, as well as the whole number of cases of cutaneous disease.

TABLE NO. I.

Statistics of number of cases of PEDICULOSIS reported in the Transactions of the American Dermatological Association from 1878 to 1886 inclusive.

	Boston	New York	Philadelphia	Baltimore	St. Louis	Chicago	Canada
Cases of Pediculosis	2132	995	320	113	48	660	39
Cases of skin disease	40070	32578	9269	5205	3312	21229	1173
Per cent. of Pediculosis	5½—	3+	3½+	2 1-6	1½—	3—	3—

A summing up of the nine years shows that the ratio of cases of pediculosis to the whole number of skin affections reported from Boston, is a little less than 5½%; from New York, a little over 3%; from Philadelphia, a little over 3½%; from Baltimore, 2½%; from St. Louis, less than 1½%; from Chicago, less than 3%; and the same ratio from Canada. That is, that Boston reports nearly double the number that the next largest (Philadelphia) does, and almost four times as many as the lowest (St. Louis). An examination of this table shows several interesting points, but I will only refer to the fact that in 1884, New York, out of 2,737 cases of skin disease reported none of pediculosis capillitii, and also that the number of cases of pediculosis pubis reported from Chicago are very nearly, if not quite, equal to those reported from all other localities.

The relative excess, however, in favor of Boston is even more marked in the cases of pediculosis capitis, as its percentage of these cases is 4%, to New York's

1½%, Philadelphia's 2%, Baltimore's 1½%, St. Louis's 1%, Chicago's 1½%, and Canada's 1%; that is, double the next highest, and over four times the lowest. This difference, running with constancy through a period of nine years, shows that it cannot be due to an accidental or temporary cause, and the interesting question to me has been as to what it could be attributed. There is nothing in the geographical situation or climatic condition of Boston that would be especially favorable to the propagation of this class of parasites, nor is there that difference in the mode of life, habits, cleanliness, etc., of the inhabitants, as compared with those of her sister cities, that could explain it. The only explanation that seems at all plausible is, that there is a difference in the observers who record the cases, in their classification of them, and I cannot but think that some cases which, in the Boston Hospital and Dispensary case-books, would be entered as pediculosis capillitii, would elsewhere be recorded as cases of eczema capitis.

I have also tabulated the cases of pediculosis from the records of the Boston Dispensary, with reference to sex and age, as well as relative frequency to whole number of cases of skin disease, and have drawn up four tables; that is, one for cases of pediculosis capillitii, which number 500; one for cases of pediculosis corporis, which number 337; one for cases of pediculosis pubis, which number 27; the fourth one being of cases which, on the record books, are entered simply as pediculosis, without stating of what variety; of these there are 50, which makes the total number 914, occurring in 15,551 cases of skin disease, a ratio of about 6%.

TABLE NO. II.

Cases of PEDICULOSIS CAPILLITII from the records of the Skin Department. Boston Dispensary.

MALE.

Year ending July 1.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for year.
1874	1	2	1	1	..	..	..	..	..	4
1875	3	2	1	..	..	..	..	..	..	6
1876	1	1	4	..	..	..	..	..	..	6
1877	4	1	3	..	..	..	..	..	..	8
1878	6	2	2	..	..	..	..	..	..	12
1879	3	1	3	..	..	..	..	..	..	6
1880	3	..	..	..	..	..	..	..	..	5
1881	3	..	..	..	..	..	..	..	..	5
1882	3	..	..	..	..	..	..	..	..	6
1883	3	1	..	..	..	..	..	..	..	3
1884	1	..	..	..	..	1	1	..	..	3
1885	2	2	..	..	..	..	..	..	..	4
1886	4	1	..	..	..	..	..	..	..	5
1887	2	3	1	..	..	..	..	..	..	6
Total Male	34	25	19	1	..	1	1	..	..	81

FEMALE.

Year	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for year.
1874	2	5	..	..	..	..	..	..	..	7
1875	1	5	2	2	..	1	..	..	..	11
1876	4	4	5	4	1	..	..	..	1	19
1877	7	15	9	2	1	..	3	2	..	39
1878	12	17	12	4	..	..	..	..	..	45
1879	6	10	13	2	1	2	..	..	..	34
1880	6	17	10	1	1	..	..	..	1	36
1881	8	16	6	1	1	..	..	..	..	32
1882	4	10	10	1	..	1	..	..	1	27
1883	5	11	7	..	..	1	2	..	..	26
1884	4	8	1	..	1	..	1	..	..	15
1885	5	17	19	1	3	2	..	1	..	48
1886	4	19	12	1	2	..	1	..	1	40
1887	6	18	10	2	2	..	..	..	..	40
Total Female	74	172	116	21	13	9	7	3	4	419

Total, Male and Female, 560.

¹Read before the American Dermatological Asso. Aug. 31, 1887.

The three varieties of the pediculus which cause the cutaneous affections that are classed under the heading of pediculosis are the pediculus capitis, the pediculus corporis, and the pediculus pubis.

TABLE NO. III.

CASES OF PEDICULOSIS CORPORIS from the records of the Skin Department. Boston Dispensary.

MALE.

Year ending June 30	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	..	1	..	..	..	..	..	..	..	1
1875	..	..	4	..	2	..	2	..	3	11
1876	..	1	2	3	..	3	2	4	3	18
1877	2	..	1	3	4	8	6	5	3	32
1878	..	..	..	..	1	1	..	4	3	9
1879	..	..	2	3	1	1	..	1	7	15
1880	..	..	2	..	2	2	2	3	3	14
1881	..	..	1	2	1	1	3	2	2	12
1882	..	2	1	..	4	1	2	4	6	22
1883	..	1	..	1	1	3	3	1	..	10
1884	..	..	2	..	2	2	2	4	3	15
1885	1	..	1	..	1	1	1	..	1	6
1886	1	1	2	2	6	2	..	3	4	21
1887	..	1	..	..	1	..	2	1	5	10
Total Male	4	7	18	16	26	25	25	32	43	196

FEMALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	..	..	..	..	..	1	1	1	3	4
1875	1	..	..	2	..	2	2	2	4	13
1876	1	..	..	..	4	6	2	5	2	25
1877	2	..	..	..	2	1	1	2	4	13
1878	1	2	..	..	2	..	4	3	10	20
1879	..	1	..	..	..	1	2	1	3	7
1880	1	..	..	..	2	1	4	5	15	28
1881	1	..	..	1	2	1	1	4	5	15
1882	1	2	1	1	..	3	1	2	2	13
1883	..	..	..	..	..	1	1	1	4	8
1884	..	1	..	..	..	3	2	2	3	10
1885	..	..	1	..	..	..	2	2	5	10
1886	1	..	1	..	1	2	1	1	2	9
1887	..	1	..	..	1	..	2	4	2	10
Total Female	8	7	3	4	13	20	23	28	35	141

Total, Male and Female, 337.

TABLE NO. IV.

CASES PEDICULOSIS PUBIS, from the records of the Skin Department. Boston Dispensary.

MALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for year.
1874	3	..	..	..	..	3
1875
1876	3	..	..	..	..	..	3
1877	2	..	..	..	..	..	2
1878	1	..	..	..	..	1	2
1879	1	..	..	..	..	1	2
1880	1	3	1	1	..	6	12
1881	1	..	..	..	1	3
1882	1	..	..	..	1	3
1883	1	..	..	..	1	3
1884
1885
1886	1	1	..	..	1	3	6
1887	1	1	..	..	..	2	5
Total Male	10	11	1	1	1	2	26

There was only one Female Case which was between fifteen and twenty years of age, and occurred in 1878.

Total, Male and Female, 27.

They each occupy a certain region of the body, and do not encroach on each other's territory, the pediculus capitis confining themselves to the hairy region of the scalp, the pediculus corporis to the body, and the pediculus pubis to the pubic region, axillæ, and that

when transplanted from one individual to another, they may get off their own proper ground seems almost inevitable; but, if such is the case, they soon get back there, as they are never, or, at least, rarely seen, except in their own locality. Of the three, the pediculus capitis is the most prevalent. A tabulation of the 914 cases of pediculosis entered on the case-books of my service at the Boston Dispensary shows that 500 were due to pediculosis capitis. I have drawn up the tables with reference to sex and ages, and from them certain facts can be deduced (Table No. II). The proportion of cases with regard to sex is seen to be 81 males to 419 females. In the male cases, of the 81, 34 were boys 5 or under, 25 between 5 and 10, 19 between 10 and 15, and only 3 above the age of 15. In the females, 74 were 5 or under, 172 between 5 and 10, 116 between 10 and 15, and the remaining 57 cases are scattered along, diminishing in number in each five years of age.

TABLE NO. V.

CASES OF PEDICULOSIS. Boston Dispensary. No Variety Stated.

MALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	..	..	..	..	..	..	..	1	..	1
1875	1	1	..	..	..	4	..	1	..	7
1876	..	..	..	..	..	..	..	1	..	1
1877	..	..	..	..	1	..	..	1	..	2
1878	1	2	..	..	..	..	1	1	1	6
1879	1	2	..	..	..	..	..	..	2	5
1880	..	..	..	..	..	..	..	..	..	..
1881	..	..	..	..	..	..	..	..	..	..
1882	..	..	..	..	..	1	..	..	..	1
1883	..	..	..	..	..	..	..	..	..	..
1884	..	..	..	..	..	..	..	..	..	..
1885	..	..	1	..	..	..	..	..	..	1
1886	..	..	..	1	..	1	..	..	..	2
1887	..	..	..	..	..	..	..	..	..	..
Total Male	3	5	1	1	1	6	1	5	3	26

FEMALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	1	..	..	..	1
1875	1	..	..	1	..	1	..	..	..	3
1876
1877	1	..	..	..	..	..	..	..	1	2
1878	..	1	2	..	..	..	..	..	..	3
1879	..	1	2	..	..	..	2	1	1	7
1880	1	1	..	..	2
1881
1882	1	..	1	..	..	2
1883	..	1	..	..	..	..	..	..	..	1
1884
1885	1	..	..	..	1
1886	1	..	..	1
1887	1	..	..	..	1
Total Female	2	3	4	1	1	5	5	1	2	24

Total, Male and Female, 50.

In both sexes, the great majority of cases occur in childhood, when they are not able to take care of themselves. In boys, the frequency of pediculosis capitis drops off markedly at the age when the hair is cut short, and as they grow older, and become bald, they are, of course, comparatively free from it, my table only showing one between 15 and 20, one between 30 and 40, and one between 40 and 50. That the pediculus capitis produces any lesion of the scalp by its bite is very doubtful; that, when present in any number, they will cause a very decided cutaneous trouble, there can be no doubt of at all. It is, however, such as can in no way, from the character of the

efflorescence, be distinguished from an eczema of the scalp, varying in intensity from a congested, scaly form to an acute pustular one, according to the number of parasites present, or the susceptibility of the patient to irritating influences. When I say that it cannot be distinguished from an eczema due to other causes, I mean only as far as the efflorescence itself goes, as its situation, distribution, etc., are such as to make the diagnosis perfectly easy. There certainly is a great difference in individuals as to their susceptibility to the irritating action of the louse, as we see patients with a violently irritated scalp who do not show as many parasites as we find on others, where the cutaneous reaction is very much less. An invariable accompaniment of the presence of lice is the existence of their ova or nits. These are very characteristic, pear-shaped, semi-transparent bodies, attached to the shaft of a hair. When only a few lice are present, they generally are attached to the hair from one to one-and-one-half or two inches from the root, invariably with the sharp end towards the root; that is to say, the egg is laid by the louse with its head pointed towards the scalp. When the nits are very thick, they will be laid nearer and nearer to the root, sometimes almost touching each other. Sometimes, in the case of women or girls with long hair, they may be found on the shaft farther towards the end of the hair, but, as a rule, they are within two, or, at most, three inches of the scalp end. They are found in greater number on the hairs of the back part of the head, sides, and temples, although, in some cases, almost every hair is covered with them. The parts of the head that are most likely to show this cutaneous irritation are the occiput and crown, especially the former. If the patient has been infested by the parasite for some time, a papular eczema may be found on the back of the neck, and even extending down on to the shoulders. The post-cervical glands also may be found enlarged, especially in the case of children, and frequently, it is this enlargement of the glands that causes the mother to seek medical advice.

The diagnosis of pediculosis capitis, is very easy although it is by no means always an easy matter to see the louse itself. If present, however, in sufficient numbers to cause irritation, the nits can be surely seen. In practice, when I see a case of eczema capitis, chiefly confined to the back part of the head, and also find nits, I consider it, treat it, and cure it as pediculosis. It may be said, that it is possible that a case of eczema of the scalp might happen to get pediculi, without their being in any way the cause of the disease, and theoretically I must admit that it is possible; but practically when such cases treated with a parasiticide, have shown within a week that the eczema was cured or at least very nearly so, as has been the case invariably in my experience, it seems fair to assume that the parasite was the origo malis, and more especially so, when the parasiticide used is of an irritant nature, such as would most decidedly aggravate a simple eczema. The treatment of course is addressed to destroying the cause of the trouble, and for this purpose many things are used. It must be remembered, however, that we must not only destroy the pediculi, but that unless we also either remove the nits, or destroy their vitality, the cure is only a temporary one. I have found nothing so efficacious for routine dispensary practice as an ointment of carbolic acid in the strength of one to sixteen

or one to thirty-two, that is, 3ss to ʒi of ung. petrolii. This not only destroys the pediculi but sterilizes the ova, and I have never seen any bad results from it. I must say, however, that in some very bad cases when the whole scalp is a mass of crusts, I have used instead for a few days some tar preparation, diluted with cod-liver oil.

Petroleum is a simple and cheap means of treatment, and is very commonly used. Its inflammability is an objection to its use, however, and I think that that is not the only one. One practical point has been strongly impressed upon me, and that is that if you wish to cure your patients, you had much better not tell them that the trouble is simply due to lice. They will not believe you and will not do what you tell them to, and for this same reason they look upon using such a simple means as petroleum with disfavor. It is a mere waste of breath to argue with them; they will say, and oftentimes truly, that they wash the child's head every day. It has been my experience that it is much better to give them some prescription and strict orders to keep the head clean afterwards. In cases where the mother will do it, the removal of the nits will of course be an additional safeguard, and this can be done very nicely by using a fine tooth-comb dipped in vinegar. A wooden comb is best, and it should be dipped in vinegar between each combing. The vinegar dissolves or at least softens the adhesion of the nit to the hair. By this means with a little patience, the hairs can be combed quite clean. It is advisable of course not to attempt to remove the ova in this way until the acute inflammatory symptoms have subsided.

The pediculus corporis, or as it is more properly called, pediculus vestimentorum, owing to the fact that it abides on the clothes and not on the skin, is in a general way very like the pediculosis capitis. It is larger and somewhat longer in proportion to its breadth, and shows a blackish tinge on the back, to which fact is probably due the name used by sailors to distinguish it from the head louse, that is, grey-back. In my tables it stands second in frequency, the number of cases recorded being 337 to 500 of pediculosis capitis. The relation with regard to frequency between the sexes, is reversed in favor of the males, 196 cases occurring in the male sex to 141 in females. The relative age of the patients is also shown to be the reverse of those in cases of pediculosis capitis, and there is not much difference between the sexes with regard to this point, both of them being more likely to be troubled the older they grow. In males the number of cases increases in each five years, from four cases under five years old, to forty-three over sixty, and in females from eight under five, to thirty-five over sixty. As people get older in the rank of life from which we get these cases, they get careless and perhaps unable to see to their personal cleanliness. While we are not able to see any evidence of the pediculus capitis causing a lesion of the skin by its bite, it seems undoubted that the pediculus corporis does, namely, a congested, infiltrated raised papule. This has been ascribed by some entomologists to the anatomical structure of its mouth, and the literature on this subject is extremely interesting, there being a difference of opinion between some of the best authorities, Burmeister being opposed by Simon and Erichson. Whatever the cause may be, there is no doubt but what these papules cause a most

violent irritation, as patients show the effects of scratching even to the extent of deep excoriations. Whether the body louse, when feeding, goes on to the skin, or feeds without leaving the clothing, I do not know, but in point of fact they are rarely seen on the skin. Kaposi states that when present in large numbers they may be seen on the epidermis after the clothes are removed, but I have never but once seen this, and that was in the case of a very hairy man who was infested with the parasite, when on pulling his undershirt off over his head, I saw one which had evidently been swept off, and was entangled in the heavy growth of hair on his breast. The diagnosis of pediculosis corporis in a severe case is very easy, in a slight one it may be quite puzzling. The fact that not only the parasites but their ova also, are found not on the body, but on the clothes, makes their discovery more difficult than in cases of pediculosis capitis. Even when quite plentiful the pediculi themselves are not easy to see. They hide in the seams of the clothing and it will often take a long and unpleasant handling of the clothes before one can be seen. Generally, however, the nits are more apparent. They are smaller than those of the pediculus capitis, and are attached to the fuzz of woollen clothes, or on the threads of seams. Another evidence is often found in small dark minute spots on the white underclothes, which are the feces of the louse. The main point to guide us is, however, the distribution of the cutaneous irritation on the body. Owing to the fact that the parasite's home is on the clothing, we find the evidence of its injurious influence on those parts of the body which are brought into the most constant and intimate contact with the clothing. These are more especially, the shoulders, and in persons with a full chest the upper part of the breast, and the waist or girth. The outside of the arms, anterior aspect of the thighs, etc., will be more or less affected in proportion to the severity of the case, but it will be the shoulders and breast, and the small of the back and abdomen where the lesions are found most marked. These lesions may consist of congested papules more or less excoriated, deep furrows caused by digging into the epidermis with the nails, excoriated patches, and even furuncles, but I have never seen the moist or pustular eczematous efflorescence, that we so often see as the result of irritation in scabies, especially on the region of the supinators on the forearm. In cases of long-standing, a very decided amount of pigmentation is found, and when furuncles on the thighs have been started, we may get an inguinal adenitis.

It is, however, the much milder cases which will trouble us in the way of a diagnosis, and in such cases we often have to fall back on the distribution of the efflorescences, or, if the case is so light that no decided lesions are to be seen, on the locality to which the patient refers the pruritus complained of. The fact of old patients being especially subject to pediculosis corporis, makes the differential diagnosis between this and pruritus senilis a difficult one in many cases. The same is true with regard to the pruritus which accompanies hepatic disease and that of other organs. It must also be borne in mind that pediculosis may be co-existent and complicate the manifestations of any other skin disease, and such is frequently the case. Strange to say, however, I have never seen it and scabies on the same patient. In the treatment of this

form of pediculosis, we have the opportunity of following the old maxim, "*tollite causam*," and thus accomplishing a cure, by simply removing the infected clothes, or rendering them innocuous. Unfortunately the class of patients with whom we have to deal is such that this is by no means easy. To disinfect the clothing it is only necessary to expose it to the degree of heat at which albumen coagulates, to kill the lice and also sterilize the ova. Abroad, the hospitals have ovens where this can be done without injury, or at least without serious injury to the garments. In Boston, at the jail and States prison, the clothing is boiled, which effects the purpose, but which in the case of woollen materials is apt to render them a little small in future for the owner. Underclothes can, of course be boiled, and if anybody understands how, and is willing to do it, coats, trousers and waistcoats may be practically nearly disinfected, by passing a quite hot flat-iron along the seams and creases. In these cases, even more than in those of pediculosis capitis, that I referred to, does one run against a snag by telling the patient that their only trouble is due to a lack of cleanliness and the presence of lice. If you spend ten or fifteen minutes in hauling over their dirty clothes and finally manage to show them a louse, they will say, and many of them really believe it, that the state of their blood is such that they breed vermin. To such patients I simply order a solution of carbolic acid to moisten their skin with morning and night, and urge them to have their underclothing boiled as well as washed. Severe cases, of course, would have to be treated according to the lesions they suffered from.

Pediculosis pubis, in my tables, appears as very much less frequently occurring than the other two forms: I only having twenty-seven cases recorded, and of these twenty-six were males. This can not, however, be taken as a fair ratio of the actual comparative frequency of this disease. Without doubt if I had stripped every patient, I should have found that a very much greater number of them had this parasite. The number entered were those that called for advice for this trouble, and that there was only one woman amongst them is due to the fact that we get very few prostitutes as patients at the Dispensary, and still more that they probably recognize the trouble themselves and use domestic remedies to treat it. The ages given in my table are rather interesting, and what would be expected, that is, that of the twenty-six male cases, ten were between fifteen and twenty, and eleven between twenty and thirty, that is, twenty-one out of twenty-six were between the ages of fifteen and thirty. The only woman was between fifteen and twenty. These statistics would show that the pediculus pubis is most decidedly more frequently found in patients of that time of life, at which they are most likely to have sexual intercourse, and conversely would tend to disprove that the pediculus pubis is often acquired from waterclosets, or other non-sexual ways. One interesting fact with regard to this parasite is ignored in my statistics, and that is its occurrence in young children, on the eyelashes. The reason that such cases, of which I have seen about half a dozen, do not appear in my tables, is that they come under the observation of the oculist, rather than the dermatologist, and it has been due to the kindness of *confrères* in that speciality that I have seen the cases I have. The only way in which I can explain their being in such

a position is by supposing the child had slept with an adult infested with crabs, and had snuggled up with its head under the axilla. Anatomically the pediculus pubis differs much more from the other two, than they do from each other, its breadth being almost equal to its length, and the formation of its anterior pair of claws resembling those of the crustacean form, from which it takes its popular name. The two posterior pair of claws are armed at their ends by a quite sharp, sickle-shaped hook.

In its habits also the pediculus pubis is different, as it is found only on those parts of the body, which are provided with the stout curly body hair, same as that of the beard. When I say that they are only found in these regions, I mean permanently settled there, as it is possible that they may be shaken on to some other parts. Within these regions they may be found anywhere, their most common situation being that from which they are named; but from the pubes, as they multiply, they may wander wherever they can find congenial soil. In hairy individuals the median line of the abdomen seems to furnish a road by which they can reach the sternal hairs and the axillæ. I have also found them on the anterior aspect of the thighs, the lower legs and even on the hairs on the dorsum of the phalanges of the toes as well as the beard, mustache and eyelashes. Their position is a very peculiar one, as they are always found at the root of a hair, and apparently clasping the shaft with their anterior claws. Whether the hooklets are dug into the epidermis when the insect is not disturbed, I do not know, but certainly if any attempt is made to remove it, it will be found to cling in a way that almost causes it to be torn apart before coming off. In fact this does sometimes happen. I am inclined, however, to think that this clinging by the hooklets is only assumed when needed, though I can not be certain. I have for a time tried to get hold of the hair at the root of which the crab was seen, with the hair forceps, and try whether by twitching it out by the root, the parasite would come with it. But it is a very difficult experiment to carry out, as the hairs are so thick and matted together, that is on the pubes, the only place on which I have seen the parasite since I became interested in this point, and, moreover, a negative result would prove nothing, as in trying to separate the hair the crab would be likely to be disturbed and fasten his hooks in the skin. I do think, however, that I twice have had the louse started for one-third to one-half an inch from the skin when the hair was quietly seized and suddenly twitched out.

The eggs are laid on the shaft of the hairs, as with pediculus capitis; they are about the same size, I should say, less translucent, not so pear-shaped, and, in the case where only one is found on the hair-shaft, nearer the root end. This, if the fact, is probably due to the pubic and body hairs standing out with their axes perpendicular, or somewhat so, to the skin, whereas the scalp-hairs, in most cases, at least, are smoothed, brushed, and plastered down, so as to be almost parallel, as to their shafts, with the scalp. It would not seem that the diagnosis of pediculus pubis could be difficult, but sometimes it is, especially in cases where only a few of the parasites are present. In these cases, as in those of pediculus capitis of a similar nature, the presence of the nits is often what we must rely on, unless we wish to pass a long, tiresome, and useless time in hunting at the roots of all

hairs. Whether the pediculus pubis makes any idiopathic lesion on the skin, I am not prepared to say. Usually, we find a red, papular, eczematous eruption, chiefly confined to the hairy parts, but sometimes extending beyond. In practice, the cases I see are very apt to be complicated with inflammatory manifestations, due to treatment already undergone.

It must be remembered that patients affected with other skin troubles may become contaminated by pediculus pubis, and, in some very filthy cases, all three of the pediculi can be seen on the same subject.

The treatment, unless the case is complicated, is not difficult, but I should be more cautious in using strong means than on the scalp. For ordinary cases, I find carbolic acid in ung. petrolii answers very well. Where severe, especially if the severity has been caused by irritants, emollients, rest, and tepid bathing; as the case yields, then a mild solution of the bichloride, Peruvian balsam, solution of boracic acid, etc. The amount of damage that is sometimes done by a liberal and repeated use of mercurial ointment, which is the popular remedy, is almost without limit.

The means by which these three parasites are communicated from one individual to another is an interesting question, and one of practical utility. The pediculus capitis are most frequently carried home from school, or the play-ground, or from using the same head-covering, brushes, combs, etc. Not infrequently, we find cases in families that one would suppose would be exempt from such accidents, but when we think of horse-cars, railroad-sleepers, etc., their occurrence does not seem so strange. Servants, also, are the means of contaminating members of their masters' families, especially the children. The habits and modes of life of the lower classes, to whom the pediculus corporis is chiefly, though by no means exclusively confined, are such as to favor the distribution of this parasite. Wearing second-hand clothes, being herded together in tenements, sleeping together, and on foul bedding, are all evident means of contamination. The cases which occur in the better classes may be explained by the use of public conveyances, travelling, and juxtaposition to dirty individuals in crowds.

Up to a few years ago, when the bunks at the Tombs and police stations began to be disinfected, a night's lodging in one of them was pretty sure to be followed by contamination, and such cases were very characteristic. I have seen very few such latterly.

My statistics from the Dispensary show 22 out of 27 cases of pediculosis pubis occurring between 25 and 30. This would rather prove that the contagion was mostly due to actual contact, but the fact in private practice is different, perhaps. I certainly have seen cases where it seemed impossible that the parasite should not have been acquired innocently, and such I believe to be the fact, though, perhaps, in a small number of cases, when we consider the position of this louse, and the tenacity with which he clings, it seems strange that he can migrate from one body to another as often as we know he does. Neither can the nits be easily dislodged from the shaft of the hair, but it may be that this may take place when on the point of hatching, or rather, that the young one comes out of its shell, and is shaken off.

The points that have appeared to me as especially worth noting from the Dispensary statistics are the much greater frequency of pediculi capitis in

children in the female above the male after childhood the decided and marked increase of frequency of pediculus corporis in proportion with advancing years and in the case of pediculus pubis, its existence being almost entirely confined to youth and early adults. These may not be facts of much importance, but, such as they are, they seem to be shown by the recorded cases. After all, some facts of interest can generally be deduced from records of a large number of cases which could be got at in no other way.

A CASE OF SO-CALLED "VICARIOUS MENSTRUATION."¹

BY F. W. STUART, M.D., OF BOSTON.

THE case which I am to report to-night I saw at the Carney Hospital, from October, 1885, to March 1, 1886, during the terms of service of Drs. E. O. Otis and J. J. Minot, and afterwards at the patient's home, until a few weeks before her death. It was suggested to me that the case was very interesting, and that it might be well for me to report it, since I had followed it longer than any other physician. I am indebted to Dr. Minot for the use of the careful notes he made during the time the patient was under his care.

I first saw the patient in October, 1885. She was then fifteen years old, and the following history was obtained: Her grandfather, father, four paternal uncles and aunts, and two paternal cousins, had died of phthisis, and two more cousins were then "in consumption." The patient had never been strong since three years old, had vomited often, and had frequent "sick headaches." She was always feverish, vomited every night if she ate a hearty supper, and so had been accustomed to limit that meal to a glass of milk. The bowels were always constipated, and she took pulv. glycyrrhiz. co. continuously. She frequently had sore eyes. In 1882, she had typhoid fever.

November 24, 1884, the catamenia appeared for the first time, lasted two days, were unattended by pain, but since that time the patient had never menstruated. At the next catamenial period, she vomited everything she ate for two or three days, and the vomiting was repeated at each period, when she also had a feeling of weight and soreness in the lower abdomen. At times, she had a pain in the right ovarian region, when a "bunch" could be felt there, though both pains and "bunch" occurred at non-menstrual periods. She had no trouble with micturition. In May, 1885, she had an epileptic fit. According to the Hospital records, she was treated, in April, for a nasopharyngeal catarrh, where a note is made, stating that a few days previously she had had an hæmoptysis, though, in October, she did not refer to it. From December, 1884, to June, 1885, she vomited only at catamenial periods, never between. In June, the vomiting began to be much more frequent and severe, everything but milk being vomited. In September, after long vomiting, she raised a little blood, and this was repeated several times. She complained of great pain immediately after eating, and vomited without any signs of nausea appearing.

Such was the history of the case up to October, 1885, though there seemed to be a large element of

hysteria in the case, and her truthfulness as regards symptoms appeared rather doubtful. The patient was pale, anæmic, and poorly nourished, but physical examination was absolutely negative, with the exception of localized tenderness in the epigastrium. The diagnosis, it was thought, rested between gastric ulcer and vicarious menstruation. She was put on pancreatinized milk, and all went well until the end of the month, when the usual symptoms appeared, and even this milk was not retained. She now visited a "clairvoyant doctor," and afterwards, a quack in New York City, who told her she had an imperforate hymen, which must be cut. She wished advice as to the cutting, but examination showed a normal hymen, as was to be expected from the history of a previous menstruation.

On December 24th, she visited the Hospital after one of her attacks, and from that time up to March 1st, careful notes of her condition were kept.

On that date, December 24th, she stated that, during the attacks, she had pain in her stomach as soon as food was swallowed, and this pain increased, and was accompanied by a loud, rumbling noise. She never belched wind, or passed any per rectum. After two or three hours of this pain she vomited, but evidently not undigested food. She never vomited directly after taking food, nor in less than two hours after its ingestion. After vomiting, the pain gradually passed away in about one hour.

December 22d. She was sitting quietly, began to choke, and then raised some blood, less than a teacupful, she said. She did not vomit at all, but coughed.

On the night of December 23d and the morning of December 24th, while fasting, she raised dark, thick blood. She had no cough; usually ate no breakfast; has had night-sweats. She sat up late nights, ate very little, danced a good deal, and slept poorly. Examination, superficial, owing to the recent hæmoptysis, showed the patient to be small, poorly developed, pale, and anæmic. No enlarged glands were to be seen or felt. Auscultation gave an almost puerile breathing, and expiration slightly prolonged. There was localized tenderness, limited to a small area over the epigastrium. She was told to take peptonized milk every two hours.

December 25th. She raised blood four times. Each time, she first began to choke, and then raised the blood, which was greater in amount than at any time before. She had considerable cough; complained of pain in the lower abdomen. The peptonized milk was retained. She was given ext. ergotæ fl. Her mother stated that the vomiting occurred at about the 24th of each month, and lasted one week. She did not think the patient vomited in the intervals. The blood seen before the last attack was mostly streaked through the vomitus, but, at the last attack, was as stated by the patient.

December 31st. The patient said she felt better. There had been no vomiting, and no raising of blood since the 25th. Her weight, which had been ninety-two pounds, was now reduced to eighty-seven pounds. Examination gave a percussion-note a little higher in the second interspace on the right than on the left side. There was also a slight difference in the back, between the scapula and the spine, the left being the higher. Auscultation gave nothing abnormal. Heart normal. The lower thorax was long and pointed. There was marked tympanitic resonance on the left side of the upper abdomen. There was nothing to be

¹Read before the Suffolk District Society, Section of Clinical Medicine, Pathology, and Hygiene, October 12, 1887.

seen or felt. There was tenderness in various spots, in the epigastrium, about the umbilicus, and about the edge of the ribs on the left side. She was given malt and the syrup of the hypophosphites.

January 12th. She stated she had been thirsty of late, and had vomited after drinking much water.

January 15th. She had severe pain for two hours after eating some turkey; had then vomited, but the pain lasted about three hours longer.

January 19th. Seemed better; had not vomited or raised blood in the few days past. She had, from the vagina, a discharge of a yellowish matter, streaked with blood. She complained of pain in both iliac regions.

January 20th. Was unable to urinate, and a sitz bath and spts. atheris nitrosi were given.

January 22d. Vomited a little after a breakfast of beefsteak, but the vomitus consisted only of bile. Urination was all right.

February 3d. She stated that she had been away on a visit, and, at night, was laughing, when she began to cough, and raised a tablespoonful of dark, clotted blood. She did not vomit. During the night she awoke with a "pain in her belly," and the next morning, after taking some milk, she vomited. The vomiting continued all day, but the next day the patient was better, complaining only of a sharp pain in the lower abdomen. She had more discharge from the vagina than formerly. An examination of the chest showed nothing abnormal. The patient was referred to the gynecologist, who reported everything normal about the external genitals, and would examine further only under ether. From the history he obtained, he was inclined to think the case one of vicarious menstruation.

February 19th. The patient returned, and stated she had been quite well up to the 11th, when, after going to the city, she vomited sour food, but no blood. On the 12th she was better, but vomited again on the 13th, up to which date she felt well, but then she had pain in both groins, so severe that she was doubled up. Before and during the pain, she had passed bloody urine during several hours, and at frequent intervals afterwards, she passed a urine which was pale, clear, and not bloody, but in small quantities. For a few days, the pain returned in the afternoon, though she passed no blood.

On this date, the 19th, the patient said she felt well, though she was weak, and had no appetite. She said she always had diarrhœa during the attacks of vomiting, but, at other times, she had marked constipation. Walking and riding in the horse-cars, she said, always brought on the pain, though she could ride in a carriage without experiencing any trouble. She was very nervous, easily startled, and said she had "nightmare."

On February 23d, she presented no definite symptoms.

I have alluded to treatment a few times, but have not intended even to outline it. Symptoms were met as they arose, but the main object kept in view was to give a thorough course of tonics, which was done by the exhibition of iron, arsenic, extract of malt, and syrup of the hypophosphites almost constantly.

After March 1st, the patient did not return to the Hospital, and, indeed, discontinued treatment. I was, however, interested in the case, and made weekly calls to keep myself informed as to her condition.

This did not seem to change much, though she grew weaker constantly, and cough, night-sweats, and loss of strength became the predominant symptoms. Towards the end of April, I again examined the chest, and found evidences of consolidation at both apices. The patient now developed a fever, which remained for weeks at about 102.5° , diarrhœa of a very severe character set in, and the patient rapidly sank, and died in about two months.

Unfortunately, no autopsy could be obtained.

I feel some diffidence in giving my opinions regarding a case so difficult of diagnosis as this. Still, I will venture to offer a few remarks concerning the diagnosis. In the first place, it is certain that the patient died of a florid form of phthisis.

I do not think that she had a gastric ulcer. To be sure, there was vomiting, sometimes hæmatemesis, and localized tenderness; but, opposed to this, the patient never vomited until two or three hours after the ingestion of food, and the blood vomited only streaked the vomitus. Beyond this, there were days when she retained hearty food, and the gastric symptoms were limited to certain periods.

I believe, then, we are to consider three affections as possible during the earlier part of the trouble; namely, vicarious menstruation, the *hystérie gastrique* of the French writers, and phthisis.

No one of these meets the case satisfactorily. The manner of vomiting, and the character of the vomitus — partially digested food, streaked with blood — suggest the *hystérie gastrique*. But later, there was hæmoptysis; that is, the blood was coughed up, not vomited, came probably from the respiratory, not the digestive tract.

Vicarious menstruation may occur from both tracts, but there had been normal menstruation, and the absence of the menses was only to be expected in one so poorly developed and anæmic. Again, the vomiting of blood was only a comparatively late symptom, and, notwithstanding the patient's assertions, no direct connection with menstrual trouble could be definitely established. In December, she coughed up blood, but did not vomit; in January she vomited, but raised no blood in any way, and there was an apparent attempt at menstruation; and, in February, there were no definite symptoms. Both of these affections are extremely rare, and both offer such difficulties in the way of diagnosis, that it is only after a very careful study of the case that one is warranted in making such a diagnosis. Either may have obtained and been followed by phthisis.

It is a question with me whether there was ever any disease beyond phthisis. To be sure, it is hard to reconcile all the symptoms of this patient with this view, especially when such careful observers as the gentlemen mentioned failed to find signs; but it is the one disease which every one connected with the case constantly looked for, and it is the one which caused the patient's death. The uncertainties of the case prevent an absolute diagnosis, and were a constant source of annoyance in treating the case.

— A convention is announced to assemble in Washington on January 19th next, in which representatives from the mercantile interests and from the various sanitary associations of the country will endeavor to induce the next Congress to enact a law against food and drug adulteration.

A CASE OF POISONING FROM ARSENICAL WALL-PAPER.¹

BY W. EVERETT SMITH, M.D., BOSTON, MASS.

ABOUT the middle of September, 1886, my patient, Mrs. S., changed her residence from the country to the city. She very soon discovered that some ferns in her parlors were withering, but not from neglect or improper care, since although ultimately dying, they revived for a brief season upon being removed to another part of the house. In the early part of November, she suffered from an attack of nausea and a dizziness so intense, especially when she attempted to stoop, that for several days she was obliged to keep the bed. These symptoms persisted in their intensity about a fortnight, and were followed by a sharp attack of facial neuralgia which lasted about a week.

In the latter part of December, the dizziness reappeared, but in a far milder form than it had been the month before. At about the same time she began to complain of extreme lassitude and a loss of pleasure in pursuits that formerly gave enjoyment. The quiet of her own room was the one thing that she eagerly sought.

Although she suffered from a continual slight nausea, her appetite was unusually good; there was, as she expressed it, an almost constant "gnawing in the stomach." After the eating of food the nausea would increase, and she would complain of a feeling of heaviness and uneasiness throughout the bowels, especially in the umbilical region. Her increase of adipose tissue began to be distressing to her. Although she had always before drank very little water, she now was thirsty all the time. The menstrual functions continued to be regular so that the symptoms presented were considered to be indicative of over-work and loss of nervous energy rather than of any physiological disturbance. The patient herself was disposed to consider her symptoms malarial in their nature, although, contrary to her expectations, quinine gave her no relief. Occasionally, she would speak of her eyes smarting and watering if she tried to use them.

Suddenly, on March 16, 1887, she was taken without any apparent cause with headache, extreme nausea, and uncontrollable vomiting. The usual anti-emetic remedies, internal and external, dietary and medicinal, were tried in turn, but all without relief. On the contrary, they seemed rather to increase her distress. The only expedient that gave the slightest semblance of relief was the holding of pieces of ice in the mouth. The vomiting was almost incessant and was increased by assuming the recumbent position. The vomitus consisted at first of mucus, on the third day of free blood, and later of thick yellow bile. Tenderness in the epigastric and right hypochondriac regions speedily developed itself. The temperature and pulse remained nearly normal. The nasal discharge was uniformly bloody. The menstrual functions still remained normal so that the symptoms seemed to indicate clearly an acute exacerbation of the same trouble that had existed all winter in a mild and chronic form.

Although I could not absolutely exclude either a primary gastro-duodenal ulceration or some of the freaks of pregnancy, I remembered the withering of the ferns and began strongly to suspect some form of

irritant poisoning to be the cause of sickness. I accordingly sent samples of all the wall-papers in the house (except, of course, plain "cartridge" papers which I knew to be practically free from suspicion), to Dr. Edward S. Wood for examination. Upon analysis, he pronounced only one paper arsenical, but found such an amount of arsenic therein, that he advised its immediate removal.

To settle decisively the question of poisoning, the urine also was examined for arsenic. Six ounces collected on March 23d, the eighth day of the incessant vomiting, yielded numerous crystals of arsenic after re-sublimation in the tube, while a quart of urine collected three days later yielded a very dark deposit upon the tube, but after re-sublimation, scarcely a trace of arsenic crystals. This seemed to indicate not only that there had been a very large amount of arsenic in the system of my patient, but also that a rapid elimination of the poison was taking place.

But the vomiting and prostration continued unabated. For twenty days the patient could retain absolutely nothing upon the stomach. Enemata, both of beef tea and of Murdock's Food were attempted, but could not be retained. Finally, brandy was substituted for them and with better results. The temperature had never risen above 100°, nor the pulse much above 96. At midnight of the twentieth day the nausea and vomiting ceased as suddenly as it had begun. The following morning the patient expressed her first desire for food. We began with Horlick's Food, and although during the next week we changed at her request to Mellen's, Hard's, and to Wells & Richardson's Lactated Food, we returned to Horlick's and found it the best suited to the case. The recovery was rapid and complete in less than a fortnight. There was only one relapse that could be traced directly to arsenic.

It had seemed at first improbable not only to myself, but to Drs. Wood and Whittier, whom I consulted in the case, that the wall-paper already found to contain arsenic could be the sole cause of all this arsenical poisoning. The paper was upon the walls of a small room on the entrance floor of the house where the patient had been very little, the parlors were on the floor above, and her chamber on the floor above the parlors. In hopes, therefore, of finding some other source of arsenic, dress goods and window draperies were analyzed, but with negative results, so far as finding arsenic were concerned. Chromium was, however, found in large amounts in one pattern of dark green dress goods. I had early seen to it that all cretonnes and turkey-red material were removed from the chamber, since they are well-known to be highly charged with arsenic.

The almost conclusive proof, however, that the sole cause of my patient's sickness existed in this room is as follows: The dangerous wall-paper was removed while the patient was convalescent. She insisted that she was not yet strong enough to venture from home and so remained in the house, confined strictly to her room, while the work went on. After the walls had been scraped and washed, and the room thoroughly cleaned preparatory to the laying of the new paper, she ventured to look into the room but remained there scarcely ten minutes. She very soon had a return of nausea and vomiting, which lasted nearly twenty-four hours. I thereupon insisted that she go into the country and that in her absence the entire house be

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, October 10, 1887.

thoroughly cleaned and dusted. This was done, and since her return she has presented no further symptoms of arsenic poisoning.

Another member of the family was affected by the removal of the paper, his symptoms taking the form of a sharp diarrhoea. The other two members did not at any time present marked symptoms of arsenical poisoning, except a noticeably sallow complexion and a pretty constant feeling of lassitude all winter. They had, however, had more exercise in the open air than my patient.

I trust the record of this case may stimulate physicians to investigate more thoroughly than they otherwise might, cases that they hastily assume to be the results of malaria, nervous prostration or other indefinite or undetermined causes. Many of these cases I believe to be simply chronic poisoning from some material source near at hand. The profession has learned that wall-paper and some kitchen utensils are often arsenical, and it is slowly realizing that articles of clothing and of household decoration may likewise be injurious to health, although the subject has not yet received the attention that it deserves. It seems to me that it is our duty as physicians interested in public health and preventive medicine to make renewed and concerted efforts to secure such laws as shall make it a criminal offence for a manufacturer to allow any deadly poison to be in fabrics or materials that are used or that are sold upon the market.

REPORT ON GENITO-URINARY SURGERY.

BY ABNER POST, M.D.

LITHOLAPAXY IN BOYS.

DR. KEEGAN,¹ of Indore, Central India, has published a series of papers on the subject of "Litholapaxy in Male Children" during the last four years, and various other papers² and reports on the same subject have recently appeared. The writers agree upon the possibility and advisability of Bigelow's operation in very young children. Dr. Keegan would as soon think of performing lateral lithotomy on an old man with a small uncomplicated stone as on a boy whose urethra would admit the passage of suitable lithotrites and evacuating catheters. The reports referred to here represent a total of eighty-nine cases of boys between the ages of fifteen months and eleven years. One case only was fatal and that was a case of Dr. Keegan in which the calculus was formed about a stalk which had penetrated the bladder through the rectum. It was a case better suited to lithotomy, and would have been so treated had the history been more carefully considered on his admission to the hospital.

The calibre of the urethra in boys reaches a much larger size than has been attributed to it.

Dr. Raye operated on a boy of twenty-three months using a No. 9 (English) lithotrite and evacuator. It passed with perfect ease and without any incision of the meatus, which was of comparatively monster calibre. The infant recovered without trouble of any

sort. Dr. Raye's last case was a boy of eight and a half. The smallest instrument in his possession was a No. 8. It would not pass the meatus which was incised. The instrument then passed rather tightly as far as the bulb beyond which it could not be passed without more force than seemed advisable. A No. 7 would have passed, but he had no such instrument. In Mr. Willett's case, quoted by Walsham, a lithotrite and catheter of No. 6 (English) calibre were used successfully upon an infant of fifteen months. Dr. Keegan has passed a No. 7 (English) catheter into the bladder of a boy only eleven months old. It may seem strange that a false estimate of the normal size of the urethra in male children should have existed until very recently, but it is really no more strange than that surgeons should have believed up to the discovery of Otis that the male urethra is much smaller than it really is.

Dr. Keegan states that while no hard and fast rule can be laid down, the urethra of a boy from three to six will admit a No. 7 or 8 English; that of a boy from eight to ten a No. 10, 11, and even sometimes No. 14 English, but age cannot always be depended on as the measure of urethral capacity. In some children of four or five it is unsafe to pass a No. 7 lithotrite, although an instrument of this size will sometimes pass readily into the bladder of a boy of only two years of age.

The objections that have been urged against litholapaxy in male children are:

(1) The undeveloped condition of the genito-urinary organs.

(2) The small size of the bladder.

(3) The narrowness of the urethra, and its extreme sensitiveness and liability to laceration.

These objections Mr. Walsham considers chimerical. Thus:

(1) As regards the undeveloped condition of the genito-urinary organs, the small size of the prostate is altogether in favor of the operation, since, as we all know, an enlargement of that organ is one of the chief difficulties attending lithotrity in old men.

(2) The bladder is, no doubt, smaller in young children than in adults. But many lithotritists prefer to work with only two or three ounces of water in the bladder; and, in boys of only three or four years old, the bladder is quite roomy enough to permit of the efficient working of a small lithotrite, and such was found to be the case with the bladder of the infant of fifteen months, operated on by Mr. Willett. Further, a child's bladder is more expansive and commonly in a healthier condition than that of an adult, and, therefore, better able to bear any over-distension than the bladder of old men. But of over-distension there need be no fear if a small-sized aspirator is used, or if care is taken to force in only a limited quantity of fluid if a full-sized aspirator is employed.

Of the third objection, the narrowness of the urethra has been already considered.

Mr. Walsham believes the alleged extreme sensibility of the urethra in children to be over-rated; since, as far as he has observed, boys, when they have once got over the timidity of having an instrument passed, bear it quite as well, if not better, than do lads about puberty and adults. Boys have sometimes felt so little that they have much preferred being sounded without chloroform.

As regards the actual performance of the operation,

¹ Indian Medical Gazette, May, 1884, June and September, 1885, June, 1886.

² Lancet, 1886, ii, 1068, 1122, 1168. Also reprint.

³ W. J. Walsham, F. R. C. S. Litholapaxy v. Supra-pubic Lithotomy in Male Children. British Medical Journal, October 15, 1887, p. 818.

Surgeon Major Goldsmith. Indian Medical Gazette, May, 1887.
Raye, D. O'C. Cases of Litholapaxy in Male Children. Indian Medical Gazette, Calcutta, 1887, xxii, May, 129-132.

the same rules hold good as in adults, but certain points are worthy of special notice.

Mr. Walsham thinks, that the lithotrite should be fully fenestrated, and the female blade well bevelled, so that no detritus may be retained between the blades, and the risk of nipping the mucous membrane of the bladder may be avoided.

Dr. Keegan speaks at some length on the choice of instruments. Clogging of the blades of a lithotrite with *débris* is a very dangerous complication in performing litholapaxy in male children, because it has the effect of increasing the size or number of the lithotrite, say from a No. 7 to a No. 8, and in boys there is not much spare room and the effect of increasing the size would be to injure the urethra on withdrawing the instrument.

The evacuating catheter should be furnished with an accurately fitting stylet, in order that any fragment fixed in the eye may be displaced before the catheter is withdrawn.

The meatus should be incised, and no force used in passing either the lithotrite or the evacuating catheter.

The stone should be very thoroughly crushed, as the small size of the evacuating catheter will only allow the removal of small fragments.

Every particle of stone should be removed at one sitting.

The first crushing should be as thorough as possible, so as not to necessitate the frequent passage of the lithotrite and evacuator.

A small aspirator should be employed, to avoid any risk of over-distension or rupture of the bladder.

If the above precautions are taken, Mr. Walsham believes, and the other authors quoted agree with him, that litholapaxy (provided always that, after the incision of the meatus, a No. 5 or 6 lithotrite passes readily into the bladder) will be found as simple and as safe an operation in children as it is in adults; and he thinks that, for all small and moderate-sized stones, it will be the operation of the future in boys and children, as it is in adults; and that the supra-pubic operation will be reserved for the removal of large and hard stones only.

MEDIAN CYSTOTOMY.

Mr. Reginald Harrison⁸ writes of the operation as follows: "I think it will be generally admitted that the easiest and simplest method of entering the bladder, say for the purpose of exploring it with the finger, is that known as median perineal urethrotomy, or, incorrectly, as median cystotomy. By this plan, the finger may be readily passed into the bladder," . . . but nothing of any size can be drawn out of such a limited opening. But this opening can be readily adapted to the removal of larger stones, say up to six-ounce urate or oxalate ones.

During the course of a number of operations for the relief of a large prostate, Mr. Harrison found it quite feasible and easy to obtain as free an opening into the bladder by a median incision along the urethra and floor of the prostate as by the ordinary lateral operation for stone. To effect this, the finger having been passed into the bladder by the side of the staff, the opening is extended in the following manner: In the first place, the membranous urethra is slit up along its floor on the staff by a curved, probe-pointed bistoury; in this incision may be included more or

less of the perineum, according to circumstances. Any bleeding vessel may be tied before proceeding further. The deep incision is then made by passing the curved, probe-pointed bistoury by the side of the index finger well into the bladder. The staff may be now withdrawn. The blade of the knife is turned downwards towards the rectum, and the floor of the prostate divided from within outwards, commencing at the depression, which exists more or less in all male adults just within the orifice of the urethra. The incision thus made with the knife may be deepened down to the capsule merely by the firm pressure of the index finger downwards. In this way, Mr. Harrison has been able to make as free an opening into the bladder, nearly along the median line of the body, as a lateral lithotomy will permit of.

The advantages of the method described, Mr. Harrison sums up: With such an incision, as much room is gained as by the lateral incision; the liability to hæmorrhage is less, while the facility for getting at any bleeding point is increased. The movements of the knife in one hand are, from the beginning to the end of the operation, under the direction and control of the index finger of the opposite hand. It adapts the median procedure to a wider range of cases than the old median operation. A state of temporary incontinence of urine and thorough drainage is provided for.

Mr. Harrison has no wish to see the median operation supplant the lateral, but desires that it shall be made an "efficient alternative."

PRE-PROSTATIC PUNCTURE OF THE URETHRA.

Under the name of pre-prostatic puncture, Makins refers to the operation usually known by the name of Cock, and tabulates the operations done at St. Thomas's Hospital⁴ during the last ten years. The operation has been done during that period forty-six times, for various reasons. In twenty (43.4 per cent. of the whole), it was resorted to for the relief of acute retention of urine, the passage of a catheter having proved impracticable. Of these, four eventually died—two from exhaustion and uræmia, one from pyæmia, and one from an unascertained cause. None of these cases could be said to have died directly from the operation, although it proved incapable of more than temporarily prolonging existence.

In twelve cases (twenty-six per cent.), the indication was less complete chronic obstruction, in which either no instrument, or only a very small one, could be introduced, in the latter cases it being considered that the time gained in ability to commence local treatment of the bladder justified the procedure. Of these cases, also, four eventually died—one of bronchitis and pulmonary congestion, and three of gradual uræmic poisoning.

In the third series of cases, fourteen in number (30.4 per cent.), the operation was performed for retention of urine, complicated by extravasation. Here, as would be expected, the lowest percentage of cures was obtained, as, in five, death resulted, in spite of the operation.

In one instance not included in the above numbers, the operation was successfully performed in a case where a large hæmatoma of the scrotum was complicated by a false passage made by the patient himself in an attempt to pass a catheter.

⁸ Lancet, June 18, 1887, p. 1224.

⁴ St. Thomas's Hospital Reports, Vol. xv., p. 107.

With regard to the difficulties of the operation, the cardinal one, that of finding the urethra, is shown by the statistics to be unworthy of the importance which has been assigned to it by objectors to the practice. On reference to the table, we find that, in four instances, the operator was unable to convince himself at the time of operation that the urethra was opened, so that the final stage, that of introducing a perineal catheter, could not be proceeded with. In two of these cases, the patient was aspirated over the pubes, and in two the bladder was punctured per rectum, but in three out of the four these measures proved to have been unnecessary, for urine flowed freely by the wound after the operation, showing that the real difficulty had been in passing the perineal catheter, no doubt due, in part, to displacement of the urethra from its normal position, and in part, perhaps, to the smallness of the opening made in consequence.

INFLAMMATION OF THE PRE-VESICAL SPACE, OR SPACE OF RETZIUS.⁵

Dr. O. Pinner (Frankfort on the Main) writes on the above subject. After comparing the anatomical descriptions of the tissue-spaces in front of the bladder given by different authors, Dr. Pinner gives his own methods of studying them. He made an incision in the middle line, above the symphysis, inserted a drainage-tube, and injected soft plaster-of-Paris under considerable pressure. The submuscular space proved difficult of demonstration, owing to the readiness with which the injected matter found its way into the pre-vesical space.

The author is of opinion that these two spaces should be differentiated clinically, as well as anatomically. The muscular space is bounded, anteriorly, by the posterior aspect of the rectus muscles; centrally, by the linea alba; laterally, by the external margin of the sheath of the rectus; below, by the symphysis; and posteriorly, by the transverse fascia of Cooper. The two submuscular spaces are but incompletely separated from each other.

The pre-vesical space is bounded, anteriorly, by the os pubis; above, by the transverse fascia; posteriorly, by the fascia propria and the bladder; below, by the pelvis fascia. This latter space only should be designated as the space of Retzius.

Phlegmons of the pre-vesical space are frequently due to the extension of the inflammatory processes of the bladder, the rectum, the prostate, the iliac fascia, or the pubic bone.

Phlegmons of the pre-vesical space resemble the well-filled bladder. The apex points upwards. Palpitation proves the tumor to originate from the pelvis. The recti can be brought into prominence above the tumor. The tumor can be felt by rectal examination. Bladder symptoms are often present.

If incision is not made, the submuscular abscess generally perforates the skin, or it may perforate into the abdomen. The pre-vesical abscess may perforate through the skin into the abdominal cavity, or into the rectum, the bladder, the vagina, the urethra, or through the incisura ischiadica, into the scrotum, or along the thigh.

This subject was treated in an interesting manner in the *JOURNAL* of April 1, 1880.

Clinical Memorandum.

WAS IT MUMPS?

BY JAMES B. FIELD, M.D., OF LOWELL.

EDWARD B., seventeen years old, noticed while in good health, a swelling under his lower jaw. When seen by me, both sub-maxillary glands were swollen and extending below them was a moderate amount of puffiness, making the neck look large. At no time was there any parotid enlargement, any rise of temperature, or of pulse-rate. The attack lasted about a week, and did not confine the patient to the house. His chief complaint was that pain on chewing and in swallowing did not permit the gratification of a hearty appetite. There was also some pain from distension of the glands.

In reply to a question of diagnosis raised by the patient, he was informed that he was not suffering from mumps. The reasons for this statement were the absence of constitutional disturbance, and the non-involvement of the parotid gland.

Within two weeks from his recovery his elder sister experienced a similar attack of inflammation of the sub-maxillary glands, but with no parotiditis and with no fever. Another young lady, not a sister, but an intimate friend of the young man, was also similarly afflicted at about the same time, and positive assurance was given me that her parotid glands were not affected.

By this time I was ready to admit the probability that E. B.'s complaint was of a contagious nature, but not that it was mumps. To be sure, it is not uncommon to find the sub-maxillary glands involved together with the parotids in mumps, but on consulting such authorities as were easily accessible, I could find only a single reference¹ to mumps involving solely the sub-maxillary glands, and there the diagnosis rested wholly on the fact that mumps was epidemic in that neighborhood. In the case of my patients there was no epidemic, and as far as known, no sporadic cases of mumps on which to base a diagnosis.

In another fortnight, however, a younger sister of E. B. was taken with genuine mumps; the parotid swelling was extreme, the neck was enormously swollen, and the mouth could not be opened. The diagnosis of E. B.'s case was promptly changed from "don't know" to mumps, and shortly afterward his third and last sister also had unmistakable mumps. There were probably no metastases in any of the cases.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

REGULAR meeting, Wednesday, October 12, 1887.

Meeting called to order at 8 o'clock, by the Chairman, DR. F. I. KNIGHT. The reading of the records of the last meeting was omitted, at the request of the Secretary.

⁵ Deutsch Zeitschr. f. Chir., Vol. 23, Hft. 506. *Annals of Surgery*, May, 1887, p. 434.

¹ Eustace Smith's *Disease in Children*, 2d ed., p. 66, referring to Dr. Penzoldt, of Erlangen.

DR. W. EVERETT SMITH read a paper on
A CASE OF POISONING FROM ARSENICAL WALL-
PAPER.¹

A specimen of the paper was shown to the Society, but the amount of arsenic it contained was not known.

DR. B. F. DAVENPORT said: It may be of interest to the Society to know, in connection with this case, that the German government has, during the past summer, passed a new law, to go into effect next spring, in which the presence of two-and-one-half grains of arsenic per square yard is allowed in woven goods, provided it is in an insoluble (?) condition. The presence of arsenic in any arsenical color is forbidden if the poison is present as a constituent part of the color; but if it is present simply as an impure material the law forbidding its presence does not apply. What the grounds for these limits of the new German law are, I do not know, but presumably they are based on some competent experiment.

DR. F. I. KNIGHT asked if that would modify the law in relation to the manufacture of colors also.

DR. DAVENPORT: Yes. The old German law, which is at present upon the statute books, forbids the presence of arsenic in toys and wall-papers, but its enforcement has been suspended, and they allow the presence of arsenic in other things, provided they are to be exported. They are not so particular about other nations as about their own. That reminds one of the oleomargarine law in one of the Western cities. The dairy commissioner, reporting on the subject, said it was immediately gotten rid of by shipping into the neighboring States.

DR. ALBERT N. BLODGETT said: I would like to ask Dr. Smith what degree of reliability is to be placed on the testimony of paper manufacturers or paper dealers, as to the presence or absence of arsenic in their manufactured fabrics. A short time ago in a discussion before this Section the statement was made that the certificates of chemists were often utterly valueless; that paper which was pronounced by competent chemists free from arsenic was found to contain large and dangerous amounts of it. I would like to ask if Dr. Smith has had any experience in the proving of certificates of the chemists of manufacturers in regard to the compounds of arsenic in paper, and what value he places upon them.

DR. SMITH: When I was re-papering my rooms, I was in some doubt as to what dealer to go to, Bumstead, or Gregory & Brown. I went to the latter, and picked out papers that I thought I would like, and saw the analyses. The papers were said to be free from arsenic. I did not engage them to hang the paper, but engaged a wall decorator; he traded for the most part with another firm, the Boston Wall-Paper Company. They had a chemist of whom Dr. Wood and Dr. Harrington had never heard. They had specimens which were said to be free from poison. I finally purchased of Gregory & Brown. Dr. Harrington had marked one specimen "Practically free from arsenic." I went to Dr. Harrington myself, because I wanted to know how much it contained. I should place very little reliance upon the statements of any dealer in wall-paper, because he is in one sense an interested, and in another sense an uninterested party. He may sell arsenical wall-paper in perfectly good faith. He receives it from the producer, and

takes the word of the chemist. If it proves to be full of arsenic, of course if there were a law, he would be subject to penalty.

When I was getting the paper, Dr. Wood told me an experience that he passed through. He changed the paper in his house while he was at the sea-shore. Dr. Hills one day asked him what paper he was putting on the dining-room. He replied that it was from a lot which had been examined, as the dealer said, by Dr. Hills himself. Dr. Hills was sure he had not seen it before, and on analyzing it, it was found to be a typical arsenical paper. Mr. Bumstead had the paper taken off at his own expense, and Dr. Wood said the paper-hanger had the most typical case of inflammation about the nails that he ever saw. I think Bumstead, although he has made some mistakes that were reported here last winter, has always acted fairly when he has found any paper that contained arsenic. I am sure that Gregory & Brown are very careful.

DR. DAVENPORT said: It is well to remember that the certificate of the chemist applies only to the particular sample examined. It does not apply to another roll, whether of the same pattern or not. Two rolls of the same pattern may be quite different. One may be free; the other may contain a considerable amount of arsenic.

DR. SMITH: The reason why I spoke as I did about the law, was because Dr. Wood said he had been at the State House, in relation to the matter, but has been rebuffed every time. Testimony is brought forward to controvert his own. If the law were passed, he would be cutting his own fingers, for he gets some income from analyzing the papers. He has been one of the most strenuous in pushing the law at the State House. I would like to ask Dr. Davenport whether arsenic in wall-paper does not exist for the main part as an impurity.

DR. DAVENPORT: I presume it does. Most wall-paper in this vicinity is manufactured by the American Wall-Paper Company. They claim, and with reasonable evidence in favor of it, that they do not now use arsenical colors at all and do not intend to have arsenic in their paper. I have understood that they had last year a thousand samples of paper, just as it came from the factory, analyzed, and found it contained arsenic on the average in some 66 per cent. of samples.

The stock from which the paper is made is largely clay, and this, as well as the ochre, may contain arsenic. All papers with gilt contain arsenic, that is, practically all, because commercial copper is very seldom free from arsenic. Of course the bronze contains copper and zinc. Gilt from the American ore is generally free, but imported ore generally contains arsenic. Then as all chemicals are made more or less directly with the use of sulphuric acid, which is made from pyrites, it may come in that way. And so, well nigh everything, unless it has been specially freed from it, would contain a trace of arsenic.

DR. SMITH said: It seemed to me that the amount of arsenic which would thereby creep into the color would be very small, but I supposed that the arsenic was used as a mordant, and was not washed out.

DR. DAVENPORT: As a mordant, quite a number of large cotton print mills use twenty tons of arsenic a month. A common piece of print cloth may contain three, four or five grains of arsenic per yard.

DR. SMITH had been told last June that Mr. Binney, employed by the Walpole company, made the strong

¹ See page 476 of the Journal.

assertion that arsenic had no business in the chemistry of coloring material at the present time; that it was the lazy greediness of the manufacturers, who allow it to remain in their colors; that they do not take time to wash it out thoroughly.

DR. BUCK said: There is one element of danger in papering rooms which does not often come up here. We may have a paper perfectly free from arsenic and still get arsenic poisoning. A certain number of paper-hangers put arsenic in their paste, and that gradually gets through the paper. I would like to know if any one has seen differences in the number of cases reported in different seasons of the year. In my experience I have seen more cases in the summer than at any other time. I have seen many paper-box workers during the summer, and although I have had the Dispensary work to do at other seasons of the year, I have not seen these patients during the winter or fall months. They have presented themselves chiefly during the early summer. I have thought that possibly it might have something to do with the heat, there being a greater degree of volatility at that season of the year.

DR. VICKERY: Would paper containing two-thirds of a grain to the yard, be poisonous?

DR. DAVENPORT: Whether it would be poisonous is a question of dispute. Some say yes, and some no. Nobody knows.

DR. BLODGETT: I would like to observe that the chemist of the Roxbury Carpet Works, in which nearly all the various colors are employed, informed me that he never used arsenic, and that it was entirely unnecessary and out of place in the production of any color, and that it was perfectly possible to get all the advantages found in arsenic, from other and safe means. He expressed himself very strongly, and said that the presence of arsenic even as an impurity was unnecessary if proper care was employed in the selection of colors.

DR. SMITH added that a former occupant of the house where this patient lived, had died from some obscure trouble, having had stomach and head symptoms. She supposed it was the drainage, and the plumbers had been over the house again and again, but they pronounced everything in good order. Perhaps the present case may give us some hint as to the cause of that sickness and death.

DR. PENGRA: In what form is the arsenic set free from the wall-papers? Is it in the form of gas or solid?

DR. DAVENPORT: I believe it is now commonly considered that the danger is from the dust which is removed from the surface and inhaled. It was claimed at one time that there was danger of arseniuretted hydrogen being formed and exhaled as a gas. I believe the latest experiments have shown that this gas is not formed except there is free arsenic present in the color. In the case of Scheele's green or Paris green, each commonly contains a certain per cent. of free arsenic, so that in the presence of moisture and fermentation, arseniuretted hydrogen may be formed. In connection with those hearings which were carried on before the legislature, one of the gentlemen papered a large room with a heavy arsenical paper, and drew the air from the room through a solution which would take out the gas which would be formed. I think it was carried on for some weeks without any result.

DR. PENGRA. I would like to know whether the finish would not have something to do with it.

DR. DAVENPORT. As I understand it, the danger is of the color being mechanically removed. Of course if the finish is such as to prevent that, the danger is prevented. A rough finish I presume is more likely to be loosely attached than the smooth polished surface. There are a great many interesting questions arising from this. Take a paper which contains a grain of arsenic per square yard. Suppose that it covers a room larger than the average, so that we have sixteen rolls of paper. Such a room would have something like sixty grains of arsenic on the wall. It would take a good many years for the paper to fall off, and if one were in the room and inhaled all of it, it would be a very minute quantity. It seems as if people were more affected by very minute doses than we are accustomed to see when we give it medicinally. One writer says that it has a greater effect, but I do not know why.

DR. PENGRA said, I would agree with Dr. Davenport's statements that the arsenic would not become arseniuretted hydrogen, but the process of fermentation may produce that gas. During the past four years I have seen students to the number of from one hundred to two hundred, working in a laboratory where the gas was generated every day, each student probably generating from six to ten volumes in a moderate-sized room. They did this during six to nine months of the year. I have never seen a student suffering from anything like arsenic poisoning. I have seen students suffering from the fumes of amyl alcohol, and from sulphuretted hydrogen; but never has there been a case of arsenic poisoning among students who have been there two years.

DR. F. W. STUART then read a paper on

A CASE OF SO-CALLED "VICARIOUS MENSTRUATION."²

DR. BLODGETT said: I would like to ask if any medical person witnessed the expectoration of blood at any time.

DR. STUART: No; it was something that we attempted to do; I gave notice to the mother to call me at any time that the patient raised blood. My office was only a block from where she lived, but they never sent for me. The mother was hysterical, as well as the girl, and we thought she lied a little more than her daughter did. That was one of the elements that was pretty hard to determine. It was hard to say whether she vomited the blood or raised it by coughing. She insisted that the vomitus was streaked with blood after severe vomiting. That we could see ourselves. She afterward said she coughed up thick blood; that we never saw.

DR. J. L. FOLEY asked whether the blood were dark or scarlet.

DR. STUART replied that the patient said it was dark. If it were from the air passages of course we would expect it to be bright.

DR. BLODGETT said: I have had the opportunity of examining three cases where the presence of blood was important. One of these was a case where the blood was expectorated by the patient, to the great alarm of the family and the consternation of the physician, who could find no legitimate cause for it. It was finally made evident that the patient willfully and

² See page 474 of the Journal.

voluntarily produced the blood from somewhere within the oral cavity. It was satisfactorily determined that the blood did not come from the stomach or lungs, but from some mucous tract above the œsophagus or trachea. A second case which came under my observation was one in which it was believed by the medical man and by the patient that an actual hæmoptysis had occurred, in which the blood followed coughing, and was produced in a fresh or comparatively fresh condition, although never frothy. That was finally, by close study, found to be due to an oozing from the nasal or pharyngeal mucous membrane, which trickled down into the larynx, and then was coughed from the upper portion of the respiratory tract. No symptoms have followed the accident, and they have for many months been carefully watched for. Once or twice it has been noticed in other members of the same family, but it seems to be due to a peculiarity of the patient, and not to organic disease.

The third case was one in which, absolutely, blood was lost in large quantities. Sometimes in quantities estimated at from a teacupful to half a pint. I have never seen the hæmoptysis going on, but I have seen the blood which was produced after the expectoration had ceased. This blood was supposed to come from the lungs. In consultation, a physician of great experience and eminence, pronounced it blood of pulmonary origin. On one occasion I was fortunate enough to see the blood which was formed in distinct coagula. The nurse, who was competent, said that it was found in the mouth in that form, so that the finger had to be used to break up the clumps. This showed that it did not come from the lungs, but from some other part of the body; and I came to the conclusion that it all came from the stomach. The autopsy showed that it came from the exudation of blood through the wall of the stomach without ulceration. There was no other source from which it could have been derived. The lungs were diseased, but there were no cavities, and discussions of a pulmonary origin of the hæmorrhages. that the no crackle, which usually follows the effusionless; that to the pulmonary tract. These three petent chemists have interest as presenting three conditions large and dangerous, the expectoration of the blood to ask if Dr. Smith has in each of which seemed to proving of certificates of the form from the others, and in regard to the compounds and the question whether what value he places upon them, the expectoration going

DR. SMITH: When I was rep- was in some doubt as to what deal, ask Dr. Stuart how instead, or Gregory & Brown. I went ment, the loss of picked out papers that I thought I we? saw the analyses. The papers were sta how a man from arsenic. I did not engage them she began paper, but engaged a wall decorator; he he twenty- the most part with another firm, the Bosto just one Paper Company. They had a chemist of whi tenth. Wood and Dr. Harrington had never heard. centy- had specimens which were said to be free from pok I finally purchased of Gregory & Brown. Dr. H, rington had marked one specimen "Practically free from arsenic." I went to Dr. Harrington myself, because I wanted to know how much it contained. I should place very little reliance upon the statements of any dealer in wall-paper, because he is in one sense an interested, and in another sense an uninterested party. He may sell arsenical wall-paper in perfectly good faith. He receives it from the producer, and

milk. Her vomiting began in June, but she raised no blood then. In December she "coughed" up the blood, but did not vomit any. In June she had made an apparent attempt at menstruation. At one time previously she had had a discharge of blood from the anus.

DR. VICKERY. The hæmorrhage was seen?

DR. STUART. Yes; she did have hæmorrhages. Each time there was blood somewhere.

DR. BUCK. Did she have a small thorax from tight lacing?

DR. STUART. No; she never wore corsets.

DR. VICKERY. I don't think the slightest belief should be given to hysterical patients. One once brought me some live earth-worms which she declared she had vomited. That well illustrates the unreliability of this class of patients.

DR. STUART. The chief interest seems to centre upon this: the girl was an only daughter. The mother was a widow, and thought everything of the girl. The father died of phthisis. There was phthisis everywhere in the family. We asked the question, Is this phthisis? We found no signs in the lungs. The question of vicarious menstruation was raised. It seems to me that the whole thing from beginning to end may be phthisis.

A physician in Boston told me that he was called to see such a case out of town. He found the patient with marked signs of phthisis; cavities in both lungs. The attending physician, who was a man with a large practice, said that it was vicarious menstruation, and that when puberty was established the child would get well. In this case I can only suppose that she had phthisis, and we did not get the signs. Dr. Bowditch examined her once. She was examined by several other gentleman, all of whom pronounced her entirely free from signs. Still, I believe that phthisis was there. I think the whole thing was phthisis.

DR. FOLEY. Did she have any of the symptoms of phthisis, as distinct from the physical signs?

DR. STUART. She was feverish all the time, she said. She also had night-sweats. She said she did not have much cough, but I do not think any reliance was to be placed on that.

DR. KNIGHT. How long from the first blood to the appearance of physical signs?

DR. STUART. Seven months, from October to April.

DR. KNIGHT. It seems to me it must have been the experience of all physicians who have seen such cases that patients not infrequently have hæmoptysis come on sometimes for months or years before the appearance of physical signs. I have frequently met such cases. It is quite the rule, I should say, for patients to have hæmoptysis, and then phthisis after six months. It seems to me that it is not inconsistent with the development of tuberculosis. Supposing when you first examined the case you had found physical signs in the lungs. The question of menstruation would not have entered your head.

DR. STUART. Certainly not.

DR. KNIGHT. Why the difference?

DR. STUART. She was so positive that it occurred regularly. They questioned her vomiting blood as she said, but certainly I saw vomitus that was streaked with blood.

DR. KNIGHT. Do you think that gynæcologists would accept the fixed date?

¹ See page 476 of the Journal.

DR. STUART. No; I do not think so. My view of the case was that it was phthisis. That the vomiting that we had here was hysterical. That the periods came so was due to the hysterical condition of the patient. I don't see why a phthisical patient might not vomit every three or four weeks. It is very easy for a man to be misled, I think. In this case vomiting occurred every three or four weeks in the course of the phthisis. In regard to the question of hysteria, it was admitted by the other physicians who saw her, that her statements were all open to doubt. It does not stand on my own authority.

DR. BLODGETT then showed the following

NEW INSTRUMENTS:

A stethoscope, with a membrane arranged in the bell extremity in such a manner as to intensify the sounds. Of its efficacy he could not speak, as he had not tried it. It also had the merit, the advantage of which was first pointed out by Dr. Haven, of having the flexible tubes so long that the examiner may keep at a greater distance from the patient. The value of this is seen especially in the case of children, and patients infested with vermin, or in persons in whom the breath is unusually offensive.

The so-called "avitreous" thermometer was also shown. Its chief advantage is in the fact that it will not be readily broken. Some of the members would criticise it on the ground of cleanliness, since it has lines of union which would be difficult to keep free from impurity.

A new double catheter was also shown. The return current is by a series of channels formed by the urethral wall on the outside, and grooves in the metal on the inside. It may answer a useful purpose when it is desired to wash the surface of the urethral membrane.

A new series of antiseptic instruments has an adjustable handle, which allows the metal portions to be readily removed, and thus be subjected to cleansing processes that the ordinary handles would not permit. The instruments were kindly loaned by Messrs. Leach & Greene.

Specimens of the leaves from which the new local anæsthetic,

GLEDITSCHINE,³

is derived, and some of the two per cent. solution of the active principle itself were also exhibited. A short description of the circumstances of its discovery⁴ and its properties was given.⁵

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, November 3, 1887.

DR. JOSEPH D. BRYANT, Commissioner of the Board of Health, read a paper entitled,

HOW CAN THE PROFESSION AND THE BOARD OF HEALTH?

While there ought undoubtedly, he said, to be the most complete harmony between the two in all matters pertaining to the public health, in the past this

had by no means always been the case, and they had, as a rule, been much greater strangers to each other than they ought to have been. He believed, however, that they should both labor with common purposes, the prolongation of human life and the alleviation of suffering. It was the province of the Board of Health to deal more particularly with the prevention of disease, and of the medical profession with its treatment; but the preventive measures of the Board ought, of course, to meet with the active and cordial support of the profession.

Dr. Bryant first gave a sketch of the organization of the Board under the recent head of the Department, General Shaler, in which there were seven divisions, all subject to a semi-military system. From a practical point of view, however, this system was found to be more ornamental than useful, and circumlocutory rather than thoroughly efficient. He then spoke of the present organization of the Board, and described the more important changes which had been introduced under the administration of President Bayles.

Among these was the relieving of the medical officers of the Board from the duty of making general inspections; one which was now performed by a corps of lay and police sanitary inspectors. There were forty-five members of the sanitary police corps, each having charge of the inspections in one of the forty-five districts into which the city was divided, and it was their special duty to systematically and thoroughly inspect all the tenement-houses in their respective districts. The lay sanitary inspectors were fifteen in number, one to each of the fifteen larger districts into which the city was divided. It was their duty to make inspections of buildings other than tenement-houses, to investigate complaints made by citizens, and to deal with problems too deep for the sanitary police, by whom such problems were referred to them. All the medical sanitary inspectors are now detailed to the department of contagious diseases, and it was their duty to at once visit the locality of any case of contagious disease reported to the Board, and see that proper measures for isolation, disinfection, etc., were promptly and thoroughly carried out. When, in any instance, it was found that suitable medical treatment could not be pursued, or that isolation of the patient could not be secured, they would advise that the case be removed to the hospital. They were especially charged that they were to coöperate in every way with the medical attendant in charge of the case, and always treat the latter in accordance with the strictest rules of professional etiquette.

The medical officers were thus restricted to work entirely professional, and the most ample opportunities were afforded by the present system for the scientific investigation of disease. In order to further this object, promotion and the increase of salary were made dependent on faithful and intelligent service. In the department of contagious diseases was included the bureau of vaccination and contagious disease in animals, and employed in the latter were expert diagnosticians in this special field. In addition the services of Drs. T. Mitchell Prudden, of the College of Physicians and Surgeons, and Hermann M. Biggs, of Bellevue Hospital Medical College, had been secured as Pathologists by the Board. The utility of this measure had already been demonstrated in the determination of the true character of a suspected case of Asi-

³ The Alkaloidal Active Principle of the Gleditschia Triacanthos, or Thorny Locust. (Journal of Am. Med. Association, October 15, 1887, p. 500.)

⁴ See Medical Record, October 1, 1887, p. 445, et seq.

⁵ See also Am. Journal of the Med. Sciences, October, 1887, p. 519. The Medical News, September 3, 1887, and Journal of Am. Medical Association, September 17, 1887.

atic cholera at quarantine, by the cultures of bacilli found in the discharges of the patient.

Convenient and comfortable means were provided for the transfer of patients to the hospitals of the Board, and the admirably constructed Willard Parker Hospital, at the foot of East 16th Street, was fitted up with all the modern appliances for the successful treatment of disease. It had accommodations for seventy-five or one hundred cases of diphtheria and scarlet fever, an efficient house-physician, and a medical board consisting of such men as Drs. E. G. Janeway, Joseph O'Dwyer, Stephen Smith, George F. Shrady, D. M. Stimson and A. Jacobi. The Reception Hospital was also under the supervision of the same medical board. On North Brother's Island were the fine new small-pox hospital and five pavillions, each with accommodations for twenty-five or thirty patients, for contagious diseases other than small-pox. On this island there was also considerable unoccupied space on which temporary structures could be erected in case of emergency. Every provision was thus made for the comfort and welfare of patients suffering from the various forms of contagious disease.

The Board was at this time paying special attention to the matter of contagious disease, and the urgent need of this was sufficiently attested by the fact that from the 1st of January to the 30th of September of the present year there were no less than 1575 deaths from diphtheria reported in the city. There was entirely too much indifference on the part of the public to such affections as diphtheria; while a single case of a disease like cholera, the prevalence of which would seriously interfere with the business interests of the community, would at once cause profound excitement and receive the greatest possible attention. The Board had great odds to contend against, as it was estimated that from fifteen to twenty-five per cent. of the cases of contagious diseases occurring in the city were never reported by the medical attendants in charge of them. It was estimated also that from twenty-five to thirty per cent. of the births were unreported.

Dr. Bryant concluded this portion of his paper by referring to the provisions of the Board of Health for carrying out the work of the Bureau of Vital Statistics, for the examination of food, the enforcement of the laws regulating the construction of tenement-houses, etc. He then proceeded to answer the question, How can the Profession aid the Board of Health? This could be done, he thought, in the following ways:

(1) By reporting at once all varieties of nuisances dangerous to life or health.

(2) By promptly reporting all cases of contagious disease. In this way many valuable lives could be saved and epidemics could be averted.

(3) By enforcing strict isolation and employing suitable disinfectants and antiseptic measures in cases of contagious disease.

(4) By reporting all cases in which isolation cannot be secured or proper medical treatment be carried out.

(5) By visiting the Willard Parker Hospital and thus being able to speak from personal observation of the advantages which it affords.

(6) By being careful not to send patients with contagious diseases to the dispensaries.

(7) By heartily coöperating with the medical inspectors of the Board of Health in any case in which the latter are met with.

(8) By reporting all food or drink adulterations coming under notice.

(9) By reporting any instance observed of decaying fruit or other kind of unwholesome food offered for sale.

(10) By reporting all defects in plumbing, light and ventilation observed in houses visited.

(11) By paying special attention to the sanitary condition of the homes of patients.

(12) By promptly reporting all births. This was of special service in securing the more general vaccination of infants.

(13) By the appointment of a committee of physicians, not less than five in number, to confer with the Board of Health, whenever such conference seems desirable, on all matters pertaining to the public health.

DISCUSSION.

DR. E. G. JANEWAY said that the suggestions made by Dr. Bryant covered most of the matters in which the profession could be of service to the Board of Health. The importance of reporting all cases of contagious diseases could not be over-estimated, and the statistics of disease could never be made accurate until every physician was willing to report every case he met with. He had known the recurrence of small-pox in New York to be due more than once to unreported cases of the affection. The benefit of reporting all cases of typhoid fever, for instance, had been repeatedly shown in England, in enabling the authorities to trace the origin of the trouble to contaminated milk. The relation of contagious diseases to the public schools was a matter of vital importance, and it was absolutely essential that the school officers should be promptly informed of the existence of a contagious disease in any family, a member of which was one of the scholars. It was also highly desirable that physicians should report every case of *suspected* contagious disease coming under their observation. Public opinion in sanitary matters was moulded by the medical profession, and it should be the aim of the latter to inspire the public with confidence in the Board of Health. Otherwise, the influence and efficiency of the Board would be seriously impaired.

The good work done by the Bureau of Vaccination had undoubtedly been the means of successfully controlling small-pox in the city during the last few years, and it was essential that this should be continued in the future, and that even more vaccinations should be made than in the past. When, as was occasionally the case, unfavorable circumstances attended vaccination, it was not uncommon to hear physicians intimate (and usually without adequate reason), either that the virus used was bad, or that it was contaminated with syphilis. Such slighting remarks did a great deal of harm, and he had known them to be the means of preventing a large number of vaccinations, as reports of this kind were apt to spread through tenement-houses.

DR. A. N. BELL, editor of the *Sanitarian*, spoke of the occurrence of sore throat and other troubles in a family as the preliminary symptoms of bad plumbing, which, if the defects were not remedied, would sooner or later eventuate in diphtheria, enteric fever, or membranous croup. He believed that nine-tenths of the houses in New York were still badly plumbed, as they were built before the present laws in regard to plumbing were enacted. The importance of securing the attention of the Board of Health in such cases

was, therefore, self-evident. He also spoke of the preliminary symptoms of defective ventilation, which would finally terminate in pneumonia if the trouble was not corrected, and said that the great mass of cases of pneumonia occurred in children and old people, who were largely confined to the house. It was also a fact that eighty-four per cent. of the cases of phthisis occurred in those living indoors.

DR. ANDREW H. SMITH said that it seemed to him that a new era in the sanitary history of New York had been marked by the appearance of an official representative of the Board of Health, like Dr. Bryant, before the medical profession of the city, to ask for their coöperation in its work. In the past, there had not been those cordial relations between the two which should have been the case, and the Board of Health had been regarded very much as an athlete who struck out from both shoulders, aiming its blows, on the one side, at the public, and, on the other, at the medical profession. He had always believed that the Board should be the outcome of the profession, and be in full sympathy with it; and he could not but feel that Dr. Bryant's paper would be of great service in promoting the sentiment of a community of interests. When medical men could be convinced that the Board was a part of the profession, its usefulness would be greatly increased, and he had little doubt that, from this time forth, such would actually be the case.

DR. C. R. AGNEW expressed much the same sentiments as Dr. Smith.

MR. BAYLES, President of the Board of Health, who was present by special invitation, said that he had been gratified to note the gradual increase of interest in the work of the Board on the part of the medical profession during the past seven or eight months. At first, he had encountered much hostile criticism from physicians; but now there was a much better understanding, and this, he believed, was to a large extent due to the influence of Dr. Bryant, who, since his appointment as Health Commissioner, had been unintermitting in his endeavors to increase the efficiency of the Department. As to the plumbers of the city, at the time when he assumed the Presidency, they were unanimously and most cordially opposed to the Board, which they regarded as an unintelligent, hostile power. He visited the Master Plumbers' Association, and invited its members to join him in a revision of the plumbing ordinances, and the result was that now, instead of being out of sympathy with the Board, and opposing obstacles to its work, they acted in hearty coöperation with it. In the same way, he had endeavored to conciliate other lay interests, leaving to Dr. Bryant the business of dealing more particularly with the medical profession. Mr. Bayles asked for the moral support of the profession when the Board was unjustly assailed by the newspapers, as was sometimes the case, and spoke of the advantage it would be to the Board, when it presented its budget of expenses to the Board of Estimate and Apportionment, to have a committee of physicians of high standing in the community to testify to the importance of its needs. In conclusion, he said that, with the coöperation of the medical profession, there was nothing which the Board of Health could not accomplish, while, without such coöperation, it was powerless.

The President, DR. A. JACOBI, said that, from his personal knowledge, he could state that there were

very few private houses in the city where scarlet fever and diphtheria could be treated under such favorable circumstances as at the Willard Parker Hospital. It was to be regretted that its advantages were not more fully appreciated by the profession and the public, but he did not doubt that the time would come when several such hospitals would be required in the city. When a case of scarlet fever or diphtheria occurred in one of the crowded tenement-houses, it was a pretty safe prediction to make, that, within a month, from five to ten per cent. of the children living in the house would be dead. If all the well children could be at once removed to other localities, it would be the best thing to be done; but, as this was manifestly impossible, the next best thing was to remove the sick at the earliest possible moment, and he said he could not let this opportunity pass without endeavoring to impress upon the gentlemen present, especially those engaged in dispensary practice, the great importance of sending children from the tenement-houses to the hospital.

On motion of DR. ELLSWORTH ELIOT, the President was authorized to appoint a Committee of five Fellows of the Academy (of which he himself should be one) to confer with the Board of Health in the manner suggested by Dr. Bryant in his paper.

The President introduced DR. H. W. BOONE, Professor of Surgery in St. John's Medical College, Shanghai, who spoke of

MEDICAL WORK IN CHINA,

and made an appeal for contributions of books to the medical library, and of specimens to the museum at Shanghai, which it was designed to make the medical centre, as it was already the commercial metropolis of the country. Such contributions may be sent to the care of the Rev. Wm. S. Laryford, 22 Bible House, New York.

Recent Literature.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical. By ROBERT BARNES, M.D., and FANCOURT BARNES, M.D. 8vo. pp. 884. Philadelphia: Lea Brothers & Co., 1885.

The advent of this treatise has been eagerly awaited by obstetricians, and a work of surpassing excellence expected from the distinguished senior author: we regret to be obliged to express our disappointment. Apart from numerous errors, the diffuse and pedantic style of the book renders it unsuitable for students; and an underlying vein of egotism and conceit will make its use distasteful to many practitioners.

While the space at our command will not warrant a critical examination of the work, we would express our especial disappointment in the chapter on the Puerperal Fevers. Only two pages are accorded to the consideration of the agency of microscopic organisms in causing puerperal infection, and the teachings on prophylaxis are painfully inadequate and absolescent.

That the book is without value to specialists competent to use it, we by no means intend to imply. Teachers will often doubtless turn to its pages in making comparative references; and careful perusal will reveal many pearls of wisdom from the rich experience of Robert Barnes.

THE BOSTON
Medical and Surgical Journal.

THURSDAY, NOVEMBER 17, 1887.

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THE FIFTEENTH ANNUAL MEETING OF THE
 AMERICAN PUBLIC HEALTH ASSOCIATION.

THE meeting of the American Public Health Association, in session from the 8th to the 11th of this month, at Memphis, Tenn., appears to have brought together a very large representation of the sanitary authorities of the country, as well as members of the medical profession and others interested in public health questions.

The place itself furnished a striking object-lesson; brought to the doors of destruction by the fearful epidemics of yellow fever in 1878-79, it flourishes now in greater prosperity than ever. The death-rate has been much reduced, and the excellent system of small sewers, constructed by Col. Waring, drains effectively all of the city now connected with it. A good water-supply is still wanting, but several plans are now under consideration, from which the needed relief is expected.

The people of Memphis believe that they owe much of their sanitary improvement to the Association and the National Board of Health. They were, therefore, glad to welcome their guests, and did make the meeting a most enjoyable affair.

Dr. Sternberg, the President of the Association, has quite recently returned from his scientific mission to Mexico and Brazil; whither he had been sent by the President of the United States, for the purpose of studying the inoculations of Carmona and Freire, for which so much has been claimed. It was naturally to be expected that some of the results of his observations would be presented at this meeting; the somewhat peculiar instructions, under which Dr. Sternberg acted, forbade, however, any publication whatever, of his conclusions until the final report should have been made to the President.

Dr. Sternberg's address is of very great interest, and deserves a careful reading by all who are interested in the scientific side of the questions relating to the prevention of disease. He is one of the very few, who have, on this side of the Atlantic, made original

investigations in the study of the harmful microorganisms; and has, under the painful limitations to which national sanitary investigations in this country are subjected, made contributions of generally recognized value to our knowledge in this direction. A concise statement of the present condition of bacteriology, founded largely on personal experiments, was the main feature of the address.

The question of a permanent National Health Authority, was given a prominent place in the proceedings of the Association. We notice with satisfaction, that the President recommends the establishment of a Bureau of Public Health in the Department of the Interior, a plan advocated by this journal since it became evident that a National Board of Health could not be reconstituted. The Association adopted the recommendation and appointed a committee to bring the matter to the attention of the next Congress.

A defence of the New York Quarantine Station against the many criticisms that have been made upon its quite inadequate equipment and defective administration, was attempted by Dr. A. N. Bell, of New York. Though his statements appear to have been made by authority, they produced a most convincing impression of the shameful condition of the quarantine service at our principal port of entry.

The contrast between New York and New Orleans was very distinctly marked, when Dr. Holt, of the State Board of Health, of Louisiana, read his account of the quarantine station below New Orleans and its operation.

New York allows Dr. Smith, the Health Officer of the port to receive, in one way or another, the enormous compensation of more than fifty thousand dollars, as generally reported, and spends almost literally nothing in extension or maintenance of the station. New Orleans, notwithstanding that she has replaced, by Dr. Holt's energetic administration, the fears of the whole valley of the Mississippi by well-grounded confidence, is still able, after paying fair but moderate salaries, to spend large sums of money in the improvement of her quarantine service. All the fees received in quarantine are spent for its benefit.

The Association passed, without material opposition, an emphatic vote of lack of confidence in the New York station, and there was a decided expression of feeling on the part of many of the western representatives, that it might yet be necessary to find their protection from the negligence or indifference of New York in inter-State quarantine.

Dr. Councilman's description of his recent work in the investigation of malarial fever, and his beautiful demonstrations of the plasmodium of Laveran, occupied one of the evening sessions and was thoroughly appreciated.

Mr. Lomb, of Rochester, who has, in previous years, been so generous a contributor to the resources of the Association, again offers two sums of five hundred and two hundred dollars respectively, for two prizes to be given to the best papers upon the prepa-

ration of healthy food for people in moderate circumstances.

Rudolph Hering, C. E., read a very interesting account of the present aspects of sewerage in its relations to stream pollutions, followed by a statement from Dr. Abbott, of Massachusetts, of the extensive investigations in this direction now going on, under the authority of the State Board of Health.

Altogether, the Memphis meeting may be regarded as one of the most successful in the history of the Association.

A PRECURSOR OF PASTEUR.

In connection with the communication of Dr. Goodale, in a recent issue of this JOURNAL, the profession may be interested to read the following, taken from the *Cronica Médico Quirúrgica* of August, 1887, a monthly published in Spanish at Havana:

Dr. Eusebio Valli received the degree in medicine from the University of Pisa, about the year 1778. In 1793, and afterward, he wrote in English a treatise on animal electricity, the phenomena of which were observed by him previously to the naturalist of Berlin. He found, in experiments with frogs, that the motive power of animal electricity was unnecessary to cause muscular action, inasmuch as it could be produced by striking a nerve with any substance whatsoever. He devoted special study to epidemics and infectious diseases, of which cholera and yellow fever were chief. Anatomy, physiology, and hygiene were subjects of his scientific scrutiny.

In 1799, at Leghorn, he made various anti-rabical inoculations, using saliva from mad dogs. One of the combinations was saliva, with gastric juice of the frog: none of the animals thus treated became affected by rabies. These experiments were communicated to the sanitary inspectors of Paris, who ordered the writings of Dr. Valli to be burned.

The views on phthisis expressed in his treatise thereon would have seemed paradoxical but for the rash erudition displayed. Having noticed that small-pox and *la peste* did not exist at the same time in a community, he surmised, in 1785, that the severity of the latter might be lessened by inoculation of variolous contagion. The account of the experiments *in re* upon himself did not show that one morbid agent protected from the other. Similar trials with various materials in different combinations were made, the *modus operandi* of which is given in his note-book on *la peste*; this was published during 1805, while he occupied the Chair of Chemistry, and served as chief physician to the hospital in Mantua. Some years later, still holding rank as surgeon in the French forces, he came to the United States (Philadelphia) to study yellow fever. When told of the danger, he replied that he meant to continue experimentation, as already done in Europe and Asia, trusting to destiny, believing that his end would not be ignoble, and that philanthropists should honor his tomb.

"Convencido del carácter contagioso de la fiebre amarilla, me propongo inocularme con el sudor de los moribundos ó con la bilis de los cadáveres modificando el venem con los mismos reactivos de que me serví en mis ensayos con la peste del Oriente. Si esta escrito en el libro del destino que yo perezca víctima de ese grande experimento, mi muerte no será sin gloria y los filántropos de esta region afortunada correrán en tropa á exparcir sobre mi tomba olorosas flores."

Not finding at once material for observation in the States, he went to Havana, where he died from yellow fever a few days only after arrival, in 1816, being forty years of age.

In the eulogy on Dr. Valli, read in Havana, 22d of November, 1816, Dr. D. T. Romay, in a note, says: "I have never seen this disease (yellow fever) terminate on the third day of its invasion: on the contrary, it is noticed that the fever and symptoms then intermit for eight or ten hours, this being a phenomenon which distinguishes it from other fevers."

Dr. Valli's portrait was accorded a place in the Public Library at Havana. Besides being a member of the Accademia Virgiliana of Mantua, of various medical, scientific, and literary bodies, he was honored by the medical fraternity of Edinburgh. In his life, published by José Valli in 1886, may be found an entertaining and instructive narrative of the experiences and methods in research of one travelled in many lands — Asia, Europe, America — whose large knowledge, solid judgment, and active spirit cause noble emulation in the ambitious student, while his sacrificing of self for others endears him to our human heart.

THE CASE OF THE CROWN PRINCE OF GERMANY.

RECENT developments in the case of His Imperial Highness show that the early diagnosis of his German physicians was right, and that other opinions subsequently expressed were wrong. The Crown Prince has been suffering from malignant disease of the larynx. It has been malignant from the beginning, and has steadily spread. It remains now to be seen how soon tracheotomy will have to be performed as a palliative measure unless the bold procedure of extirpation of the larynx is adopted.¹

In looking back at the reports concerning this important case which have appeared in different medical journals during the past few months, we are forced to the conclusion that scientific journals, like the daily newspapers, are not always to be relied on, and that it is not easy to diagnose laryngeal disease *on paper*. We feel, however, that in this instance, the treatment which has followed the mistaken diagnosis has not in any way influenced the natural course of the disease. The diagnosis of malignant disease of the larynx is not, as a rule, difficult to establish. The gentlemen who have had charge of the Crown Prince have unconsciously allowed their scientific judgment to be

¹ Editorial, Vol. cxvi. p. 618. June 23, 1887.

blinded by their Christian feelings and ardent wishes. Their desire to save a life so happy in its domestic relations, and one so important to the future political history of Europe, prevented them from seeing either with their natural lenses or with those of the microscope the true nature of the disease they had to fight.

If the sufferer had been a German peasant by the name of Schultz, instead of Frederic-William-Nicholas-Charles, Prince Imperial, there would not have been, we imagine, two opinions in regard to the character of the trouble. How far State considerations were allowed to influence the *expression* of scientific opinions, of course only those behind the scenes can tell.

From a strictly professional point of view there are some aspects in the management of this difficult case which might "point a moral and adorn a tale." But with these we need not concern ourselves, at least at present. We have now merely to express our regret that medicine is not always the "art of healing," and that a truly noble life is drawing towards its close.

NAPHTHOL AS AN ANTISEPTIC MEDICAMENT.

BOUCHARD has communicated to the French Academy of Sciences the results of a series of researches, from which it appears that naphthol, one of the derivatives of naphthaline, is an excellent antiseptic, surpassing even iodoform.¹

Kaposi, several years ago, called attention to the value of this agent in the treatment of certain diseases of the skin, and particularly of scabies.² He employs naphthol in a ten per cent. alcoholic solution, or in the form of ointment, and says that one or two applications will cure the most inveterate cases of common itch. For this purpose an ointment may be made with one part of naphthol and ten of vaseline. He has had equal success with naphthol in psoriasis, eczema and ichthyosis, and there is nothing better, he says, to allay tormenting itching of prurigo.

Hensinger³ also speaks in high praise of naphthol as an external agent (alcoholic lotion or pomade) in the skin diseases mentioned above, in lupras erythematosis and in chancres. Under its use sores of a phagedenic character, rapidly take on a healthy action. Van Harlingen, moreover, has seen favorable results from naphthol in obstinate cutaneous affections.⁴

The experiments to which allusion has been made, have led Bouchard to regard naphthol as one of the best and safest of antiseptics. According to these a three per cent. solution markedly retards the development of the typhoid bacillus, as well as that of the bacillus tuberculosis. The same solution is fatal to the microbes of several of the parasitic diseases of animals, and prevents fermentations. Bouchard gives naphthol internally in typhoid fever, and believes that, if it does not abort this disease, it certainly ren-

ders its course milder. He regards a dose of forty-five grains (2.50 grammes) a day as realizing the conditions of intestinal antiseptics, and affirms that in such doses there is no antiseptic agent which is more innocuous.⁵ This use of naphthol in typhoid fever has been followed to some extent in this country with apparently favorable results.

MEDICAL NOTES.

— Dr. Macaulay writes to the *Lancet*, that he has attended a woman in her seventh confinement, since the removal of an ovarian tumor by Sir Spencer Wells in 1875.

—"I saw at once," said a physician, who had been called in consultation, "that Dr. Pellet's diagnosis was wrong; but as he was in charge of the case, of course it would not do for me to interfere."—"Did the patient die?"—"Oh yes, died of 'professional courtesy,' a very common and fatal disease."—*Harpers' Bazar*.

— Dr. Watkins, inspector of the State Board of Health of Louisiana, has recently examined the prisoners in the parish prison of New Orleans and reports that he found a number of the inmates suffering from acute dropsy of the legs, arms, face and body, due to confinement and insufficient and unwholesome food. Each prisoner is allowed a piece of bread and a pint of tea early in the morning, and one meal consisting of soup, the beef cooked in the soup, and bread. The beef is supplied by contractor at five cents and a half a pound, and has been repeatedly condemned by the resident surgeon.

— The existence of an inflammatory zone about the umbilicus is one of the signs of medico-legal importance in judging whether an infant has lived after birth. In a recent case Dr. Kirk, of Edinburgh, found such a zone and gave judgment that the child had lived. As the result of subsequent investigation of several cases, he came to the conclusion that if a child lives an hour after birth there will be a slight circle of inflamed tissue about the insertion of the cord: this zone becomes more pronounced every hour after birth.

— The October number of the *Journal of the Society for Psychical Research* contains the statement: "It will be remembered that the earliest experiments in thought-transference described in the Society's Proceedings, were made with some sisters of the name of Creery; and that, though stress was never laid on any trials where a chance of collusion was afforded by one or more of the sisters sharing in the 'agency,' nevertheless some results obtained under such conditions were included in the records. In a series of experiments recently made at Cambridge, two of the sisters, acting as 'agent' and 'percipient,' were detected in the use of a code of signals; and a third has confessed to a certain amount of signalling in the earlier series to which I have referred. This fact

¹ Acad. des Sciences, Session October 17, 1887.

² Wien. Med. Woch., No. 22, 1881.

³ Berlin Klin. Wochen., 1883, p. 353.

⁴ Am. Jour. Med. Sciences. 1884, p. 479.

⁵ Semaine Medicale, October 27, 1887.

throws discredit on the results of all former trials conducted under similar conditions. How far the proved willingness to deceive can be held to affect the experiments on which we relied, where collusion was excluded, must of course depend on the degree of stringency of the precautions taken against trickery of other sorts, as to which every reader will form his own opinion." The Creery girls are daughters of a Devonshire clergyman, and were from ten to seventeen years of age when the experiments were originally tried. They were among the first in whom so-called "telepathy" was discovered. The record of the experiments with these girls was one of the most interesting chapters in the society's early history, and the proof of their fraud is correspondingly mortifying. It will probably intensify the scrutiny of the other "sensitives."

BOSTON AND VICINITY.

—The Newton Cottage Hospital has just been enriched to the extent of \$6,000, which is a gift from Mr. J. R. Leeson, of Newton Centre, in memory of his deceased wife, Mrs. Georgia A. Leeson. The money is to provide for the erection of a ward for women and the furnishing of the same. Mr. Leeson had previously contributed to the hospital what is known as the "Margaret Leeson Fund," in memory of his young daughter, who died but a few years ago. This fund is used for the benefit of sick and crippled children and to provide hospital treatment for them.

—Scarlet fever has been remarkably prevalent in Boston during the last few weeks. At a conference of heads of departments with the mayor, held November 11th, Dr. Durgin, of the Board of Health, referred to the increase of scarlet fever, and said that every effort was being made to suppress it. There are probably about sixty cases at present in the city. He also spoke of the cholera scare, but said that the Board would be prepared for any emergency. Dr. Durgin is reported as saying that he has no doubt but that the digging up of the streets had considerable to do with the increase in sickness.

Dr. Rowe, Superintendent of the City Hospital, at the same conference said that twenty-six children were now being treated — twenty for scarlet fever and six for diphtheria — a larger number of children than the hospital has had for some time. A great many applications were being made for admission to the hospital by people outside of the city, which the trustees had to refuse, owing to the lack of room.

The Board of Health have voted to designate all houses in which there are cases of scarlet fever, by the display of a signal, after the manner which has already been pursued in some country districts.

—At the Harvard-Princeton football match at Cambridge, on November 11th, which was very warmly contested, Holden, the captain of the Harvard (victorious) team, who was playing half-back, sustained a fracture of the sternum, with depression of a portion of the bone.

NEW YORK. — CHOLERA NOTES; DEATH OF DR. O'GORMAN, OF NEWARK, NEW JERSEY.

—Mayor Hewitt has taken the Health Officer of the Port, Dr. Smith, to task for the unsatisfactory condition of affairs at Quarantine, revealed by the investigations of the Committee of the College of Physicians of Philadelphia, and the Committee on Hygiene of the New York County Medical Society. In answer to a letter of inquiry from the Mayor, President Bayles, of the City Board of Health, has recently sent the latter a reply, in which, while he declines to discuss the possibility of cholera reaching New York — a matter involving the efficiency of the present Quarantine management, and beyond his jurisdiction — he gives very satisfactory assurances as to the preparations and facilities of the Health Department for dealing with cases of cholera if any should come into the city. He states that the plan of action of the Department has been carefully considered, and seems to be adapted to every possible emergency. Among the preparations made, the ambulances have been reconstructed, provided with tight bottoms and sides, stripped of all upholstery, and supplied with special facilities for safely moving cholera patients. The mattresses with which they were formerly provided have been removed, and rubber beds substituted. Several sets of blankets have also been provided, in order that it may not be necessary to use the same bedding for two cases without intermediate disinfection. The medical corps is well organized, and every man has been carefully instructed in writing what to do if assigned to cholera duty, and how to do it, while, at the hospitals, there are accommodations ready for as many patients as can be expected under the most improbable conditions. In a word, says Mr. Bayles, the Department is so well prepared, that notice of cholera in the city would take no one connected with it by surprise, and occasion no confusion. The preparations also include the provision of two large tanks in the disinfection-house adjoining the Willard Parker Hospital, which will carry a steam-pressure of twenty-five to thirty pounds — an amount far in excess of the maximum requirements of thorough disinfection.

—The death is announced of the eminent Newark physician, Dr. O'Gorman, who was instrumental in sending the first American patients to Pasteur.

Miscellany.

REFLEXES IN NEWLY BORN CHILDREN.

DR. JULIUS FARAGO has published in the *Gyógyászati*, a Hungarian journal, as quoted in the *Lancet*, some observations he has made in Prof. Ebstein's clinic in Prague, on the reflexes of newly born children. Advantage was taken of the lax state of the muscles of the lower extremities while the child was at the breast to test the patellar reflex. Altogether one hundred and seventeen infants under sixteen days old were examined. In all these the patellar reflex was present

on both sides, but the strength of the jerk varied a good deal. In some cases there was merely a slight, short, sudden extension of the leg. In others the jerk was stronger and followed by a series of oscillations. Frequently a transient clonic contraction of the quadriceps was noticed. In some cases a slight contraction was observed in the quadriceps of the opposite leg. Dr. Faragó found that the knee reflex is stronger immediately after birth than during the second week. Premature and badly-developed children weighing less than three thousand grammes, have a weaker knee reflex than children born at term weighing more than three thousand grammes. The abdominal and eyelid reflexes were also noted. The cremaster reflex was present in all the forty-nine male children except nine, and in these the testicles were high or else hydrocele was present.

A DRUGGIST'S MISTAKE.

BROWN was so unfortunate as to fail in business, and his handsome drug store, on the corner of M and N Streets, in the thriving village of Millbrook, has reverted to the original owners. His mistake was that he was too enterprising, too well posted, and ahead of the intelligence of the place.

He bought Smith's Pharmacy just two years ago, one-third down, and the rest on a mortgage note.

Brown had the laudable ambition to advance pharmacy in Millbrook and make it what it should be. He took the *Druggist's Bulletin* and all the other pharmaceutical journals, and several medical journals, which he diligently read.

The medical profession of Millbrook was represented by four old fogies and one homœopath. The medicines ordinarily prescribed by the regular fraternity were such as may be found described in any edition of the "United States Pharmacœpia" prior to 1860.

Brown had a great zeal for new preparations, nice formulæ, and liked to help out the manufacturing pharmacists. The agents and representatives of the great drug houses were uniformly treated by him with great suavity and politeness, as men who were immensely raising the standard of pharmacy, and who deserved to be encouraged as the benefactors of the race.

He bought a full line of their goods. On his shelves, for instance, were seen all of Schieffelin's Gelatine Coated Pills, a couple of hundred dollars being there invested. Then McKesson & Robbins, John Wyeth & Co., Parke, Davis & Co., were not forgotten. He had great faith in Squibb. He was a diligent reader of the *Medical Age*, and ordered a liberal supply of every new thing. When *Strophanthus* first came out he ordered a pound bottle of it from England, which, being expensive, cleaned out his treasury; this bottle, by the way, still remains on those shelves unopened. He bought all of Declat's preparations—"Soda-Phenic" "Iodo-Phenic" syrups, etc.,—and those bottles remain to this day untouched, not one of them sold. There are "compressed pills," by the bushel, and "tablet triturates" a full stock, and other new attractions which physicians have requested him to order, but which they never prescribe. Several ounce packages of antipyrine have long in vain waited a customer. Brown early took an interest in this new febrifuge and analgesic and thought that it would be a good thing to have it on hand. He called Dr. Slow-

man's attention to this most recent purchase. The doctor shrugged his shoulders and remarked: "I do not go in for these new-fangled preparations, I do not dare experiment on any of my fever patients. Give me some Graves' mixture."

In short, Brown's mistake was that he was "ahead of the times" and ahead of the place. It would have been better for him had he been content to dispense chalk mixture, paregoric, castor oil and such like, which were all that his customers seemed to want. Patent medicines he might have sold by the thousands of bottles, but Brown was too conscientious to have anything to do with that in which he had no faith, and he was too well read a druggist to have faith in patent medicines. There was really no demand for all the different kinds of "prepared food," or for all the various emulsions of cod-liver oil with which he encumbered his shelves, and when Brown was obliged to close up business, these preparations were found to be most of them spoiled.

In the last sentence we have indicated the fate that attended Brown. He was obliged "to close up business"; he could not meet his payments, consequently he failed through too much pharmacy. His successor says that he will take warning from Brown's example, and "stick to Epsom salts and castor oil." He will order nothing for the trade that has not been at least twenty-five years before the medical profession.

Correspondence.

SOUR MILK FOR BABES.

BOSTON, October 31, 1887.

MR. EDITOR,—We all know the importance of careful supervision of reading matter likely to fall into children's hands. Such of us as have boys are particularly interested in making sure that anything savoring of the dime novel is eliminated; and many of us subscribe for reputable children's magazines which are published (presumably) for the purpose of affording rational amusement and instruction to the younger generation.

Last evening one of my children, a bright and imaginative boy of nine (pardon this parental estimate) asked me to read to him from a story (which he qualified as "boss") the concluding chapters of which appear in the November number of one of our most popular children's periodicals. I commenced to read, but concluded very shortly that it was time for the boy to go to bed.

What horrors had been depicted in previous chapters I do not know, but here are a few extracts from those which I perused: A party of children are described as digging in an Indian mound—"Aquilla looked into the hole and shuddered. Yet there was nothing horrible in the white arm bones standing out of the earth with fingers all extended . . . the younger boys stood aside while their daring elders lifted the Indian skeleton to the surface. It rattled and dropped in pieces, but they set it with its still articulated spine against a tree, spread the legs out in front of it and placed the skull at its top. The arms hung down sprawling, the long phalange bones on the turf."

This merry scene, so likely to prove conducive to refreshing sleep in children who are passing through the period of second dentition, is concluded by the sudden appearance of a huge and hairy being with a club—a lunatic—who "could bury them in the hole and mind it no more than if he were chopping up a log"! This pleasing party "with motions of his club ranges them in line" and marches them off to unknown horrors.

In the next chapter a little girl knocks at a lonely cabin in the woods, the door of which is suddenly opened by an old woman whose "fierce eyes, and opening and shutting

her mouth with a gnash of two lone teeth," were what the little girl "objected to"! Inside the cabin there was a great frame work made of dark and heavy timbers extending to the rafters, with mystery in its shadows. This proved to be a loom, "draped at the back to within half a yard of the floor, with long threads hanging motionless. But between the threads and the floor were eight boys' legs . . . she felt speechless with fright, as if she were dreaming a bad dream."

These legs belonged to her little brothers and a friend (the same that the hairy being with the club had captured in the preceding chapter), whose "mouths were swathed tight, shut as if from cold, their hands fastened to their sides, and their feet secured."

Soon the hairy one appears and proposes (as a punishment for desecrating the mound) that the offenders' thumbs be at once cut off and buried with the disturbed skeleton.

Fortunately the threatened mutilation is prevented by "Uncle Roseladies" (apparently a sort of Rollo's father and Belfast Spider combined in the person of a verbose old gentleman), who knocks out the hirsute lunatic in one short but spirited round, and thus terminates what might have proved a disagreeable episode.

Now I ask if this is suitable reading for children? Why not return to the Bloody-shadow-of-the-double-handed-sword-or-the-cross-of-the-Antilles style of literature which we used to surreptitiously absorb in boyhood days before the present fashion of children's periodicals came in vogue? In conclusion I quote from the prospectus of the *Wide Awake* (ominous title!) magazine:

"Think of a life not only unhurt by wrong reading and pictures, but helped by right reading and pictures all the way through!" Very truly yours,

JOHN SMITH, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	565	201	17.10	16.20	2.34	1.08	9.00
Philadelphia	993,801	314	105	12.16	14.40	1.60	1.60	8.64
Brooklyn	745,103	344	134	24.60	12.00	1.80	3.00	14.70
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	141	56	26.98	12.78	3.75	2.84	14.20
Boston	400,000	198	70	18.87	15.81	4.59	3.06	7.14
New Orleans	242,750	109	37	20.24	11.04	2.76	.92	9.20
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	92	24	20.20	16.16	2.02	11.11	2.02
Pittsburgh	210,000	80	30	46.25	6.25	2.50	13.75	30.00
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	9	22.22	5.55	16.66	5.55	—
Charleston	60,145	23	7	8.70	21.65	4.35	—	4.35
Portland	40,000	15	0	26.66	20.20	—	—	20.00
Worcester	68,383	23	6	21.65	4.35	4.35	8.70	4.35
Lowell	64,051	21	6	19.04	23.80	4.76	9.52	4.76
Cambridge	59,660	—	—	—	—	—	—	—
Fall River	56,863	23	9	17.40	17.40	4.35	—	4.35
Lynn	45,861	15	4	13.33	20.00	—	—	13.33
Lawrence	38,825	8	1	—	12.50	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	17	9	17.64	17.64	5.88	—	11.00
Somerville	29,992	9	—	77.77	—	22.22	—	—
Salem	28,084	11	4	9.09	9.09	9.09	—	—
Holyoke	27,894	11	3	—	—	—	—	—
Chelsea	25,709	12	—	16.60	25.00	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	4	2	50.00	25.00	25.00	—	25.00
Gloucester	21,713	3	1	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	0	—	—	—	—	—
Malden	16,407	8	1	25.00	25.00	—	12.50	—
Fitchburg	15,375	4	1	—	—	—	—	—
Waltham	14,609	1	0	—	—	—	—	—
Newburyport	13,716	6	1	16.60	50.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,079: under five years of age 721; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 423, consumption 298, acute lung diseases 298, diphtheria and croup, 208, typhoid fever 60, diarrhœal diseases 57, scarlet fever 38, malarial fever 25, cerebro-spinal meningitis nine, puerperal fever eight, whooping-cough seven, erysipelas five. From scarlet fever, New York nine, Brooklyn and Boston eight, each, Philadelphia and Somerville three each, Fall River and Chelsea two each, Portland, Pittsburgh and Malden one each. From malarial fever, New York and New Orleans seven each, Brooklyn six, Philadelphia and District of Columbia two each, Baltimore one. From cerebro-spinal meningitis, New York and Philadelphia three each, District of Columbia, Worcester and Somerville one each. From puerperal fever, Philadelphia, Baltimore and District of Columbia two each, New York and New Orleans one each. From whooping-cough, Baltimore four, New York and Brooklyn one each. From erysipelas, Brooklyn two, New York, Philadelphia and Newburyport one each.

In the 20 cities and larger towns of Massachusetts with an estimated population of 979,911 the total death-rate for the week was 20.40 against 19.82 and 18.93 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 22d, the death-rate was 19.8. Deaths reported 3,502: infants under one year of age 797; acute diseases of the respiratory organs (London) 370, scarlet fever 117, whooping-cough 62, measles 59, diarrhœa 56, fever 52, diphtheria 38, small-pox (Sheffield seven, Bristol one) eight.

The death-rates ranged from 15.8 in Halifax to 26.4 in Manchester; Birmingham 17.7; Hull 19.6; Leeds 22.7; Leicester 20.4; Liverpool 19.6; London 19.4; Nottingham 17.2; Portsmouth 18.5; Sheffield 19.3.

In Edinburgh 20.8; Glasgow 18.4; Dublin 24.1.

The meteorological record for the week ending November 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Nov. 5, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...30	30.02	39.0	49.0	34.0	77.0	92.0	90.0	86.0	N.W.	N.	N.W.	12	12	12	F.	O.	F.		
Monday,...31	29.95	38.0	45.0	27.0	78.0	59.0	69.0	69.0	N.W.	S.E.	N.	8	4	15	C.	O.	C.		
Tuesday,... 1	30.09	38.0	42.0	35.0	76.0	51.0	68.0	65.0	N.	N.	N.	12	24	14	O.	F.	C.		
Wednes,... 2	29.96	44.0	56.0	28.0	65.0	28.0	45.0	46.0	N.	W.	W.	8	6	14	C.	C.	C.		
Thursday, 3	30.01	45.0	54.0	42.0	45.0	79.0	85.0	70.0	W.	E.	S.	12	12	8	C.	C.	C.		
Friday,... 4	29.71	53.0	66.0	43.0	100.0	53.0	69.0	74.0	S.	S.W.	W.	8	24	24	C.	F.	C.		
Saturday, 5	30.08	33.0	49.0	32.0	65.0	30.0	70.0	55.0	W.	N.W.	N.W.	12	24	6	C.	C.	C.		
Mean, the Week.	29.974	41.4	51.0	33.0				66.4											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 5, 1887, TO NOVEMBER 11, 1887.

GREENLEAF, CHARLES R., major and surgeon. Par. 8, S. O. 248, A. G. O., October 25, 1887, directing Surgeon Greenleaf to visit the recruiting depots and rendezvous at certain places, is amended to include Davenport, Iowa; Quincy, Ill., and Evansville, Ind. S. O. 257, A. G. O., November 4, 1887.

LORING, LEONARD Y., captain and assistant surgeon. Ordered for duty at Fort Mojave, Ariz. Ter., upon the expiration of his present sick leave of absence. S. O. 258, A. G. O., November 5, 1887.

PERLEY, HARRY O., captain and assistant surgeon, now on duty at Fort Wayne, Mich. Ordered for temporary duty with troops stationed at Highwood, near Chicago, Ill. S. O. 258, A. G. O., November 5, 1887.

IVES, F. J., first lieutenant and assistant surgeon. Granted leave of absence for one month, to take effect on or about the 15th inst. S. O. 113, Department of Platte, November 5, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 12, 1887.

HEYL, T. C., surgeon. Detached from the "Marion," proceed home and wait orders.

CRAIG, T. C., passed assistant surgeon. Detached from the "Marion," proceed home and wait orders.

WELLS, H. M., medical inspector. Detached from the "Trenton," proceed home and wait orders.

PECK, GEORGE, medical director. Ordered to Washington, D. C., as member of Examining Board.

AYRES, JAS. G., surgeon. Ordered to the "Galena," to relieve Surgeon F. L. DuBois.

DuBois, F. L., surgeon. Detached from the "Galena," proceed home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING NOVEMBER 12, 1887.

FESSENDEN, C. S. D., surgeon. Detailed as chairman of Board for the physical examination of officers of the Revenue Marine Service, November 1, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as Recorder of Board for the physical examination of officers of the Revenue Marine Service, November 1, 1887.

BEVAN, A. D., passed assistant surgeon. Relieved from duty at Portland, Ore., ordered to Marine Hospital, New York, November 2, 1887.

CARRINGTON, P. M., assistant surgeon. Relieved from duty on Revenue Steamer "Rush," ordered to Marine Hospital, San Francisco, Cal., November 2, 1887.

PERRY, T. B., assistant surgeon. Relieved from duty at Marine Hospital, San Francisco, Cal., ordered to assume charge of Service at Portland, Ore., November 2, 1887.

GOODWIN, H. T., assistant surgeon. Relieved from duty at Norfolk, Va.; ordered to Marine Hospital, New Orleans, La., November 5, 1887.

WYMAN, WALTER, surgeon. To proceed to Louisville, Ky., and Memphis, Tenn., as inspector, November 2, 1887.

URQUHART, F. W., passed assistant surgeon. Relieved from duty at Cape Charles Quarantine; ordered to Norfolk, Va., November 6, 1887.

MAGRUDER, G. M., assistant surgeon. When relieved, to rejoin station at Chicago, Ill., November 3, 1887.

DEATH.

Died in South Boston, November 12, 1887, Charles Edward McGowan, M.D., M.M.S.S., aged thirty-six years.

BOOKS AND PAMPHLETS RECEIVED.

Biography of Andrew Nebinger, M.D. By J. H. Grove, M.D. Philadelphia, 1887.

"Intracerebral Hæmorrhage in the Young." By B. Sachs, M.D. 1887. (Reprint.)

Natural Law in the Business World. By Henry Wood. Boston: Lee & Shepard. 1887.

On the Operative Surgery of Malignant Disease. By Henry T. Butlin, F.R.C.S., etc. Philadelphia: P. Blakiston, Son & Co. 1887.

On the Advantages of a Compound Salicylated Plaster in Dermatological and Surgical Practice. By Hermann G. Klotz, M.D. 1887. (Reprint.)

First Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1886. Ophthalmologist, Charles A. Oliver, M.D.

Report of an Inspection of the Atlantic and Gulf Quarantines between the St. Lawrence and Rio Grande. John H. Rauch, M.D., Secretary, Illinois State Board of Health. 1886.

Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. By John H. Rauch, M.D., Secretary, Illinois State Board of Health. 1884.

Transactions of the Association of American Physicians. Second Session. Held at Washington, D. C., June 2 and 3, 1887. Philadelphia: Printed for the Association. 1887.

Nasal Polypus with Neuralgia, Hay Fever and Asthma in Relation to Ethmoiditis. By Edward Woakes, M.D., London. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

Some Observations upon Pelvic Cellulitis. By Virgil O. Haddon, M.D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. 1887. (Reprint.)

The Arrangement and Construction of School Sanatoria. By Charles E. Paget, Medical Officer of Health for the Westmorland Combined Sanitary District; Hon. Sec. Epidemiological Society. London: J. & A. Churchill. 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. etc. New York: Wm. Wood & Co. 1886. (Reprint.)

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By Ira Remsen, Professor of Chemistry in Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co. 1887.

Original Articles.

CASES ILLUSTRATING THE LATE MANIFESTATIONS OF CONGENITAL SYPHILIS.¹

BY ABNER POST, M.D.

THE heredito-syphilitic infant is very likely to cease to show symptoms of his disease before the end of the second year. Apparently, many patients show no further signs of the disease; others go on without manifestations of the disease until about the age of puberty, or later. With others, the disease manifests itself at irregular intervals, so that they present a history of nearly continuous trouble, or of more or less frequent outbreaks. The first two years, then, comprise the early symptoms of hereditary disease, those that correspond with the secondaries of acquired syphilis; and the symptoms that come later, may be classed as late hereditary disease.

The evidences of late hereditary syphilis may consist in the evidences of previous lesions, in the modifications of growth that take place under the influence of the disease, and in lesions still active at the time when the patient appears for advice.

The evidences of previous trouble may vary very greatly, according to the age of the patient, and the character and severity of previous lesions.

It is an interesting question whether the later forms of the disease ever occur without the previous occurrence of earlier — infantile — manifestations. Such a question is equivalent to the question whether acquired syphilis ever shows its late forms without any early secondary manifestations. It is certain that we find late forms of the disease, both acquired and hereditary, in which we fail to find any evidence of earlier trouble, or, at best, but very questionable evidence, and certainly, cases in which previous disease is positively denied.

The late hereditary form of the disease assumes the same protean aspects as do the later forms of the acquired disease. Probably all the forms of acquired syphilis may appear in the hereditary disease. It presents the same difficulties of diagnosis, and is amenable to the same treatment as the more familiar acquired disease. I have selected a few cases which will serve to emphasize some of the peculiarities of the hereditary disease in its later aspects, and to illustrate some of the advantages of treatment.

Some of my cases are defective, in that disease in the parents is not fully established. This would be a serious objection were I attempting to prove that syphilis may be inherited. That syphilis is transmitted from parent to offspring, it is unnecessary to prove. My cases all show, at least, that the disease existed very early in the life of the child, so that they have essentially modified its growth, and its hereditary character, when not proven, is, at least, exceedingly probable.

CASE I. M. Her father, now dead, was known to have had syphilis before the patient's birth, according to the mother's story. The child was first seen by the writer in 1883, at the age of eight, when she complained of several points of periostitis, circumscribed to round spots, on various bones. She also showed cicatrices where similar spots had gone on to supuration and extrusion of bone. Some of these

spots were still open; others showed cicatrices adherent to the bone. There were also other large, circular, thin, white cicatrices not attached to bone. She was, in general, small for her age. Her mouth showed, at the corners, well marked radiating cicatrices, of the existence of which the mother was ignorant. This fact, that the mother had never noticed the scars, will, perhaps, illustrate their insignificance. At the same time, they were, and still are, exceedingly well marked. The mother recalls the fact that the child had an exceedingly sore mouth when about two years old. Of the cicatrices adherent to the bone beneath, the oldest, on the dorsum of the right hand, was said to have originated at the age of eighteen months — about the time at which the child was weaned.

She was put upon specific treatment, and did well, the sores healing, and the periostitis disappearing, but, by the advice of friends, she was transferred from my care to that of a man who was able to promise more — a well-known irregular practitioner, a vegetarian — who took away her specific medication, and under whose care she rapidly grew worse. In the fall of 1884, when nine years old, she returned to me, with the right side of her face hideously swollen. The swelling was due to disease of the superior maxilla. The upper teeth on the left side were loose, and several were removed. The bone was, however, dead, and she entered the City Hospital on November 10, 1884, in the service of Dr. Cheever, who removed through the mouth a portion of the upper jaw, which contained all the teeth of that side, permanent, as well as deciduous. The wound reopened, and discharged an offensive pus for some time; a few bits of bone were exfoliated, and the wound healed soundly, and has given little trouble since, save such as was inevitable from the loss of bone, which threw nasal and oral cavities together. During the healing of the wound, there were various threatening symptoms, which, I feel sure, would have gone on to further destruction of bone but for vigorous treatment. Since the cicatrization, the symptoms have been very few — some slight fissures at the nasal orifice, some indefinite rheumatoid pains, a slight vaginitis — none of which could have been considered syphilitic had they occurred in any other child, and localized tender spots over various bones, which made us fear further trouble.

She has continued under treatment almost constantly, increasing the dose as some slight symptom excited my apprehension, and varying from iodides to mercurials, as circumstances seemed to indicate.

At present, she is a large girl of twelve, nearly the height of her mother, well developed and strong — a marked contrast in general condition to the child, as I saw her, between four and five years ago.

She illustrates most completely the advantages of persistent treatment. Outbreaks of periostitis were controlled by the anti-syphilitic remedies. When one such attack was allowed to go without adequate treatment, the bone died, and its removal was obligatory. A return of treatment was followed by equally happy results, as at first. I can but feel that, in her case, the favorable condition is the direct result of medication. In this case, there can be no question of the nature of the disease, and of its hereditary character.

CASE II. Miss C. Father and mother both dead. Father died at about forty, in an insane asylum, of general paralysis. When first seen, the patient, seven-

¹ Read before the Boston Society for Medical Improvement, October 24, 1887.

teen years of age, was suffering from extensive necrosis of both tibiae. One leg was greatly shrunken and contracted about the knee, rendering it impossible to straighten that leg. The bone was exposed in several places. At least, two-thirds of the skin below the knee was either ulcerated or formed of cicatricial tissue, the result of previous ulcerations. The other leg was in a similar condition, though less marked. These spots had all commenced as periostitis, with great pain, gradually going on to ulceration and exfoliation of bone. This condition had commenced before the age of four. Previous to that time, no history was obtainable. On other bones, this young woman presented various spots of periostitis.

In general, she presented an exceedingly immature aspect, and might easily have passed for several years below her true age. The head presented a most marked appearance from the height of the forehead, which deserved the epithet *Olympian*. There was also a tendency to especial thickening about the frontal eminence, while the features were almost infantile. The legs and the spots of periostitis were the seat of atrocious pains.

Under large doses of the iodides, with small doses of mercury, the pains vanished, the ulcers partially cicatrized, and the patient was able to walk somewhat, and enjoyed comparative comfort far beyond my highest expectations. Later, pains attacked her head—periostitis was evident on the frontal bone. The patient became unmanageable, and absolutely refused the iodides, the periostitis went on to destruction of the bone and the loss of the greater part of the frontal bone above the orbital ridge.

In this case, it is not so easy to establish absolutely either the specific or the hereditary nature of the disease. The father died at an age a little early, perhaps, for general paralysis, but his malady was not regarded as of specific origin by the attendants, though they would not say that it was not syphilitic.

Simultaneous disease of so many bones is rare, unless from syphilis and destruction of the skull, unless from traumatism, must be exceedingly rare, unless syphilis is a cause.

This case illustrates very well the effect upon growth of the disease. The child is not merely stunted—it remains in many ways undeveloped, and appears, both in bodily and mental development, behind its actual years. This condition is best described under the term *infantilism*, and will be further illustrated.

The way in which the disease has stuck to the bones, leaving all other parts of the body untouched, is very noticeable. Although large portions of the integument have been destroyed, it is only a secondary process, the local trouble commencing always with the periosteum, the ulceration taking rise below the true skin. The effect of medication is also strikingly illustrated. Of great service when properly taken, the disease ran its course freely when the patient refused further adequate treatment.

Infantilism is marked much more strongly in the following case, which may, perhaps, be considered an extreme instance of such stunted growth. The case also shows the concentration of the disease upon the bones, and also a tendency, at the same time, to attack the nervous system.

CASE III. E. Consumption in mother's family; father in poor health. Is the youngest of several

children; others well. Was born at full term, but weighed four pounds only. At three years of age, weighed twelve pounds. When quite a child had a rash, which was general. Was taken to a hospital, and mother overheard the doctors say the eruption was syphilitic. Has always complained of pain in different parts of the body, like rheumatism.

April 9, 1884, was at the Children's Hospital with a large periosteal swelling at the lower ends of both humeri; one of these swellings had broken, and a sinus communicated with the bone. The other swelling was painful, and exceedingly tender. No other active trouble. In the fall of 1886, the following note was made:

She is twelve years old, but, when standing by the side of a child of six, the height of the two children, as well as the general development, is practically the same. Her head shows a massive forehead, with protruberant frontal eminences. Her features were infantile. Nasal bones flattened. Her lips fell in, like those of an old woman whose teeth are gone, and alveoli atrophied. Her corneae showed several opaque spots, and there was a discharge from one ear. Her teeth presented several peculiarities, too numerous for description. The upper central incisors were stumpy and notched in the centre, while the lower central incisors were remarkably small, and deformed by a similar, but more marked central notch. There seemed to be, also, a lack of development in the alveolus of both jaws—a deficiency which explained the falling in of the lips. The lower end of one humerus was thickened and enlarged, and presented a cicatricial depression, adherent to the bone below. Through the ulceration, of which this cicatrix was the remains, bone had evidently been exfoliated. The other humerus presented, at the corresponding spot, a considerable thickening, and there was a very evident inflammation of the periosteum in progress.

In February of the present year, she complained of "nervous spells." Said that she felt as if she was in a boat, which was rocking and going to tip over. Everything seemed going round. These attacks always occurred at night, and lasted about an hour, and were always followed by nausea and vomiting. There was no loss of consciousness. The attacks occurred three times during one week. Under iodide of potass they entirely disappeared. She eat prodigiously, and grew fat. During the spring she had a sudden attack of deafness, for which no reason could be assigned, and which disappeared.

The nervous attacks were never seen by any one save the family, but they caused the child great suffering. She spoke of them with the greatest dread while they lasted, and, after they ceased, with thankfulness at their departure. The attacks certainly resembled the attacks of giddiness which occur in certain cases of acquired syphilis with cerebral manifestations, and they vanished entirely under the influence of the iodides.

The source of the disease in this child is not evident, but the diagnosis is, I believe, beyond dispute.

A more marked case of cerebral symptoms in hereditary disease occurred in the following case:

CASE IV. H. S. The patient is a Russian Pole by birth. His English is very imperfect, and it is exceedingly difficult to converse with him. He knows very little of his parents. States that he was well up to December, 1885, when, at the age of eighteen, he was

suddenly taken with an epileptiform convulsion, which occurred in the night, and of which he had no recollection in the morning. The convulsion consisted of spasmodic movements in left arm and leg, and frothing at the mouth. A few days later, he had another attack, and was found on the floor in the morning (December 18th), and was sent to the hospital on the same day. Entering the nervous and renal service at the City Hospital, he complained of pain in left arm and leg. Temperature 99.4° pulse 80, respiration 20. Movements of left hand irregular and spasmodic. On protruding tongue, marked twitching of muscles on left side of nose and mouth, and, on drawing over corner of mouth, there was some spasmodic twitching of muscles at lower border of chin. Reflexes normal; heart normal. Urine normal, acid, 1010; no albumen. Discharged on the 21st, three days afterwards, *well*. Subsequently, he continued well up to June or July, 1886, when he noticed several small bunches on neck, forehead, and various parts of the body, especially about the head. In October, he re-entered the Hospital, this time in the surgical service. To the eye, he presented an exceedingly curious appearance from the swellings about the skull. The largest and most prominent one at the date of admission to Hospital was situated at the middle of the forehead, extending down over the bridge of the nose, and reaching nearly the size of an ordinary hen's egg. On each side of the forehead was one a little smaller.

In general, he may be said to be a little under size, though not strikingly so. Examination disclosed several other swellings, in addition to the bunches mentioned, scattered over the skull, and one on the clavicle. The bunches were not painful or tender, and did not fluctuate, except that the largest swelling, that in the middle of the forehead, gave some pain, as it could hardly fail to do from its size alone.

On October 6th, examination of the urine, which, it will be remembered, was recorded as normal in December, 1885, nine months previous, showed it to be pale, slightly acid, 1010; slight trace of albumen, with hyaline and granular casts. He passed forty-five ounces in twenty-four hours.

On November 3d, urine was 1004½. Slight trace of albumen, with hyaline and fine granular casts.

February 9th. Passed ninety-seven ounces of water. Under treatment, some of the lumps grew smaller, some suppurated. He grew better, and again worse. Ulcerations formed on his legs. He finally entirely lost hearing. Had intense headache, continued vomiting, and he died worn out. No autopsy obtained.

When I first saw him, examination disclosed faint cicatrices radiating from the angles of the mouth. The upper central incisors were worn smooth, showing a worn and blunted surface at each corner, and a sharp edge at the centre, such as would be presented by a worn-down notch. Various cicatrices over different portions of the body. The Hutchinsonian teeth were, in this case, obliterated by the wearing from persistent use. The lower teeth were similarly worn, having sustained a loss of substance fully equal to that of a man of forty-five or fifty.

This case is in some respects the most interesting of the series. The cicatrices at the corners of the mouth, and the worn-down Hutchinsonian teeth, mark the case as hereditary. Gummy periostitis is not a very common form of disease; at least, it has seldom

fallen under my notice. The epileptic attack would not be a very rare occurrence in acquired syphilis. As a result of hereditary disease, it is not very frequent, but the renal disease is even more exceptionable as a result of syphilis, either acquired or hereditary.

CASE V. Kate C., aged ten. So far as the mother knows, there have been no venereal accidents in the family. She has herself always been well. Her husband had, six years ago, a paralytic attack. Without known cause, he was attacked with pain in the right thumb, and his right arm gradually became helpless. Then the left arm was similarly affected. The paralysis is not complete, and the two arms are unequally affected. No other paralysis exists. Her first four children were still-born at seven and eight months. The fifth child was the patient in question, now ten years old, who had snuffles when a baby, and has always been sickly. Her sixth and seventh children she says, are strong and well, but they have never been seen. Here we have an anomalous nervous affection in the father, and a series of miscarriages preceding the birth of the first living child — a history which does not prove syphilis, but would render its existence exceedingly probable.

The child was in the Hospital, under the care of various surgeons, for necrosis of the tibia. Her corneæ were both lazy. Her upper central incisors showed, instead of a notch, a central portion where the Hutchinsonian notch ought to be, of a dark-colored substance, the dentine uncovered by enamel. She showed a curious deformity in a deficiency in the superior alveolar arch at the anterior portion, so great that when the teeth were brought firmly together, the upper and lower incisors were so widely separated that the little finger could nearly be introduced. The tibia was several times operated upon before it was brought to heal. During her stay in Hospital, she had an attack or two of erysipelas, and some furuncles.

In these cases, the bones are specially the subject of disease, while the manifestations on the skin are either ulcerations consecutive to disease of bones, or active processes are wanting. The next case to which I wish to refer shows exactly the reverse; that is, the trouble is principally located upon the skin.

CASE VI. M. D. I saw the boy first in November, 1886; referred to me by Dr. H. W. Cushing. His father is a man of dissolute habits, who has deserted his child. Though no reliable history of syphilis can be elicited, he certainly belonged to a class which seldom escapes it. Mother died when the boy was three years old, of quick consumption, but without a cough. No history of the child as an infant until he was six months old. The first thing noticed by the aunt who now cares for him was a dactylitis, which came on at the age of two-and-a-half years, and still exists.

When first seen by me, there was a marked dactylitis of the middle finger of the right hand, and of the middle finger and thumb of the left hand. There were a few white, depressed, irregularly-rounded cicatrices on the arms, of perhaps the size of a nickel. On the face, neck, right cheek, back of left hand, both arms, behind both knees, and near the head of the tibiae, were ulcerations partially covered with prominent, dark, thick crusts. Upon the parotid region, particularly, the skin about the ulceration was infiltrated and partially undermined. The left ankle was greatly swollen, reddened on the inner aspect and

apparently the subject of deep-seated disease. On its outer aspect, it was covered with thick crusts, like those on various other parts of the body. The whole shaft of the left tibia was somewhat enlarged. The boy had been under treatment by cod-liver oil without benefit. His appearance was so revolting, that, at school, he had been given a seat in the entry, and finally forbidden to attend school at all.

The diagnosis of congenital syphilis seemed most favorable and was reached on the character of the bony lesions in the fingers, and of the ulcerations, with their resulting cicatrices and crusts. Dactylitis exists from other causes than syphilis, but, united with other suspicious lesions, it can but add to the probability of syphilis. The cicatrices could hardly be due to any other cause than syphilis, and the existing lesions on the skin resembled closely ulcerated tubercles of acquired syphilis, though more numerous and more freely suppurating than ordinary. The failure of cod-liver oil to ameliorate the condition added its weight in diagnosis. The child was dosed with iodide of potash, and his numerous sores were dressed with unguentum hydrargyri. He remained under treatment four months, and was watched by the class at the Dispensary. During that time he took his medicine with a certain amount of regularity, but it was difficult to supply sufficient mercurial ointment to keep the sores covered. The improvement in the boy's condition was marked from the first, though, perhaps, not very rapid. When I ceased to attend at the Dispensary, I lost sight of the boy for a time. Seen again on October 22d. He has had no treatment for five months. During that time, his ulcers have remained stationary. He is fat and hearty—greatly improved from the condition in which I saw him first. His aunt says he never improved so much as when taking the iodide. It is to be noticed that he lives on equality with his aunt's family, and in the closest intimacy with a little cousin some years younger, but none of the family have ever suffered in the slightest, the danger of infection being absolutely nothing from a child in so advanced a stage of the disease.

The following case was brought to my attention only two days ago, simultaneously by Dr. DeBlois and Dr. H. L. Smith, of the Superintendent's office of the Boston City Hospital. She shows a decided concentration upon the throat, while both skin and bones are free from active trouble.

CASE VII. S. J., twelve years old. Father dead of phthisis. Mother suspects that he may have had syphilis, but can give no symptoms. He was a gambler, and, in general, a doubtful character. The mother, in giving her own history, admits nothing that points to syphilis, but her character differs from that she attributes to her husband. There is *nothing doubtful* about it. As to the child, the mother gives the following history:

When three months old, the child had a "wheezing." This became better, but, at fifteen months old, she had a "catarrh," characterized by a discharge from the nostril. At two years old the child could talk pretty well, not being hoarse, although she sometimes complained of sore throat, and was short of breath. About a year ago lost her voice, though the voice is at sometimes better than at others. Has been growing deaf in right ear during the past six months.

Examination shows a child of good size for her age,

of high forehead, with so marked an enlargement at the frontal eminences on each side as to make the head practically square-cornered in front. The nose is slightly flattened, but not very markedly. The right central upper incisor is slightly notched, and when the teeth are brought together, the incisors fail to meet, being separated, at least, an eighth of an inch. Nothing else noticeable about the bony frame-work. Over the left frontal eminence is a cicatrix, and, at the corners of the mouth, are faint radiating lines of cicatrix, which are noticeable only on careful inspection, but are unmistakable. The only other cicatrices discovered are three or four on the lower part of the trunk or buttocks behind. These scars are white, irregularly rounded, from an eighth to a quarter of an inch in diameter.

There is a slight opacity in each cornea, and the child is too deaf to hear any ordinary conversation—a deafness which has come on gradually during the past year. Her voice is scarcely more than a hoarse whisper. There is also increased rapidity of respiration and some dyspnoea. Dr. DeBlois reports extensive cicatrization of pharynx and larynx, and swelling of both arytenoids, with anchylosis.

Without attempting to discuss the symptoms that should make one suspicious of hereditary syphilis in a child past infancy or a young adult, I wish to say a word or two in regard to some of the symptoms prominent in these cases. Although the Hutchinsonian teeth are well-known there are facts in regard to their life history not so well-known, as pointed out by Mr. Hutchinson. The teeth at first do not always possess the typical notch, but the place which will later become a notch is filled with an imperfect and discolored dentine as seen in Case V. In later years the tooth wears down until the notch is destroyed—a process exemplified by Case IV.

The girls, Cases V and VI, also shows another peculiarity mentioned by Mr. Colman, the dentist, who examined the first cases with Mr. Hutchinson, viz., a lack of development of the alveolus of the upper jaw.

He is quoted by Mr. Hutchinson in his first paper on the deformity of the teeth as follows: "In nearly every case there is a deficiency in the superior alveolar arch at the interior portion, so great in some patients that the upper and lower incisions are a considerable distance apart from each other when the mouth is shut."

I have laid some emphasis upon the cicatrices at the corners of the mouth. The lips of babies of a few weeks are often covered with erosions, whence flows a virulent fluid which forms yellow crusts; that alteration is usually too superficial to leave traces. Often after the age of three months the malady causes upon the lips a certain number of fissures which may attain the depth of one and even two millimetres on the upper lip on each side of the lobule and on the lower at the median fissure, frequently also at the commissures. "There are few syphilitic infants who escape these syphilides of the labial commissures." [Fournier]. In this last spot the loss of substance is much more extended. These fissures cause cicatrices in those who bear them, which are more apparent the deeper, and of longer duration the syphilides have been.

The cicatrix may be scarcely or not at all visible upon the mucous membrane since the lesions upon the

mucous membrane heal with less apparent cicatrices than those upon the true skin.

These cicatrices are so slight that they are only visible on close inspection. No deformity is present, and the non-medical friends may not know of the existence of such lesions. These cicatrices at the commissures of the lips are considered as quite characteristic of inherited syphilis, and I believe correctly, but I am far from saying that similar scars cannot be due to other causes than syphilis. I have seen one case in which scars in that spot were due to another cause. They exist in the person of a lady who, when hardly more than an infant, had scarlet fever at the same time with two older sisters, with a very sore throat which throat was treated by applications of nitrate of silver which she resisted with all her strength, and the applications were undoubtedly applied to all the vicinity. She is described as having had an awful mouth and has carried these scars ever since, and one might be pardoned for thinking them syphilitic. Close examination shows that the scars in this case lack the linear form characteristic of the disease.

Cases in which there is disease of several bones are open to suspicion and should lead to investigation. I am by no means ready to say that necrosis or caries may not exist in several bones in a child or young adult without that child or young adult being a victim of syphilis, but I think the chances are many to one that syphilis would be at the bottom of such a case. That probability is still stronger if the symmetrical bones are attacked. The terminal extremities of the long bones are specially liable to suffer. I am inclined to think that the necessity for treatment in these late cases is not fully appreciated. They need to be treated in the same way and as carefully as the acquired cases, and perhaps even more persistently. Treatment was not universally successful in the cases I have narrated. The young man, Case IV, died, a result almost inevitable from the grave character of the lesions, but in other cases the results of treatment were brilliant, and I think I may say the success depended in great measure upon the faithfulness with which it was carried out. Practically the same plan that is pursued in so-called tertiary disease in the adult is adapted to these late inherited lesions; that is, a treatment into which the iodides enter largely in conjunction with mercurials. In some cases the iodides need to be given in large doses.

NERVOUS SYMPTOMS FROM OCULAR DEFECTS. THEIR RELIEF BY MECHANICAL AND MEDICINAL MEASURES.¹

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THE subject of nervous symptoms from ocular defects has been voluminously written upon by ophthalmologists, but it is from the standpoint of a neurologist that it will be now approached.

That such a presentation may be somewhat novel and perhaps instructive is my only apology for writing upon a subject so trite.

People suffering from symptoms plainly referable to the eyes generally consult an ophthalmologist at once; but in a certain proportion of cases, the relation between the nervous symptoms and the ocular defect not being very clear, the general practitioner or

the neurologist is consulted. It is this class of cases with which the present paper has to deal: Cases in which the phenomena are chiefly sensory and resemble the symptoms of organic or functional disease of the nervous system. In selecting these cases care has been taken to exclude those of organic disease of the nervous system and eyes, and cases of functional disease where the symptoms were of extra-ocular origin.

The most common nervous symptoms referable to ocular defects are variously located headaches, occipital, vertical, temporal, frontal and general; various paræsthesiæ about the head, back of neck, shoulders and back; neuralgias, hemicrania, vertigo, staggering, diplopia, nausea, confusion, ptosis, photophobia, etc.

The ocular defects giving rise to these varied symptoms are, insufficiency, hypermetropia, myopia, astigmatism and presbyopia, either alone or in simple or very varied combination.

After a careful scrutiny of many cases, one hundred and sixty-two were found with sufficiently perfect histories to deduce the following conclusions:

(1) Patients in whom insufficiency of the internal recti muscles is a prominent defect are very apt to suffer from sensory disturbances in the occiput, nucha, shoulders and back. These disturbances may take the form of acute or dull pain, a heavy pressure feeling or various paræsthesiæ, hard to describe and at times exceedingly annoying to the patient.

(2) Patients in whom insufficiency of the other recti is prominent do not appear to be subject to occipital disturbance, but, next to asthenopic symptoms, which are almost always present, seem to suffer most from vertigo, diplopia and confusion.

(3) In hypermetropia and hypermetropic astigmatism the most frequent complaint, aside from asthenopia, is of frontal headache.

(4) In myopic and mixed astigmatism, frontal, temporal and general headaches are about equally common.

(5) In cases combining hypermetropia and myopia with presbyopia, frontal, temporal and occipital headaches and vertigo are present in about equal proportions.

(6) In pure myopia and presbyopia nervous symptoms are seldom prominent.

The natural inference to draw from these facts is that where there are sensory disturbances about the occiput and nucha, particularly if made worse by use of eyes, the internal recti muscles should be tested with a fair prospect of finding them weak, provided the symptoms alluded to do not depend upon organic disease of the nervous system or acid, flatulent dyspepsia.

When vertigo, unsteadiness, diplopia, and confusion with asthenopic symptoms are prominent, one can look with considerable confidence, in the absence of organic nervous or vascular disease and anæmia, for a disturbance of the equilibrium of the superior, inferior or external recti muscles. When frontal headache with asthenopia is prominent, strongly suspect hypermetropia or hypermetropic astigmatism, unless constipation, catarrh of the frontal sinus or Bright's disease is present.

In general headaches or different combinations of frontal, vertical, temporal and occipital varieties, in the absence of other provoking causes, always suspect and examine the eyes.

Many factors, besides use of the eyes, aggravate

¹ Substance of a paper read before the New York Academy of Medicine, Section on Neurology, October 14, 1887.

these various parasthesiæ; excitement, worry, debility, fatigue and exposure to hot or confined air.

The relief of nervous phenomena due to ocular defects by the use of accurately adjusted correcting glasses is almost too well known to refer to.

I must, however, make one exception to this statement, and that is in respect to the treatment of insufficiency of the recti muscles. My opinion is that correcting prisms, when properly used, are much more often curative than is generally thought.

In the first place adjuvant medicinal treatment is very often utterly neglected. Experience teaches me that sufferers from insufficiency of the ocular muscles are seldom if ever well. An anæmic condition is often present; a neurasthenic, debilitated state from overwork, worry, excesses, confinement, etc., is very common; dyspeptic ailments are often seen, while the various parasthesiæ, from which the patient suffers, induces a frame of mind, certainly despondent and hypochondriacal and often bordering on the melancholic.

For the anæmic condition I prescribe iron with bitter tonics, *nux vomica*, quinine or quassia and perhaps a laxative as belladonna, rhubarb or aloes in small doses.

In the neurasthenic and debilitated state an anæmia is often present and must be treated. Other tonics than iron seem at times indicated, and phosphorus, cod-liver oil, and occasionally alteratives such as arsenic, mercury or iodide of potassium seem beneficial. Laxatives are often needed and mild vegetable ones should be employed.

Plenty of digestible, nourishing food is needed in all these conditions, but in none more than in this state of neurasthenia, which so often means only malnutrition. Supplemental meals should be insisted upon if needed and, unless contraindicated, some alcohol in the form of milk punch or egg nog should be added to the dietary. At bedtime particularly, is this indicated, to help relieve the partial insomnia from which these patients often suffer. This insomnia is sometimes quite marked and annoying and demands special treatment. Chloral and the bromides should generally be avoided, the former because of its irritant action on the eyes, and the latter of their debilitating effects.

Our chief reliance should be upon simple measures, such as food or alcohol, or both at bedtime, and these failing, mild narcotics, such as *assafoetida*, camphor, valerian or cannabis, should be tried, opium being reserved for rebellious cases.

Dyspepsia occurs alone or with the foregoing condition; the most common form seen in these cases being the acid and flatulent variety. The most prompt relief is obtained from a diet rather free from starch and sugar, and the use of dilute nitro-hydrochloric before or an alkali after eating or both. A condition of intestinal dyspepsia often calls for carminatives and laxatives which, as a general thing, should be gentle and vegetable. Rhubarb, aloes or podophyllum in small doses, assisted by belladonna should suffice.

The melancholic tendency of these patients is very often relieved by treating the anæmic, neurotic or dyspeptic condition so often present at the same time. When general treatment fails, correction of the existing ocular defect often completes the cure. Occasionally, the depression is so marked as to call for a mild cannabis and opium course.

A rheumatic element sometimes crops out, often in

conjunction with the neurasthenic state, and it should be met by the oil of wintergreen, the salicylates, alkalies or counter-irritation.

Instability of the circulatory apparatus, so often seen in these cases, should be met by general tonic treatment and digitalis.

The patients, therefore, presenting themselves with an insufficiency of the recti muscles, are carefully examined and then put upon appropriate medicinal treatment as outlined above, each case being studied by itself. Sometimes a few days of this treatment will appreciably lessen this weakness of the recti muscles, particularly if rest be super-added.

When, after two or more examinations glasses are ordered, the refractive errors, if there are any, are properly corrected, while prisms, representing about three-quarters of the insufficiency in the case of the interni or externi, and equal to the entire insufficiency in the case of the superior or inferior recti, are added.

The amount of the insufficiency varying with the general health and strength, examinations of the recti should be made from time to time, when if the patient's general condition fails, the insufficiency will increase, and perhaps demand stronger prisms. While, if health and strength be regained, the insufficiency will rapidly lessen and disappear in favorable cases, rendering a discontinuance of the prisms possible.

This latter has been the result in at least three-quarters of my cases.

With respect to medicinal treatment, almost the same remarks will apply to those cases where errors of refraction only exist. All will attest that these errors of refraction often produce no symptoms until the nervous resistance or general health break down. Then all of a sudden a hypermetropia or astigmatism which has for years lain dormant, will suddenly give rise to most distressing symptoms.

As a counterpart to this, we see cases in which correcting glasses, worn for months, are finally discarded as unnecessary, the nervous strength and general health having been sufficiently restored to allow the patient to ignore strain produced by an ocular defect.

Medicinal treatment is of extreme importance in this class of cases also, and is, I think, too commonly ignored. The general line of treatment is the same as in cases of insufficiency, less reliance being placed upon special tonics such as strychnia and more upon a general tonic course.

A CASE OF RECURRENT PARALYSIS OF THE MOTOR OCULI.¹

BY O. F. WADSWORTH, M.D.

THE case which I wish to report appears to belong to a class characterized by a very distinctly defined group of symptoms. At intervals varying in length both in the individual cases and the same case, there occurs paralysis of all the branches of one oculo-motor nerve. The duration of the paralysis also varies. Always, it is the same nerve that is affected, the other nerves remaining free. In most cases, possibly in all, the attacks are preceded, or, at least, accompanied by headache, confined to the corresponding side of the head, and chiefly localized in the frontal region.

Pauline and Frances, twins, were born of healthy

¹ Read before the American Ophthalmological Society.

parents, both of whom are still living and well. There were five other children in the family, two older, three younger than the twins. With the exception of a girl, the second after the twins, who died at eleven months of "congestion of the brain," all were healthy. In June, 1874, when the twins were nearly three years old, both had scarlet fever, and both had a discharge from the ear. Both seemed to recover well and to be healthy for some time afterward, although in both a slight discharge from one ear continued, and Pauline had occasional headaches.

Although Frances is not the one whose case I present, it may be of interest to follow briefly her history, as it seems to have a bearing on the etiology of the other case. In September, 1877, when six years old, three years after the attack of scarlet fever, she began to complain of headache. The headache returned more frequently and was of longer duration till the following December, when she had a convulsion. Three weeks later convulsions recurred, and the attacks became more frequent until, finally, they occurred almost daily. About the middle of March, 1878, after a convulsion, she complained that she could not see. A week later, March 21st, she was admitted to the nervous department of the City Hospital. On the same day, I found well-marked optic neuritis and many white spots around the macula in both eyes. May 13th, Dr. J. Orne Green found the left membrana tympani much thickened and drawn in. She remained in hospital eleven weeks. The headaches and convulsions ceased, and the discs became atrophic. Sight did not return. I saw her again February 24, 1879, in the out-patient department. She had had an occasional headache since leaving the Hospital, but was otherwise, excepting her blindness, well, well nourished, of good development, rosy-cheeked. She could only distinguish light from darkness. The pupils were large; the optic discs presented the appearance of atrophy following neuritis. Since that time, I learn that she has been well, free from headache, and has had no discharge from the ear. She is now a pupil at the Perkins Institution for the Blind, in South Boston.

Pauline, the subject of the oculo-motor paralysis, after the scarlatina in the summer of 1874, had attacks of headache every month or two; in the early part of 1878, headache for several hours each day during three weeks. The monthly or bi-monthly headaches continued, and, on February 24, 1879, being then seven years old, she was brought to the hospital, with her sister, having suffered from headache daily for two weeks. The headache was referred to the right supra-orbital region; was said to commence every day about noon, to intermit about three, and to recur about five and then continue some four hours. There was vomiting on the first two days. Appetite impaired; dejections and micturition normal; tongue clean; general appearance good; a slight discharge from right ear; swollen glands behind each ascending ramus of jaw. Dr. Green examined the ears, but my notes state only that he found inspissated pus in the right. The right eye was quite normal, its refraction nearly emmetropic; the left eye highly myopic, with a regular crescent of one-third to one-half the diameter of the disc.

March 29, 1880, she was seen again. Meanwhile, headache every month or two, usually ushered in with vomiting, and lasting one to three days. When free

from these attacks, she had appeared perfectly well. She was at this time suffering from headache which had lasted a week, the pain referred, as always, to the right supra-orbital region. There was vomiting at the beginning of the attack. She moaned in her sleep. Tongue clean; dejections regular; pulse 100, temperature 98.8°. Five or six days after this attack began, ptosis and divergence of the right eye was noticed.

There was paralysis of the right motor oculi. In other respects, the condition of the eyes as before. Dr. Green again examined the ears, but my notes only describe the condition he found in the left. Its membrana tympani was much drawn inwards and opaque from swelling, and there were several spots of ecchymosis. Its hearing was very fair.

At the end of February, 1887, Pauline came again to the Hospital. She was now fifteen, well grown, and apparently healthy. Her headaches had diminished in frequency; for the last few years, she had had three or four each year, lasting from one day to two weeks, the more severe ones being accompanied by complete ptosis of the right eye and dilatation of the pupil. She had noticed no diplopia at these times, and no special change in the position of the eyeball. She stated that the ptosis and dilated pupil always continued till the headache was over, and then gradually passed off, so that at the end of a week or ten days they had entirely disappeared. The latter statement was probably incorrect, and I shall refer to it again. She had just recovered from a headache of two weeks' duration, accompanied by vomiting. There was a moderate amount of ptosis of the right eye, and nearly complete paralysis of all the other muscles, external and internal, innervated by the right motor oculi. Moderate divergence. The external rectus and superior oblique acted normally. Fundus of both eyes as before. She was seen again twice, at intervals of two or three days.

March 4th, there was a little more movement of the eye inward, upward, and downward; a little more action of the pupil and of the ciliary muscle. R., V. = $\frac{2}{5}$. L., with -14 D., V. = $\frac{2}{5}$. Field normal. She promised to come again but did not.

April 24th, I visited her at her home. There was still a slight droop of the right upper eyelid, decided impairment of movement of eye upward, moderate impairment of movement downward, and inward. The pupil did not react fully, and power of accommodation was imperfect for her age. She was, however, conscious of no defect of motion in the eye, nor aware that the pupil was affected. This was eight weeks after cessation of the headache, and it is probable, therefore, that previous paralyses had not passed off completely, as she had stated, especially as her father had observed that her eyes usually appeared not quite straight. That she should never have been troubled by diplopia is not surprising in consideration of the great myopia and imperfect vision of the other eye.

I was unable to see the mother, who was away at the time of my visit, but the father was positive that the attacks had diminished in frequency of late years, the last severe one having been in the previous July, an interval of seven months. Another fact of much interest I first learned from him, that with each severe attack, toward the end of the period of headache, there was a free discharge of ill-smelling fluid from the right ear, staining the pillow, and requiring syring-

ing for some days. At my request and representation of the importance of treatment of the ear, she visited Dr. Green on May 6th. He found a large polypus completely filling the right meatus and removed it, but after two or three visits she ceased attendance.

These cases apparently occur but rarely. I have found but fifteen reported,² with one exception already collected by Mauthner, although very possibly some publications during the last year have escaped my search. And of these fifteen, several are very meagerly reported, two in such a way that it seems by no means certain that they properly belong to this category. On the other hand, with one exception, reported by Gubler in 1860, (Mauthner has recently published notes of a case seen in von Graefe's Clinic in 1864), the earliest observation published was in 1882, so that it is probable that the number of reported cases will increase considerably in the immediate future.

The sex is not mentioned in one of the doubtful cases; of the remaining fifteen, including mine, four were males, eleven females.

In the two cases I have regarded as doubtful the side is not given; of the other fourteen, in seven the right, in seven the left motor oculi was affected.

The age at which the paralysis first appeared is not given in three cases, including the two doubtful ones; in one it occurred at eleven months, in one at eighteen months; the latest date, with one exception, is fourteen or fifteen years. The exception is a case briefly referred to by Buzzard,³ a woman of thirty, "subject for years to paroxysms of facial tic, recurring about every fortnight, and concentrated more or less definitely in the ophthalmic division of the fifth nerve." Within the last year or two each attack had been followed by partial paralysis of the oculo-motor, the paralytic condition lasting for a few days. One of the attacks he observed.

The varying length of the intervals between the attacks has already been noticed. In the case just cited it was shortest—two weeks. In von Hasner's case the attacks recurred every month, and although preceding by two years the establishment of the catamenia, after their appearance were coincident with them. In most cases the interval was not a regular one, and lasted from a few months to a year. In Gubler's case there were two intervals of three years, then one of sixteen years before the last attack, which was followed a fortnight after its commencement by death.

The period of headache varied, even in the same patient, in one case from one day to several weeks. And a similar difference appeared in the duration of the paralysis. Although the patients often are said to have stated, as in my case, that the paralysis passed off completely in the intervals, there is, I believe, in no case the definite statement that its entire disappearance was observed by the reporter. On the other hand, in several instances, evident remains of the paralysis were observed to persist between the attacks.

With four exceptions, it is distinctly stated that pain resembling m^egrin accompanied the attacks. Of the exceptions, Gubler's patient was seen only some days after the paralysis was established; the case is reported very briefly, but it is said that the man had all his life been subject to violent attacks of m^egrin.

Weiss's case is also very briefly reported (the patient was of little intelligence and unfamiliar with the German language); nothing is said of pain. The other two are the cases classed as doubtful. These were reported in a discussion which followed a report of a case by Snell.⁴ In one, by Ormerod, it is not clear that there were ever more than two attacks; the patient was an elderly woman; the Argyll Robertson symptom was present, but the knee-jerk not wanting. It is stated that there was pain in the region of the supra-orbital nerve, but nothing to suggest m^egrin. Of the other, by Beevor, we learn only that he "had seen a similar instance in which exposure to cold winds were (*sic*) assigned as the cause." Perhaps both these cases had better have been omitted from the list.

Only in one case, that of Thomsen, was there observed contraction of the field of vision during the attack, and here the concentric contraction was found in both eyes, although of much less amount in the eye free from paralysis. This case was complicated by epilepsy. The man was thirty-four years old; the recurrent paralysis began at the age of five; the epilepsy first appeared at thirteen years, and followed directly a fall from a ladder which produced temporary unconsciousness.

The course of the disease is extremely variable. In some cases the duration of the paralysis and the intervals between the attacks seem to have continued the same; in some the attacks became more, in others less severe; in some again the periods of freedom became longer, in others shorter. There is no instance of permanent relief, perhaps because the time of observation was not sufficiently prolonged. Three cases terminated in death.

Different interpretations of the cause of the affection have been given. Some have considered it a purely functional disturbance, analogous to ordinary migraine. Others have supposed a tumor or inflammatory process at the nucleus of the nerve. Others again a pachy- or lepto-meningitis, an anomaly of the vessels, or a tumor at the base.

It seems to me very difficult to admit the theory of a purely functional disturbance, especially in view of the partial persistence of the paralysis noted in several cases between the attacks. There are also difficulties in the way of an assumption of a disease-process at the nucleus, lasting for many years, extensive enough to involve all branches of the nerve, subject to frequent exacerbations, and yet never affecting any other nerves, either of the same or opposite side. A basal origin appears more probable.

The results of autopsy in the three fatal cases also point to the base as the seat of the trouble. Gubler's patient died after a short illness with delirium running into coma. A plastic exudation surrounded the right motor oculi. There were other lesions, but this was the one which seemed best to explain the paralysis.

Weiss's patient died of tuberculosis of the lungs. The right motor oculi was flattened, gray, and showed a tubercular enlargement at the point where it issued from the crus cerebri. The granulations did not extend into the brain substance.

Thomsen's case passed from his observation and died about a year later of gangrene of the lungs. The end of the case was reported by Richter. There was a fibro-chondroma of the right motor oculi, which

² Since this case was read a case has been reported by Hinde and Moyer in the New York Medical Record, Sept. 24, 1887.

³ Clinical Lectures on Diseases of the Nervous System, p. 164.

⁴ Lancet, I, 938, 1885.

doubled its size, but had developed in such a way as to separate the nerve fibres without destroying them.

In my own case the history points pretty distinctly to a direct connection between the aural disease and the paralysis of the third nerve. There can scarcely be a doubt that a meningitis was set up by the aural disease in the twin sister. It seems here not unreasonable to suppose an exudation or thickening over a limited portion of the dura, which makes pressure on the motor oculi whenever a re-excitation of inflammation in the ear with retention of pus induces an increased vascularity or swelling. And when it is remembered that the third nerve penetrates the dura some little distance farther forward than the fourth and sixth, it is seen that such a limited thickening might readily be situated so as to affect the third nerve alone.

CASES OF BURNS, WITH SPECIAL REFERENCE TO COMPLICATIONS, SEQUELÆ, AND TREATMENT.¹

BY JAMES E. CLEAVES, M.D., OF MEDFORD.

BRYANT's remark, so often quoted in surgical treatises, that "half the cases of burn admitted into a hospital die, and half of those that die do so within the first three days," whether proved to be true or not, certainly carries with it some hint at the gravity of such cases. Of course, in a general practice, one meets with fewer, and, as a rule, with less severe cases than are seen at a hospital. Now and then, cases more or less severe, or characterized by more or less embarrassing complications, come under the care of the general practitioner, and the importance of the subject grows, as the increase in causes brings greater liability to these accidents. Without claiming to bring to your notice anything peculiar in the following cases or methods of treatment, it is the purpose of this paper to refer to cases illustrating, in a small degree, some of the complicating features of severe burns, and to speak briefly of treatment applicable in these and similar cases.

CASE I. A feeble lady, aged seventy years, was badly burned about the whole front of the right arm and right breast, from her clothes taking fire. The burn was especially severe near the axilla and over the breast. From her age and general weakness, her system was in such a condition that the shock from this burn of comparatively small size was very severe. When seen first by me, she was in a state of marked prostration, with very feeble pulse, and with alternate attacks of chilliness and fever. The pain of the wound was very great, and, for its relief, morphia was used subcutaneously, while brandy and beef-tea were given as stimulants. Warmth from hot-water bottles and blankets was applied externally until reaction came. This case illustrates the fact evident in all severe cases of burns, that the early treatment must be of a constitutional, rather than of a local nature. The wound itself may be left untreated for the time being, but immediate attention is required in severe cases to allay the patient's pain, and to lessen the violence of the shock. The time of the infliction of a burn is one of the chief periods of danger; according to Heath, fifty per cent. of the fatal cases terminating during the period of shock. Pain is a most constant symp-

tom in burns, unless they be of such a serious character as to blunt the sensitiveness of the patient's nervous system by the violence of the shock of the accident. In the case under consideration, reaction came on at the end of the first day, with moderate fever, the temperature being, part of the time, at 102°. The wound was first treated with carron oil, and later, poultices with carron oil upon them were applied to hasten the sloughing. On the eleventh day, the patient began to complain of chilliness and of pain in the right lung, and to have a slight cough. On examination, the pulse was found to be 120, temperature 103°, and, at the base of the right lung, were the characteristic evidences of pneumonia. The attack developed with little warning, and was of a mild type, although adding to the general prostration occasioned by the discharging wound on the arm and breast. In this case the poultices were made larger, so as to cover the right side of the chest, and stimulants were given freely.

Pneumonia and bronchitis, as well as inflammations of other viscera, are not infrequently complications of severe burns involving the chest or a large part of the body surface. The internal organs have to take upon themselves the work of the destroyed skin as an excreting organ, and also have a larger amount of blood than usual sent to them, so that congestion and inflammation result. These inflammations are usually of a low type, coming with obscure symptoms during the period of inflammation and suppuration in the wound. Erichson, in observations of fatal burns, found the brain affected in thirty-three out of thirty-seven cases, the thoracic viscera in thirty out of forty, and the abdominal viscera in thirty-one out of forty-two cases.

In Case I, after sloughing, there was a large ulcer, which healed by granulation, surgeon's adhesive plaster being used to compress and restrain the granulations.

At present time, four years after the accident, there is persistent neuralgia about the right arm, and the cicatrix at the front of the axilla is much thicker than at other parts of the burned surface, and the arm is considerably restrained in its outward and upward movements. The patient's age, however, renders any surgical operation for restoring motion impracticable.

In similar cases suitable for operations, where bands of cicatricial tissue cause severe deformity, as about the joints or chin or neck, the bands may at times be cut, or plastic operations for replacing the cicatricial tissues by normal tissues from neighboring parts are sometimes called for. An interesting report of such cases was published by Dr. C. B. Porter, in the *Boston Medical and Surgical Journal* in 1878, and, at its close, were given the following suggestions for plastic surgery:

"(1) Dissect out, if possible, all cicatricial tissue. (2) The pedicles should be arranged so as to get the largest supply of arterial blood possible. (3) Flaps thick with adipose tissue do well, and the fat is absorbed, and the flap gradually assumes the character of the surrounding skin. (4) Compression of the parts operated upon prevents a collection of blood underneath, and hastens the union of the flap to the parts beneath."

CASE II illustrates in a marked degree a complication which is very common in severe cases of burns; namely, the congestion of the kidneys, as shown by the presence of albumen in the urine. This patient,

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication in the *Journal*.

a man twenty-eight years old, by trade a cloth-printer, was severely scalded by the bursting of a drying can in a bleachery. He was burned about the forehead, on the side of the head and neck, on the back and buttocks, and about the front of the left thigh, and both lower legs and feet. For three weeks, during the height of the inflammation of the burn, there was albumen in the urine, varying in amount with the degree of fever present. In the "International Encyclopædia of Surgery," there is an interesting report of cases at the Pennsylvania Hospital, in 1880, in which cases careful examination of the temperature and urine was made daily. In these examinations it was found that in mild cases, where there was no variation from normal temperature, no albumen was discovered; while in graver cases, with temperature ranging from $101\frac{1}{2}^{\circ}$ upward, albumen was always present in amount corresponding with the elevation of temperature. The same explanation is offered for the congestion and inflammation of the kidneys as in cases of pneumonia or bronchitis following burns or scalds.

In this case, although there were extensive wounds about the head, no delirium or symptoms of congestion about the brain were present at any time.

In CASE III, a man burned at the same time, the burned surface was upon the face and side of the head, covering a space about the size of the hand. On the fourth day a mild delirium began, which continued for ten days. In this case the wound healed badly. There was great prostration, with formation of bed-sores. The treatment of the burned surfaces in these cases did not differ materially from that in Case I — carbolized oil (1 part to 20) and salicylated vaseline (10 gr. to 3j) being used in place of carron oil.

CASE IV. A boy twelve years old, was burned with strong sulphuric and strong hydrochloric acids. Carron oil was ordered by the physician, who saw the boy at the time of the accident, and this was used at the boy's home for two days before I saw the case. There was very little pain on the day of the accident, and on the second day the boy was dressed and playing with the other children of the family. The burns began to be painful on the night of the second day, and on the third day, when I first saw the case, there was very severe pain and considerable fever. On examination, I found several small burns about the left knee and leg. The right leg was badly burned from the buttock to the foot. The general appearance of the limb was as if the skin had been parboiled. It had a whitish, sodden look and there were no blisters at any part. The boy's temperature had come up gradually to 103° , and the pain was increasing. Opium and quinine were used, and the carron oil applied to the wound. By the sixth day, the entire injured surface was denuded of skin and left red and raw. The carron oil was so disagreeable that carbolized cosmoline (1 part to 20) spread upon lint was used, and this giving rise to symptoms of carbolic acid poisoning (vomiting, dark stools and dark scanty urine with the odor of carbolic acid), plain cosmoline was used. On the twenty-eighth day, the granulations had become quite prominent and bleeding, and powdered alum was sprinkled over the surface of the wound and strapping applied with cosmoline dressing outside. The wound healed slowly, the surface breaking open several times with a fresh discharge of pus, before healing was effected. While the cicatricial

tissue was forming the foot became drawn up until it nearly touched the buttock.

This case illustrated the fact that even in badly contracted limbs much may be accomplished without resorting to surgical operations to overcome the contractions. Mechanical appliances were used in this case, consisting of a splint made of one-fourth inch iron wire, fitted to the patient's back and running parallel to the limbs; so that with surgeon's plaster, extension could be obtained without interfering with the dressings applied to the wounds.

The most troublesome feature of this case (and one which has persisted to some extent to the present time, five years after the accident) was the most provoking itching, sometimes causing the boy to cry for an hour at a time, especially after dressing the leg. Several times morphine was administered to relieve this symptom after dressing the wound. Since the healing of the wound, carbolized cosmoline has been found to give the most relief for this symptom.

CASE V. A very strong, healthy young man, about twenty years old, while playing with a boy, received a handful of unslaked lime in his face. His mouth being open at the time, some of the powdered lime was inhaled.

He called at my office *three hours* after the accident, complaining of burning in the mouth and throat, but saying nothing of any difficulty in breathing, although his voice was husky. The mouth and throat were inflamed and reddened, but there was considerable expectoration. The lips were congested and the face wore an anxious look. *Fourteen hours* after the accident, I saw the patient and found him quite feverish, with quickened pulse and respiration and with labored breathing. He complained most of pain in the mouth, and of a slight pain in the chest. *Twenty-four hours* after the accident, the pulse was 108, temperature 103° , and respiration 40 per minute. Dyspnoea had increased, there was a frequent cough, and muco-purulent expectoration. *Thirty hours* after accident, pulse 130, temperature 104.05° , respiration 48, and labored. Patient was delirious at times, but could be roused to take medicines and nourishment, swallowing with little difficulty. The cough had become almost constant and a large amount of muco-purulent fluid was raised. There were moist râles throughout both lungs. *Three hours* later the delirium was more marked, and the bowels had become quite loose, moving involuntarily.

Forty-one hours after the accident, pulse 120 and feeble, temperature 104° , respiration 62. Mind wandering continually. Face and chest congested. Râles in both lungs.

The patient died forty-eight hours after the accident.

In this case, there was marked congestion and inflammation, produced speedily from an apparently insignificant cause. The location of the lesions was such that a slight burn was followed by complicating inflammation speedily proving fatal. The treatment in this case was, at the first visit, the use of gargles of dilute acid solutions to counteract the lime. At the second visit, stimulants were ordered and used freely until the case terminated, brandy and carbonate of ammonia being chiefly relied upon. External applications were applied about the chest as in cases of acute bronchitis. Moist air was breathed by the patient.

Burns and scalds about the mouth are not infrequent in young children, from drinking boiling water or inhaling steam. Such cases are frequently fatal from the resulting œdema of the larynx and inflammation of the bronchial tubes. In some of these cases, tracheotomy has been performed, but the operation cannot be regarded as very successful. Ashurst refers to twenty-eight cases of the kind, of which twenty-three terminated fatally.

In summing up, it might be said that the principal points in treatment are: at first, to relieve pain (generally by means of opiates), to lessen and overcome shock by the use of stimulants and heat, and to dress with simple dressings; later, to support the patient's strength during the time of inflammation and suppuration, and to give to complicating inflammations their appropriate treatment; to keep down granulations by strapping or by mild caustics; to help healing, if necessary, by skin-grafting; to overcome contractions by mechanical appliances, or by strapping, if possible; and, to restore deformed parts to as nearly as possible normal conditions, by surgical means if necessary.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. M. LOVETT, M.D.

OPEN INCISION IN CLUB-FOOT.

PHILLIPSON¹ considers that congenital club-feet may be grouped in different classes according to their severity, but in all classes the chief hinderance to permanent correction is in shortened soft tissues, tendons, fasciæ, ligaments. Schede has in several cases adopted and developed Phelps's method of direct incision in severe cases. In light cases, Phillipson advises simply subcutaneous tenotomy of the tendo-Achillis, plantar fascia and that of the internal lateral ligament below the internal malleolus, and the tendon of tibialis posticus. In more severe cases, the flexor longus digitorum, abductor, hallucis and flexor hallucis longus, and flexor brevis need also to be divided. If the head of the astragalus is very much distorted a linear division can be performed, but not a wedge-shaped excision.

The incision through the skin for these divisions should be on the inner side of the foot, and the tibialis tendon can be carefully freed and the artery and nerve spared. The wound should be dressed antiseptically, and the foot corrected and done up in an immovable plaster silicate bandage for four weeks, and later in a removable silicate bandage.

TREATMENT OF CLUB-FOOT.

Lorenz² thinks that club-foot can be treated without section of the bone, provided proper treatment is commenced at proper time and carried out for a sufficient length of time.

Treatment should begin immediately after birth and tenotomy of the tendo-Achillis should be done at first, and manual correction should be begun immediately. The foot can best be held in a plaster-of-Paris bandage, which should be changed every fourteen days. In lighter cases correction by sticking-plaster strips can be used. After a while, as soon as the foot is

corrected and the child able to walk, a properly constructed shoe.

If operation on the bone is necessary, open incision of the soft parts, or tenotomy of the ligaments are not to be relied on, as based on imperfect pathology. Wedge-shaped resection of bone or enucleation is preferable.

INTERMITTENT HYDRARTHROS GENU.

Nicolaysen³ reports a case in a soldier who was attacked by an effusion in the knee which ran the usual course, but reappeared once after over-exertion. Six months later the same trouble appeared, and lasted two or three days, disappeared spontaneously to present itself regularly after an interval of fourteen days, during which time the joint was entirely well.

Treatment appeared to be without avail until arsenic had been used for two months, when recovery took place.

The spleen was found enlarged when the arsenic treatment was first begun, but gradually diminished. The patient came from a place where intermittent fever prevailed.

INTERMITTENT LIMPING.

Terrillon⁴ describes a case of an affection not infrequent among horses, but rare in human subjects. In veterinary practice it is not uncommon for horses to be found that are apparently perfectly sound when at rest and at the beginning of motion, but that begin to limp (generally in the hind leg) as soon as active motion is carried on; with evident pain and discomfort, which increases until the animal is covered with perspiration and falls. Recovery takes place after prolonged rest, but symptoms recur and eventually the animal is killed as useless. At autopsy, a thrombus of the iliac is found.

Terrillon's case in a human subject was that of a man twenty-seven years old, a drinker, who complained of pain in the left foot, which intermitted, but reappeared suddenly on motion, with so great severity that after a while the patient was unable to go more than a few steps. Gangrene of the foot followed, and amputation with recovery.

JOINT AFFECTION IN TABES DORSALIS.

A most complete investigation on this subject has recently appeared,⁵ based on the investigation in the Tübingen Clinic, and on 107 cases collected in the literature of the subject. The following is the order of frequency in which the joints are affected: knee, 78; hip, 31; shoulder, 21; tarsus, 13; elbow, 10; ankle, 9; wrist and jaw, each 2; spine, 1. The symptoms usually appear suddenly, without known cause, and often without pain. The joint affection appears usually in an early stage of the disease. The swelling of the joints may be quite large and consist of an effusion in the joint and an œdema of the whole limb. This often appears suddenly and may subside in part with equal rapidity. There are, of course, severe and milder types. In the severe cases the synovial membrane is pale and covered with granulations, the capsule is thickened and covered with a deposit of lime, and in the severest, the capsule entirely disappeared, and the ends of the bone become distorted, hypertro-

¹ Deutsche Z. f. Chir. Bd. xxv, p. 296.

Also, Schede Deutsche Med. Woch., 1886, No. 38.

² Allg. Wiener Med. Zeitung, 1887, No. 12.

³ Centralblatt f. Chirurgie, June 4, 1887, p. 447.

⁴ Revue de Chirurgie, 1886, No. 10.

⁵ Centralblatt f. Chir., October 15, 1887.

Also, Rotter. Centralblatt f. Chirurgie, No. 22, 1887, p. 415.

phied or atrophied. The effusion is rarely purulent, and if so, as a rule it is due to violence. Luxation and spontaneous fracture may occur. Syphilis was found in 13 of the 109 cases, in 21 was known positively not to exist, in 5 it was doubtful, in the remainder no facts could be determined.

Sonnenburg⁶ has examined a large number of preparations of arthropathia tabidorum. He considers, with Virchow, that the tabes dorsalis and the lesion of the nervous centres present a predisposing cause or a predisposition through the faulty nutrition of the bones. The matter is, however, as yet not determined, as in some cases it would appear that lesion of the joint was the origin of the lesion of the cord.

Rotter⁷ has excised four times in such cases, and reports a fair result in two cases. From what he has found he is inclined to regard the affection as one of fracture of the joint or primary traumatic arthritis, not recognized owing to the impairment of sensation.

Krauss⁸ mentions a man who underwent amputation of the thigh for deformity of the knee; neuralgia of the stump followed, and later section of the sciatic was done. The subsequent course and autopsy proved the disease to have been tabes dorsalis, though neither the appearance of the knee nor the clinical course gave any evidence of a central spinal arthropathy.

KNOCK-KNEE.

Mr. Rushton Parker⁹ speaks of the tendency that slight degrees of knock-knees show toward recovery if the body weight be taken off the leg even for a short while. He would advocate this as the first and mildest means of treatment in beginning cases, simply that the erect position should be avoided for awhile and the child should creep. Next flat-foot is so commonly associated with knock-knee, and withal so much more common than knock-knee, that it seems reasonable to attribute the knee deformity to it, and the supposition is verified, Parker says, by the success of the following method of treatment: the simple device of raising the inner side of the boot sole and heel and sloping it off toward the outer side, a contrivance adopted from Mr. Thomas.

If mechanical treatment is made necessary, he finds Thomas's knee and splint of the calliper variety the most useful, and there are few cases, he asserts, where the deformity cannot be so corrected without laying up, unless the bend is excessive.

In very hard cases he at once uses osteotomy and applies a long Thomas knee-splint and treats the case as he would treat an ordinary fracture of the leg.

RICHETS.

Dr. Whitman¹⁰ has investigated the question whether children are apt to out-grow bow-legs and knock-knee, by a series of observations made on adults in the streets of Boston. Of 2,000 adult males counted as they were met in the street, it was found that 20% showed some degree of bow-legs, but knock-knee in all other series of observations only appeared in 1.6%. From a consideration of the attainable statistics on the prevalence of bow-legs in children, Whitman concludes that the proportion is about the same as in adults, and reaches the following conclusions: "(1) A

bow-legged boy is more likely to become a bow-legged man than a boy with straight legs. (2) If such a proportion of bow-legs exists among adults as would appear from these observations, it would seem more reasonable to treat such cases in childhood rather than to trust to nature for their rectification. (3) If such deformities are to be treated, the sooner treatment is applied the better."

LATERAL CURVATURE.

Mr. Barwell¹¹ calls attention to the fact that lateral curvature seems to be very much on the increase, a fact which he attributes to the greater pressure of school work. He takes occasion to assert again his original belief that asymmetrical muscular action is at the root of the trouble. Predominance of the muscles on one side, resulting from postural or respiratory causes, causes a lateral curvature of the spine, at first wholly to be corrected by proper apparatus. From this condition there result in the process of growth, the well-known bony and ligamentous deformities. The primarily lumbar form he finds oftenest due to pelvic obliquity from a short leg, and in dorsal cases in girls he holds accountable the faulty position assumed in writing at a desk or table.

OSTEOTOMY, OSTEOTOMY AND FORCIBLE STRAIGHTENING.

Margary¹² has performed 361 osteotomies, 10 cases of osteoclasia, and 26 of forcible straightening. 207 of the osteotomies were for genu valgum, 83 genu varum, 18 for contraction at the knee, 7 for deforming callus, 4 for ankylosis after polyarthritis, 4 for rachitic curvature of the upper extremity, 1 for luxation of the elbow backwards. 3 patients died, (but none of sepsis). In 1, amputation was necessary. Suppuration was rare. In 1 case, ankylosis of the knee followed. Resulting impairment of motion was very rare. The average duration of treatment was from 2 to 2½ months.

THE AORTA IN POTT'S DISEASE.

Lannelongue¹³ has found that there is always a side displacement of the aorta as well as a forward curvature in severe cases of Pott's disease; the aorta was found at autopsy to be firmly adherent either with the walls of a prevertebral abscess or with inflammatory tissue.

An abdominal aortic murmur can in some cases be heard in the region of the navel. The heart is frequently dilated and hypertrophied.

SILICATE JACKETS.

Dr. Burns,¹⁴ of Russia, objects to Sayre's plaster jacket on the ground that it cannot be removed at will for purposes of cleanliness, or for gymnastics in cases of lateral curvature. As a matter of fact, the jacket as now used by Dr. Sayre, is split down the front and laced, so that it can be removed easily at any time, yet the suggestion of Dr. Burns is of interest. He uses four pounds of the best plaster-of-Paris mixed with twenty pounds of the ordinary grade, and three or four pounds of water-glass. Linen bandages are used, the jacket is moulded over a plaster jacket, which has been prepared as a mould and then cut down the front and provided with leather straps and

⁶ Centralblatt f. Chirurgie, p. 5, 1887, No. 25.

⁷ Ibid. Also, Archiv. f. Chirurgie, 1887, 36 Bd., pp. 127.

⁸ Berl. Klin. Wochenschrift, 1886, No. 43.

⁹ Liverpool Med. Chir. Journal, January, 1887, p. 119.

¹⁰ Royal Whitman. N. Y. Med. Rec., xxxii. 1291, 887.

¹¹ Barwell. Lancet, 1887, i. 1275.

¹² Centralblatt, f. Chir., 1887, p. 444.

¹³ Bull. et Mem. de la Soc. de Chir. de Paris, T. xii, p. 516.

¹⁴ London Med. Record, July 15, 1887.

buckles. It is described as light, cleanly, and durable. The expense is an objection to its use, as each jacket costs between two and three dollars.

POTT'S DISEASE.

Dr. Whitehead¹⁵ describes a method of making continuous extension with a plaster jacket, which he advocates very strongly, and he relates the history of several illustrative cases.

A swathe of adhesive plaster is put around the patient's chest before the jacket is applied. To this are applied two stout webbing loops running from front to back over each shoulder. Two stout steel springs are imbedded in the jacket, and are held in place below by squares of perforated tin, which are firmly incorporated in the waist of the jacket, while above they carry a buckle and overhang each shoulder. The shoulder loop of the adhesive-plaster swathe is attached to the springs, the buckles tightened, and a very efficient extension and counter-extension must necessarily be obtained. It must, however, be a very stout skin that would not grow sore under the adhesive plaster applied under such conditions.

Attention ought to be called to the article of Dr. Ridlon,¹⁶ in which he relates two cases of Pott's disease, one cervical and the other upper dorsal, and calls attention to the difficulty of making the diagnosis between the two conditions in very young children.

LOCAL INJECTIONS IN TUBERCULOUS JOINT DISEASE.

Kolischer¹⁷ was led to the method which he describes by observation of the processes of spontaneous cure in tuberculous joint disease, by calcification and by inflammation excited by traumatism. Both these processes are excited by the injection of a concentrated solution of calcium phosphate at the seat of the disease. The solution is made as follows: seventy-five grains of neutral phosphate of calcium are dissolved in twelve ounces of water, and phosphoric acid is added until perfect solution is obtained. Then nine minims of dilute phosphoric acid (Austrian pharm.) are added, with three ounces more of water. The whole solution is sterilized by boiling and injected into the fungus mass by means of a syringe with a platinum needle. The joint is dressed with gauze impregnated with a solution like the above, except that about ninety minims more of dilute phosphoric acid should be added to it. The pain which follows the injection is very severe, and it is generally necessary to use morphine. There is much fever often, and sometimes a good deal of induration about the joint is present, but it disappears. The skin breaks in many successful cases, but the dressing is continued and a calcification and cicatrization go on. Very favorable results are claimed for the treatment by Kolischer and Del Torre.¹⁸

PSOAS ABSCESS.

The treatment of psoas abscess is discussed by Owen.¹⁹ Spontaneous absorption is out of the question, and he prefers incision to waiting for the abscess to burst. He favors the anterior opening in the groin, with a counter-incision in the back, except in small abscesses where he would make one small opening in the loin. He uses warm iodine water for

washing out the cavity. If the temperature remains high after operation it is likely that another abscess has formed on the opposite side of the spine, which must generally be opened independently, although where a bilateral abscess exists there is generally intercommunication between the two collections of pus.

KNEE-JOINT DISEASE AND EXCISION.

The large number of articles written by eminent men within the last six months, on the excision of the knee, shows an increasing interest in the operation on behalf of both general surgeons and orthopedists. Especially do these articles deal with methods of fixation after operation.

Mitchell Banks²⁰ furnishes, perhaps, the most complete article of all. He speaks of the increasing popularity of the operation and gives briefly its history in England. In private practice the operation is rarely necessary, and in hospital patients he is much influenced by the stage of the disease and the circumstances of the patient. In patients less than fifteen years old, he believes that the disease is almost always amenable to mechanical treatment. But in patients from fifteen to twenty-five, the disease is much more unmanageable, while in older people it is more formidable still. After trying all the incisions he has settled upon the one below the patella, and he does not use the Esmarch bandage or tourniquet during the operation.

He dovetails the femur into the tibia by cutting a concavity in the tibia with a butcher's saw, and cutting the femur to fit it. The posterior crucial ligament generally is sound, and if it can be saved it gives much stability to the joint. As to the removal of diseased tissue he says: "It is hardly possible to remove too much, for after all, the only thing that is wanted is a skin covering for the bones." In the matter of a splint, Mr. Banks' preference is for a common Thomas knee-splint, but he has no doubt that some of the other methods are equally efficient.

Gerster,²¹ perhaps, will serve as an exponent of American ideas in the matter of excision of the knee. He agrees that it is to be especially avoided in infants, while for adults he advises the operation. For complete excision he uses Hahn's incision above the patella, as it gives better access to the bursa under the quadriceps. Much care is needed in sawing off the ends of the bones; in the femur section should be made in a place corresponding to the transverse diameter of the epiphysis, and in the tibia at a right to the long axis of the bone. The bones are secured in place by four long steel nails, which are crossed and hold the bones firmly. Outside of the antiseptic dressing pasteboard splints are used in children, and plaster-of-Paris in adults. For thirty days the dressings are let alone in favorable cases, and then the nails, tube, and dressing are removed and a silicate splint applied. Of twelve cases operated on by him (adults and children), ten were cured, one died of tuberculous meningitis, and one had such severe suppuration that the thigh had to be amputated.

Stoker,²² writing on the same subject, insists upon the necessity of observing three points: (1) Complete removal of all diseased structures; (2) relative permanence of dressings; (3) thorough fixation of parts.

He finds it possible to keep on dressings two or

¹⁵ Whitehead. New York Medical Record, 32, 6, 149.

¹⁶ Ridlon. New York Medical Record, 32, 8, 214.

¹⁷ Kolischer. Wien. Med. Presse, No. 22, 1887.

¹⁸ Del Torre. La Reforma Medica., July 2, 1887.

¹⁹ British Medical Journal, April 23, 1887.

²⁰ Banks. Med. Press and Circular, April 6, 1887.

²¹ Gerster. Phil. Med. News, June 11, 1887.

²² W. T. Stoker. British Med. Jour., April 2, 1887.

three weeks, and often finds the wound healed at the end of that time; he is able to keep on dressings longer, since he discarded the use of the tourniquet and Esmarch bandage, for the after-oozing is avoided. Outside of the dressing he applies hoop-iron splints, bent to fit the contour of the leg, except at the knee, where they are bridged. Plaster-of-Paris he has discarded, on the grounds that it is dirty, that it loosens so easily, and that its removal causes so much pain to the patient. The bones are held together by two silver dowels, which are introduced into the tibia, one on each side of the tubercle, awl-holes having been bored, and driven up into the femur, but they are not crossed. Mr. Baker²³ uses much the same method for fixation, except that he drives in steel pins with an awl-handle and leaves them in place by removing the handle, but he crosses them, to which Mr. Stoker objects, on the ground that greater precision is obtained by not doing so. The bone pins advocated by Marsh, are objected to on the ground that they injure the cancellous tissue very much and break easily.

The technique of the operation is also discussed by Howard Marsh,²⁴ who has been annoyed in former years, after operation, by the riding up of the femur while the tibia lay still. This formed a serious addition to the inevitable displacements produced by moving the limb and by the involuntary muscular jerks. The apparatus described by Mr. Gaut, is the one upon which he has finally settled; it consists of an outside and a posterior splint. The latter runs the whole length of the leg, and is carefully padded and applied so as to raise the tibia to the level of the femur. This does away with the need of binding down the femur so tightly as is ordinarily done. Then the bones are pinned together with bone knitting-needles, which are driven into the tibia and femur through holes made by a brad-awl. An outside splint running the length of the leg, but interrupted at the knee, is applied along the outside of the leg, terminating below in a foot piece. All this is done before the dressings are applied; suturing and dressing are then done. The bone pins are cut off and left in place.

Riedinger²⁵ proposes to saw off the under surface of the patella and also of the front surface of the sound part of the femur and tibia after excision of the diseased portion and securing the femur patella and tibia together. This has also been done by Neuber. Riedinger has made a longitudinal straight incision directly over the middle of the joint, sawn the patella into two lateral halves, separating the ligamentum patellæ in the middle; the ends of the femur and the tibia after division of the crucial ligamentum patella are brought out between the split patella and sawn off in the ordinary way.

Israel²⁶ employs a convex curved incision which extends to the lower border of the tuberosity of the tibia which is sawn off obliquely, saving in this way the insertion of the ligamentum patellæ. After the operation the tuberosity of the tibia is nailed on to the tibia. Israel endeavors by passive motion and massage and articulated splints to secure some motion.

Tiling²⁷ separates the tuberosity with a chisel, thus

sparing the ligamentum patellæ; the other ligaments are also spared by chiselling off the different bony insertions when sound.

HIP-JOINT DISEASE.

In his new book "Hip Diseases in Childhood," Mr. Wright²⁸ stands forth as the champion of the operative treatment. He speaks from large experience, and the book is most carefully and distinctly written. The account of the pathology of the disease is probably the best in the English language, the conclusion is very brief: "In the vast majority — almost the whole — of the cases of 'morbus coxæ' the disease begins as an osteomyelitis of the upper epiphysis of the femur, or of the intermediate neighborhood of the epiphyseal line.

The symptomatology is full and complete. He attaches less importance to muscular rigidity and more to thickening of the trochanter than American authors do, and he adopts the classification into stages proposed by Mr. Adams. Two-thirds of the book is taken up by the discussion of treatment or rather excision, for the two are almost synonymous in Mr. Wright's mind. A quotation will best show his view of the matter. "Treatment, short of excision, when once suppuration occurs, is useful only as a palliative, or a means of temporizing. He gives a table of 2461 cases of excision of the hip which shows 1566 recoveries to 841 deaths. Two other conclusions of Mr. Wright's would be disputed by American authors, that "A case of hip disease seen before suppuration has occurred, is best treated by the use of a Thomas splint with or without previous extension," and that "excision of the hip cuts short the disease, relieves pain and gives a better limb than the average result obtained without operation." Then follows a table of the author's own excisions, one hundred in number, of which 15 died and 85 recovered.

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²³ W. Bronant Baker. *British Med. Jour.*, 1887, 1, 321.

²⁴ Howard Marsh. *British Med. Jour.*, February 19, 1887.

²⁵ *Centralblatt f. Chirurgie* 87, p. 410.

²⁶ *Berl. Klin. Wochenschr.* 1886, 47.

²⁷ *Centralblatt f. Chirurgie*, p. 440, 1887 quoting the *St. Petersburg Méd. Wochenschrift*.

²⁸ G. A. Wright, "Hip Disease in Childhood." London: Longmans, Green & Co. 1887.

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Clinical Memorandum.

HYDRONEPHROSIS SUPPOSED TO BE OVARIAN TUMOR.

BY S. H. WEEKS, M.D.,

Professor of Surgery in the Medical School of Maine.

BELIEVING, as I do, that this case will be of some interest to the profession, I have prepared the following report for publication. I am indebted to Dr. Alfred Ring, Surgical House Pupil at the Maine General Hospital, for a copy of the Hospital records.

Mrs. M., admitted to the Hospital November 6, 1884. Age, thirty; married; residence, New Hampshire; nativity, Vermont. Has had three children; youngest seven years old. Labor easy, and she got up from each confinement in good condition. Menstruation has usually been regular in time and amount; at times, would extend over several days, and, at such times, be excessive. Patient has been a hard-working woman; appetite fair, bowels regular, weight 138½ pounds. History: In April, 1880, first noticed a bunch about the size of an egg in the right ovarian region. The pain through this mass was sharp and lancinating. During this time, the patient had lung fever, followed by rheumatism in her lower extremities. The growth of the mass, at first, was gradual; but, during the past year, it has been rapid, and the tumor has greatly interfered with respiration, though, at date, the difficulty in respiration is less than it was; the tumor also presses on the liver, though the size of the tumor is less than formerly. Patient states that the size has varied; that when she would pass much water, that there would be a diminution, and when little urine was passed, that the size of the tumor would increase. As soon as she entered the Hospital, she was ordered pulv. effervescens comp., No. 1, every morning; also pil. quin. sulph. gr 2., after each meal.

November 8th. Examination made by the surgical staff; patient first on back, and then in Sims's posi-

tion. Fluctuation distinctly detected; uterus in normal position, and of normal depth. The diagnosis was ovarian tumor, and an operation for its removal was advised. Examination of the urine showed: color, light straw; odor, normal; specific gravity, 1007; albumen present. She was ordered fifteen grains of bromide of potassium each night at bed-time.

November 10th. Enema given in the morning. At 11 A. M. the patient was etherized, and, in the presence of the surgical staff, and a part of the medical staff, the operation for the removal of the supposed ovarian tumor was commenced. I made the incision in the median line in the usual way, and, on opening into the abdominal cavity, the mesentery was first brought into view, then the bowels and the tumor, covered in front by the peritoneum. Instead of finding an ovarian tumor with a pedicle, I found a cystic kidney. The contents were drawn off by the trocar, which presented a limpid, yellow, and opalescent appearance. About two-thirds of the cyst was removed by the scissors, all hæmorrhage controlled, and the cyst-wall was stitched with silk to the edges of the incision (upper part). The adhesions of the tumor to adjacent structures prevented the entire removal of the cyst. The abdominal wound was closed with four silver sutures. Two rubber drainage-tubes were introduced into the cavity of the remaining cyst, the abdominal cavity being thoroughly shut off from the cavity of the cyst. During the operation the pulse became weak, and f 3i of brandy was given hypodermically. Time of the operation, one hour and ten minutes; weight of tumor, seven pounds.

Recovered well from the ether. No spray was used, but strict antiseptic precautions were observed throughout. 12.30 P. M. f 3i of brandy was given by hypodermic injection. At 12.55, a tablet, ½ morphia, and ⅓ atropia, was injected beneath the skin. Pulse 108, temperature 98½°, respiration 24. Brandy, f 3i hypodermically. 5.45 P. M. ½ gr. morphia, to be repeated every four hours until otherwise ordered. 8 P. M. Urine drawn (as also for the few succeeding days); small amount, some sediment. Pulse 116, temperature 90.8°, respiration 26.

November 11th. 2 A. M. Slight attack of vomiting. Slept some during the night. 7.30 A. M. Pulse 120, temperature 100.4°, respiration 22. Very comfortable. 9 A. M. Detected some oozing from wound. The wound was examined, and a small bloodvessel was found in upper part of wound, from which the blood came. This was readily secured by catgut ligature. The antiseptic gauze was reapplied. Patient began to take lime-water and milk—two tablespoonfuls of milk, and one of lime-water every two hours. 5.45 P. M. Pulse 128, temperature 102.2°; brandy f 3iii during the afternoon.

November 12th. 9.30 A. M. Pulse 106, temperature 100.8°, respiration 20. Slept fairly well during night. Wound ordered dressed three times daily, as there was considerable discharge of a sero-purulent character. Milk and lime-water to be increased. 5.25 P. M. Pulse 122, temperature 102.2°.

November 13th. 8 A. M. Pulse 108, temperature 101°. Slept some during the night; is in good spirits. Wound dressed, and looking well. Since noon, beef-tea has been given alternately with the milk and lime-water. During the day, gas passed the bowels. 9 P. M. Pulse 122, temperature 101.8°. Able to take some lemonade, which she found very grateful.

November 14th. 8 A. M. Pulse 103, temperature 100°. Rested well during the night. The discharge from the wound slightly bloody. 7.10 P. M. Pulse 108, temperature 102.4°.

November 15th. 8 A. M. Pulse 101, temperature 100°. 7 P. M. Pulse 112, temperature 102.8°.

November 16th. 8 A. M. Pulse 98, temperature 100.2°. 7.30 P. M. Pulse 102, temperature 102°. Very comfortable day. Morphia reduced to $\frac{1}{8}$ gr., still continued every four hours.

November 17th. Morning: Pulse 100, temperature 100.8°. Evening: pulse 104, temperature 102°. The silver sutures were removed. Wound discharging freely. At night, ten grains quinine given per rectum, which caused a slight movement from the bowels, which somewhat fatigued the patient. Brandy $\frac{1}{2}$ ss given by the mouth.

November 18th. A. M. Pulse 94, temperature 100.2°. Quinine, gr. x, per rectum, causing a slight movement from the bowels. Pulv. eff. co., No. 1, given at night.

November 19th. A. M. Pulse 100, temperature 100.2°. P. M. Pulse 92, temperature 101°. Enema given in the morning, followed by slight movement. Wound discharging freely. Syringed wound with bichloride solution, 1 to 2500. Amount of morphine given every four hours reduced from $\frac{1}{4}$ to $\frac{1}{8}$ gr. Took solid food (steak, etc.) for the first time since the operation.

November 20th. A. M. Pulse 100, temperature 100°. P. M. Pulse 104, temperature 100.2°. Patient bright, and taking more nourishment. Four silk sutures removed from cyst-wall, ordered wound dressed four times daily, and pil. quin., gr. ii, after each meal. Slight attack of vomiting at night.

November 21st. Slept well during the night. A. M. Pulse 96, temperature 99.8°. P. M. Pulse 108, temperature 100.8°. Ordered beef-tea, one-half cup given per rectum every four hours; also quinine, gr. iii, with each injection. Quinine pill by mouth discontinued. Slight attack of vomiting at night. Pulv. eff. co., No. 1, at bed-time, resulting in movement at 3 A. M.

November 22d. Some vomiting in the night. A. M. Pulse 95, temperature 99.2°. Champagne $\frac{1}{2}$ si given at intervals during the day. Beef enema given every four hours for the day.

November 23d. A. M. Pulse 83, temperature 99.6°. Carbolic acid gauze used on wound. Two beef-tea enemata given in the day. P. M. Pulse 86, temperature 100.6°.

November 24th. A. M. Pulse 90, temperature 99.4°. P. M. Pulse 84, temperature 100.8°. Patient feeling very well.

November 25th. A. M. Pulse 79, temperature 99.4°. Enema given in the morning, followed by movement. Bowels slightly distended with gas. Pulv. eff. co., No. 1, given at night, but not retained by the stomach. Quinine, gr. ii, now given every four hours. Morphia, gr. $\frac{1}{4}$, every four hours.

November 26th. A. M. Pulse 88, temperature 100°. enema given, patient feeling nicely. P. M. Pulse 88, temperature 100.2°. At night had chill, which lasted about half an hour; hot bags and extra blankets applied. Pulse 116, temperature 100°. Quinine, gr. vi, given, and champagne. 10.40 P. M. Pulse 81, temperature 100°. Feeling much better.

November 27th. Patient ate hearty Thanksgiving

dinner. Sleeps well nights. The wound is discharging a fair amount, and is dressed four times daily.

November 30th. Wound now dressed three times daily.

December 2d. Slight accumulation of pus at lower angle of wound, where the lowest silver suture passed through abdominal wall.

December 6th. Since last date, the pulse has not exceeded 92; this A. M. it was 104. Temperature not higher than 100.2°; this A. M., 100°. Pus accumulated again in the lower angle of wound. Poultice applied. In other respects, patient doing well.

December 14th. Exuberant granulations about the edge of the wound. Touched with nitrate of silver.

December 16th. Granulations not as prominent. There has been an increase in the discharge since the caustic was applied.

December 18th. Patient up and on the lounge for the first time.

December 25th. Has been up each day since last date. To-day, was able to walk out to the nurses' room.

December 26th. Nitrate of silver again applied to exuberant granulations.

January 5, 1885. Since last date patient doing well. Wound dressed three times each day; discharge small; drainage-tube still kept in. Menstruation began.

January 7th, 10th, 16th, 20th. Patient able to walk a little each day.

January 20th. Patient removed from private room to the ward. Wound now dressed morning and night. The discharge is small. Appetite still continues good. Is gaining in strength. Bowels are regular.

January 21st. Nitrate of silver again applied to exuberant granulations.

January 31st. Since last date, patient's general condition continues to improve. The wound remains about the same, though the discharge is slightly less. The edges of the wound about the drainage-tube have healed.

February 1, 1885. Patient discharged, her general health all the time improving. The wound still discharges, the discharge being thin and watery, but no odor of urine, although I am confident a large part of the discharge is secreted from the walls of the remaining portions of the cyst, in which there seemed to be portions of the cortical structure of the kidney.

The question would naturally arise: why was not a correct diagnosis made before the nature of the tumor was revealed by the operation? It is a fair question, and should receive an answer. The early history of the case tended to mislead the surgeons. I am satisfied that the organ was a "floating kidney" before it became the seat of hydronephrosis, and that this displacement led to obstruction of the ureter, thus causing a dilatation of the pelvis and calices of the kidney by urine, and atrophy of the renal substance, followed by expansion of the capsule, and of what remained of the cortical and medullary substance of the organ.

It will be noticed that the history of the case showed that four years before the operation, she noticed a bunch about as large as an egg in the right ovarian region. In this respect, it strongly resembled an ovarian tumor. In fact, one of our hospital staff, a very skilful diagnostician, saw the patient in the early history of the growth, and, finding this mass in the right ovarian region, pronounced it ovarian tumor. In my experience, it is something entirely new to find a cystic

kidney in such a position. At the time of the examination, with such a history before us, and finding the whole abdominal cavity filled with a cystic tumor, resembling in every particular an ovarian cyst, I feel sure that such a mistake in diagnosis could not have been avoided. I am free to confess that, when I had finished my examination, I felt morally certain that the tumor was ovarian. The appearance of the cyst at the time of the operation may be of some interest: The anterior part of the cyst-wall was as thin as that of an ovarian cyst. As I approached nearer to the base of the tumor, the cyst-walls were thicker, and, at some points, there seemed to be cortical structure of the kidneys very much expanded. The pyramids seemed to be entirely wasted, and the calices were converted into huge spaces or sacs. The patient has been heard from several times since she left the Hospital, and her reports show that her general health has been excellent, being able to do hard manual labor. The last report, about a year ago, stated that there was then a small, fistulous opening, with some discharge, but not enough to cause much inconvenience.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

OCTOBER 24, 1887. The President, DR. O. F. WADSWORTH, in the chair.

DR. ABNER POST showed two cases of

REMOVAL OF THE SHAFT OF THE TIBIA. REPRODUCTION OF BONE FROM THE TIBIA.

The first case was a boy, injured by a blow from a sled, about Christmas. An abscess had formed and had dissected away the soft periosteum from the bone. This was opened in December. The shaft of the tibia became necrosed as a result of the abscess. On the 28th of May all of the shaft of the bone was removed leaving the periosteum. The ends of the channel thus formed were scraped, and the knee-joint was perforated. Bleeding was startling, the blood oozing from every part of the wound. This was controlled by elevation of the part, but it left the patient in a precarious condition. He rallied, however, and the leg which was then limp is now stiff from reproduced bone.

The other case is a girl, upon whom the same operation was done, July 28th. Her leg was kept stiff by means of plaster-of-Paris, and has healed faster, the condition being now the same as that of the boy. She had had rheumatism, but the cause of bone destruction was not so evident in her case as in the other.

DR. W. C. B. FIFIELD said that he was pleased to see these cases. The history of the operation is interesting. It was first done by G  raldis in 1861, and was repeated by him up to the time of his death. The disease seems to have been a phlegmonous periostitis. In the case of a child, whose broken tibia had united at an angle, the French surgeon sawed out a wedge-shaped piece, first carefully removing the periosteum, in hopes of getting new bone growth. The case failed with a false joint, and the good sense of G  raldis then pointed out the difference in prognosis, according to as phlegmonous inflammation has or has

not preceded the operation. If it has, the periosteum is separated or may easily be separated; if not, separation is a work of difficulty and proliferation is less likely to occur. Even if the normal periosteum can be peeled away, it carries with it no granulations for starting points of the new bone. Dr. Fifield had himself done the operation ten years ago or more, in spite of the unfavorable prognosis of those who were conversant with the case. The shaft being still firmly attached to the epiphysis at the upper end of the bone, it was removed by means of a chain saw. This operation was successful, and the speaker had had the pleasure of seeing his patient skating a year later. After that, he had removed the shaft of the femur on both sides from another child. Bleeding was not profuse in his cases.

The whole shaft of the humerus has likewise been removed. In the after-treatment, the necessity of good feeding was emphasized by G  raldis.

DR. J. C. WARREN said that he had never seen a tibia that needed this operation. Although such cases occur, the occasion must be rare. The tibia is an especially favorable bone for reproduction, owing to the plexuses of vessels in its lower part. In a case of the speaker's, the shaft of the humerus had been pulled off, previous to amputating the arm, leaving the epiphysis and periosteum. Reproduction had taken place to such an extent, that there had been no more than enough flap to cover it, the amputation having removed the lower half of the arm. Such entire removal of bone must be rare in the United States.

DR. ABNER POST, read a paper entitled,

SOME OF THE LATE MANIFESTATIONS OF HEREDITARY SYPHILIS ILLUSTRATED BY CASES.¹

DR. F. B. GREENOUGH said that treatment is very important in these cases, and that, therefore, diagnosis is very important. Doubtless multitudes of cases of late hereditary syphilis are considered to be scrofula, and are treated with cod-liver oil. He was glad to hear mercury mentioned, for he believed it to be the important drug when it can be borne. Probably if cases of late hereditary syphilis could have been observed early, they would have for the most part presented evidence of the disease early.

DR. J. C. WHITE said that he wished that he felt a greater ability to distinguish between doubtful syphilis and scrofula.

In two or three points he should differ from the reader. He did not find dactylitis common in cases of syphilis; neither is syphilis common with dactylitis, at least three-quarters of the cases of dactylitis seen by him being non-syphilitic. Again we do not know how to distinguish between syphilitic and non-syphilitic dactylitis. Under these circumstances he placed no great stress on the presence of dactylitis alone as proving the existence of syphilis.

Hutchinson's teeth, again, are not a positive proof. When found, they are commonly on the person of a syphilitic, but this, although true as a rule, is not a rule without exception. He has seen them in children where there was no syphilis in three generations.

Further, it is not safe to attach too much importance to the effect of remedies as confirming a diagnosis. He had no doubt but that syphilis is a bacillus disease. Mercury and iodine are both of them pow-

¹ See page 493 of this number of the Journal.

erful destroyers of bacilli, and may be of service in the treatment of other bacillus diseases than syphilis. Mercury is very powerful in destroying lupus when locally applied. He should, therefore, not consider a recovery, while using mercury, as a proof that the disease in a given case was not tubercular.

DR. EDWARD WIGGLESWORTH remarked that in 1871 he had been called in consultation, by Dr. C. F. Folsom, to a somewhat doubtful case of dactylitis syphilitica, published in the *American Journal of Syphilography and Dermatology* for that year, and recently in "Wood's Reference Handbook of Medicine." The diagnosis, subsequently verified, was partly based upon the fact that the swelling of the phalanx was symmetrical, entirely on the dorsal surface and sides, and affecting the distal rather than the proximal end of the phalanx. In strumous dactylitis he held that more commonly, though not always, the proximal end of the phalanx, and even the joint were apt to be involved, the distending deposit shading off as the distal extremity was approached. Taylor, in his treatise upon the "Syphilitic Lesions of the Osseous System in Infants and Young Children," refers to the usual uniform enlargement of the whole bone in syphilitic infants, whereas in cases of osseous inflammation, due to the cachexia of scrofula, the lesions may begin and be greatest at the proximal end of the bone. As to such cases as those recorded by Dr. Post in his very interesting paper, the question is not so much whether the disease is inherited or acquired, or of early or late manifestation, or if there have been observed previous early symptoms or not. The point is whether the malady is syphilis or is not syphilis. Syphilis is syphilis wherever or whenever found, and always calls for its special and appropriate treatment. Cod-liver oil, already referred to, is, however, a tonic often most advantageously employed even in cases of syphilis. Its action has even been compared to that of potassic iodide.

It by no means follows that the date of appearance of syphilitic symptoms is necessarily an early one in cases of hereditary syphilis. Bulkley, Fournier and Zambaco report cases where the manifestations were at the ages of from twenty-three to twenty-six years.

Nor is the disease necessarily hereditary even when the specific symptoms appear at an abnormally early age. Within the year, Dr. Wigglesworth had treated the case of a boy of about twelve years of age, with well-marked secondary symptoms, and the initial lesion upon the penis still evident. The child had been toyed with by an infected nympho-maniac, herself youthful, and had acquired the disease in the usual manner and in the usual situation.

The PRESIDENT said that there are all grades from normal teeth to the perfect Hutchinson's tooth, and that while he had certainly seen such teeth in non-syphilitic people, he had never seen them well marked under such circumstances.

DR. POST, in closing the discussion, said that he was glad that he had brought forward these cases. He had been in doubt as to what to call the series; late hereditary disease is as indefinite a term as tertiary, but he believed it was properly applied to such cases as he had reported. He was quite aware that the diagnosis was not fully established, that some of them were of the kind called scrofulous. He had tried to present the other aspect. He had tried to state that he would not make a diagnosis of syphilis

upon the presence of dactylitis alone, but that where that symptom occurred with others, it added weight to them. Alone it establishes nothing. Some of his series had typical Hutchinson's teeth.

Certainly some cases have been reported even older than these mentioned by Dr. Wigglesworth.

NEW YORK NEUROLOGICAL SOCIETY.

MEETING held Tuesday evening, November 1, 1887. DR. C. L. DANA in the chair.

DR. BEVERLY ROBINSON presented a case of

APHASIA WITHOUT PARALYSIS.

The history had been furnished by the assistant house-physician to Charity Hospital. The patient was sixty-eight years of age, born in this country and admitted to Charity Hospital, August 25th of the present year. His previous history was negative in regard to syphilis. He once had had rheumatism in the knees, but the date was not known. His present difficulty dated from May, when he commenced to have headache. Subsequently he fell out of bed to the floor. He was able to crawl back into bed, but from this time his speech was affected. He was treated in Bellevue Hospital, and was from there transferred to Charity Hospital upon the date named. Upon entry he was apparently in perfect physical health, excepting speech. Objectively there were no signs of paralysis. His walk was slow but good. Possibly the right leg dragged a little. The dynamometer registered 20 with the right hand and with the left hand 10. The faradic reactions were normal in the upper extremities. In the lower extremities they were somewhat quicker and stronger upon the left than upon the right side. The sight in the right eye was as good as before the injury. The right eye was found more hypermetropic than the left, but the optic disks showed the physiological cupping in both eyes. The urine was negative. When admitted the patient could speak only in monosyllables, using most frequently the phrases "Yes," "No," "That's it," and "Exactly." He read the newspaper and apparently understood what he read. He also used gestures and explanatory words. When asked his age, as "Are you forty?" he would answer "No;" "thirty-two?" "no;" "forty-eight?" "no;" "sixty-eight?" "yes." If given a pencil and paper and told to write his age he would put down an 8 and in front of it a 6, adding "That's it." He could not write his name, writing John in the place of Isaac. It thus appeared to the speaker a case of amnesic and ataxic aphasia with agraphia, depending upon lesion of the foot of the left third frontal convolution. His own interest in it had been directed to the question whether lesion of this area would involve the intrinsic muscles of the larynx. On account of the difficulty of obtaining intelligent coöperation, however, a satisfactory examination could not be made. The treatment had consisted in the administration of fifteen grains of pot. iodid., t. i. d.

DR. DANA asked whether the patient could copy, and whether mirror writing was obtained with the left hand.

DR. ROBINSON did not think that the patient could copy, but would test the point.

DR. DANA suggested that his own name be not

used, and the President's was substituted. The patient wrote Charles Dane. Dr. Jacoby added another phrase and found that the patient wrote s for m and f for i.

DR. STARR would rule out amnesia in the case. The terms amnesic and ataxic aphasia had respectively a sensory and motor significance. Here the patient apparently understood perfectly, and his difficulty was purely ataxic or motor.

DR. ROBINSON explained that a few weeks ago the patient had not understood well and that even at the present time he would probably not understand all questions which might be put to him. Yet, during the last two or three weeks, he had very markedly improved.

DR. BALL asked how carefully the question of sensory ability had been tested. When told to do certain things would he do them; also would he do the same when written directions were given him.

DR. ROBINSON replied that the patient had complied with oral directions, that written directions had not been tried.

DR. DANA asked whether the patient was able to utter exclamatory language. In some cases where ordinary speech was lost through lesion of the left third frontal convolution, profane or ejaculatory language was still obtained through the corresponding center upon the right side.

DR. ROBINSON stated that the patient did not present this peculiarity.

DR. PUTNAM JACOBI asked whether the test suggested by Dr. Ball could not then be made.

DR. BALL directed the patient to take hold of Dr. Robinson's left thumb. The man hesitated and apparently failed to understand, but complied when directed simply to "Take his thumb."

DR. STARR asked the patient whether he read the papers and understood them, and the man replied, "Yes, of course."

DR. BALL mentioned the case of Dr. Charles Allen, aphasic for several years and now dead. This case, had, during most of the time, read and apparently understood, yet it was probable that he obtained the sense from leading words and that a large number of the words he did not understand at all. Probably the same was true of this case.

DR. ROBINSON asked whether there was any recognized difficulty in the use of the intrinsic muscles of the larynx for phonation associated with the aphasic condition.

DR. STARR had been interested in this subject through a paper by Dr. Delevan, in regard to a cortical centre for the larynx. For a year he had sent to Dr. Delevan all cases of hemiplegia coming to him at the Polyclinic and the Demilt Dispensary. Fifteen or sixteen cases had been examined without the discovery of any affection on either side of the larynx. He believes that no such case was upon record. It was certainly contrary to the general experience of neurologists to find any difficulty of phonation connected with aphasia. In fact, Dr. Ross, in his last edition, had stated that in the lesion of aphasia the muscles of the larynx were not affected.

DR. ROBINSON had retained an impression that literature showed such cases. He had had his attention directed to the subject in this way.

DR. STARR asked whether a patient could have this paralysis of the larynx without being hoarse.

DR. ROBINSON replied that he could. He had seen patients with partial paralysis of a vocal cord who were not hoarse.

DR. GRAY stated that a distinction should be made between hemiplegias from lesion of the internal capsule, and those from lesions of other parts, particularly the pons and the medulla. Of six or seven cases in which hemiplegia was due to hæmorrhage, embolus, or thrombus in the internal capsule, he had had careful examinations made by competent laryngologists, and in none of them was there any paralysis of the laryngeal muscles. In hemiplegia from other causes, alteration of the tone of voice was sometimes obtained. In true and simple aphasia he thought that the voice was not affected.

DR. DANA added that in pseudo-bulbar paralysis, the larynx was involved, the lesion being in the corpus striatum.

DR. H. C. COE followed, with a paper upon

THE SIGNIFICANCE OF PELVIC PAIN.

Pain was not a reliable indication of disease. Often an epithelioma of the cervix would cause less distress than a dislocation. The description of pain by the patient and the localization of its cause by the physician presented separate topics for thought. As described by the patient the pains of the pelvic region were, in general terms, an aching pain in the lower part of the sacrum, a shooting pain in the inguinal regions, and the gnawing pain of carcinoma. All of these pains could be referred to some lesion of the peritoneal or connective tissue, or both—to some plastic exudation not necessarily of great amount. The distress caused by a retroflexed uterus was much greater where there were adhesions than when there were not. It was fair to assume that this constant aching pain was due to the implication of nerves in the exudate. Laceration of the cervix, excepting that extending into the vaginal front, did not, in itself, cause pain. The cervix was a very insensitive organ and laceration was but a link in the chain of circumstances which resulted in pain. Malignant disease did not necessarily give rise to pain. Hart and Barbour say that there is no pain so long as the cervix only is affected. Hewitt says that the pain of cancer is due to localized attacks of peritonitis. The pain was earliest and most severe when the growth is in the body, thus differing from sarcoma of the body in which there was little pain. Possibly in this variety of cancer the intra-muscular nerves were involved in the growth. The shooting, darting, sickening pains associated with disease of the tubes was due to nothing but peritonitis. Hegar refers to cicatricial nodules in the broad ligaments, and even in the case of ovarian neuralgia it seemed probable that the pain was due to pressure upon the nerve before it entered the organ, rather than to changes within it. Otherwise this pain would not be relieved by the relief of perimetrial adhesion, as frequently occurred.

The inference was to give a guarded prognosis in regard to the relief of pelvic pain. If the pain, associated with a fissured cervix, was due to cicatricial nodules in the broad ligament, we might cure the laceration and the endometritis and yet the pain would continue. To remove the ovaries for the relief of pain was even more hazardous.

The speaker thought that gynecologists exaggerated the frequency of reflex pain. With Dr. Dana, he

considered anæmia the most frequent cause of vertex headache. Pelvic reflexes were found in the upper lumbar and intercostal nerves. He had not found sciatica of ovarian origin according to Dr. Mundé's suggestion. It might occur as the result of some exudates, but must be rare as a reflex pain. Dr. Mundé, himself, somewhat oddly remarks that this pain is relieved by a blister over the sciatic notch. Dr. Polk's plan of separating adhesions for the relief of pain presented scarcely less risk than the usual operations referred to. Treatment by electricity, according to the methods of Apostoli, gave the most satisfactory results. Reflex or transferred pains might also be due to inflammatory foci and might be treated in the same way.

DR. GRAY, as a neurologist, felt at a loss to know how to discuss such a paper. Many pains besides those of pelvic origin centered in the back, such as muscular pains and the pains of peripheral neuritis. He had himself often referred patients to competent gynecologists for examination, and had found nothing in the pelvis to account for pain over the sacral, lumbar, or coccygeal vertebræ. Yet, on the other hand, one could not deny the capricious vagaries which distinguish the truly reflex pelvic pain.

DR. PUTNAM JACOBI remarked that while the specialism assisted investigation, it was a misfortune to the patient. She did not consider that the writer of the paper had proved his position. Pelvic pain might be more definitely mapped out. The uterus, the central organ of the pelvis, was supplied by the lumbar plexus; and lesions of this organ were accompanied by pain in the track on the lumbar nerves. Two or three other definite points were known. Pain referred to the distribution of the femoro-cutaneous nerve, was the most characteristic accompaniment, not of ovaritis, but of ovarian neuralgia. Again, pain in the end of the spine might be spinal, ovarian, or endometrial in origin. A retroverted uterus without periuterine lesion would cause aching in the sacral region but no coccydynia. The speaker considered pain from pelvic exudation rare and somewhat hypothetical. Even chronic peritonitis gave only a dull aching pain, which was quite tolerable, except when the patient was moving about. The worst case which she had ever seen, one which finally died from an exacerbation, was comfortable when in bed. The ganglion had been found frequently diseased in cases of pelvic pain, especially in those associated with posterior perimetritis; and in some cases of violent hysteria, it had been found atrophied. This ganglion, situated between the body and the cervix, was often the site of excessive tenderness and a permanent neuralgia might result from a peritonitis which would persist long after the removal of its cause.

DR. RANNEY quoted Dr. Beard as having said that the nervous system is like a mountainous region, in which echoes are returned with equal intensity from distant parts. This description was peculiarly applicable to pelvic pain. As a general practitioner he had frequently treated pelvic pain locally, without relief, in cases where it had finally disappeared upon the removal of a distant cause. It was not, in his opinion, possible to establish the seat of any pain unless removal of the supposed cause had established cure. He had failed to find compliance with this formula in the interesting paper under discussion.

DR. DANA stated that he had been disappointed

often when sending patients with pelvic pain to gynecologists for examination; and that painful neuroses, even, had in some cases resulted from gynecological treatment.

DR. PECKHAM considered that the reader of the paper had underrated the suffering from direct pressure as a factor of pelvic pain. A retroflexed body or the hypertrophied cervix of an ante-flexed body might cause a good deal of suffering by direct pressure upon the sacral nerves. Again, pain in the right or left iliac region might often be attributed to tension where with a shortened broad ligament and lateral deviation of the uterus there was pulling upon the ligament of the opposite side. Pain persisting after operation might later be found to have disappeared. The eye which looks on the sun retains for a time its image. Thus the nerves of other parts after prolonged irritation retain the impression of that irritation and the habit of pain after the removal of the cause. Time is thus required in these cases to perfect a cure.

The speaker endorsed the value attributed to electricity by the author of the paper. Whether it acted by direct influence upon the nerves themselves or by modifying the pelvic circulation was not apparent.

DR. STARR read a preliminary report of

THE STEVENS' COMMISSION.

The meeting adjourned.

Recent Literature.

Lessons on Gynecology. By WILLIAM GOODELL, A.M., M.D. Third Edition. Philadelphia. 1887.

The third edition of this well-known book comes to us, "thoroughly revised, and greatly enlarged." The result is that with all the charm of Dr. Goodell's style we have a work on gynecology which is thoroughly abreast of the times. No one who has ever read one of the author's lectures need be told how interestingly and with how much spirit he treats his subject. From beginning to end of the book it is interesting and instructive reading, and we heartily recommend it to any one, whether student or practitioner, who is interested in the subject.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M.D. London: J. & A. Churchill, 1887.

It is unfortunate that a fantastic conception of pathological processes based upon the assumption of an "eczematous diathesis" and expressed in a desultory style of mixed metaphor and incoherent statement should obscure a writer's practical shrewdness. One patient "bursts out into" an eruption, another is "spattered" with vesicles, in others, notably children, eczema may be induced by "storms of uric acid," while another has a "distinct secretion upon his testicles." The skin is the canvas upon which the "eczematous picture" is painted, while the causes of eczema are the various "brushes" with which this "eczematous picture" is produced.

No statement is made, however, as to who may be the artist who employs such brushes to paint such pictures upon such canvas. In the opinion of the author, pityriasis rubra and lupus erythematosus are both varieties of eczema and "where an eczema occurs on both sides of the body, arsenic is of service."

After reading productions like the above, it is comforting to turn to Lord Bacon and to find that he says "Books must follow sciences and not sciences books."

G. H. T.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By CONDUCT W. CUTLER, M.S., M.D. G. P. Putnam's Sons: New York and London. 1887.

This book consists almost entirely of a collection of tables of the differential diagnosis of all the diseases of the skin, and the impression derived from reading it, is much the same as that expressed by the Scotchman who was discovered absorbed in Webster's unabridged dictionary and being asked what he thought of the book replied that the stories therein were very pretty but "unco" short. These tables are prepared with care and thoroughness and presumably demanded an amount of labor in their production disproportionate to their usefulness.

G. H. T.

Food Adulteration, and its Detection, with Photomicrographic Plates, and a Bibliographical Appendix. By JESSE P. BATTERSHALL, Ph.D., F.C.S., Chemist, U. S. Laboratory, New York City. Published by E. & F. N. Spon, New York and London: 1887. 328 pp. 8vo. 12 Plates.

This work compressed into a volume of moderate size, the more salient features of the present status of food adulteration as it is exhibited in the United States. It treats of those articles which an extended experience has shown to be most liable to falsification, including however only those admixtures which have actually been detected by chemists of repute, within the past few years. It economizes space by omitting the many rather sensational forms of adulteration mentioned in many earlier treatises on the subject, the practice of which, if they ever did exist, now at least appear to have been wholly discontinued. The methods of examination given are those most approved of by standard authorities, although given often in a condensed form, from the more extensive works on food analysis. The colored photogravure plates of tea leaves, and of those sometimes substituted for them are very excellent. The appendix of bibliography, and American legislation relating to adulteration add greatly to the completeness of the work.

B. F. D.

—A correspondent calls attention to an instance of *la linguistique* from Cornil and Ranvier's "Manuel d'Histologie Pathologique," p. 1036: "*gros rein blanc* (whaxy kydney)."

—The British Trichological Association is the somewhat appalling title of a society which, it is suggested, bears by evolution a somewhat similar relation to the art of the barber that conservative dentistry bears to the crude tooth-pulling of a former generation. Trichopathy is to have a special hospital for its study in theory and practice, and if the society is successful in its aims, the bald heads will disappear from good society. The transcendental barber no longer means to be accosted by the classic inquiry of Mother Goose, but instead of saying how many hairs will make a wig, he will tell us what will make a wig unnecessary.

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SOURCES OF SYPHILIS IN THE FEMALE.

PROFESSOR FOURNIER, the French syphilographer, has compiled some statistics relating to the sources of syphilis in the woman. During twenty-seven years, he has made notes, in his private practice, of 887 cases, which 842 were of sexual, and 45 of non-sexual origin. In the second group, which constitutes a series of cases deserving, according to him, the qualification of "unmerited syphilis" ("the syphilis of innocents,") there were 7 cases in which the disease was inherited; 4 in which the disease was accidentally contracted in infancy; 8 cases of infection transmitted to wet-nurses by infants hereditarily tainted; 5 cases of midwives, who had contracted syphilis in their fingers or hands in the practice of their profession; 12 cases of "domestic contagion," derived from nursing infants belonging to nurses or servant girls that were syphilitic (these twelve cases were all observed in married women or young girls); 2 cases of syphilis transmitted by vaccine; 2 of syphilis communicated by catheterization of the Eustachian tube; 1 case consecutive to rape; and 4 of unknown derivation, but certainly not of venereal origin.

Of the 842 cases in which the disease was clearly of sexual origin, 366 were women of known dissolute habits, "women of the town"; 220 were married women; and 256 were persons whose social condition remained unknown.

Passing by the first group, that of the abandoned women, 65 of whom (17.7 per cent.) were play-girls (*filles du théâtre*), and analyzing the 220 cases of syphilis in married women, it appeared that of these there were 164 "that had been honestly and conjugally infected with syphilis"; that is, these women had contracted the disease from their husbands, and without any fault of their own. Of the 220 married women, 56 were doubtful cases; these latter had contracted syphilis from "lovers," for their husbands, when examined, were found exempt from syphilis; a few of them had been syphilitic before their marriage.

With regard to the 256 patients whose social posi-

tion could not be satisfactorily ascertained, it seems probable that a certain proportion of them had become infected through no fault of their own; but, on account of the obscurity investing their history, Professor Fournier thought it best to include them all with the 366, making a total of 622 believed to be syphilitic from voluntary indulgence in vice. This left, out of the whole number of syphilitic cases, a percentage of 19, representing a certain number of persons who were suffering from all the horrors of this dire disease solely through the misdeeds of others, without having personally been guilty of any moral delinquency.

These statistics, says Professor Fournier, plead powerfully in favor of more energetic measures for protecting the public, and especially the innocent, against the ravages of this great social scourge.

UNIFORMITY IN OBSTETRIC NOMENCLATURE.

As to the importance of uniformity in obstetric nomenclature there can be no difference of opinion: if conventional symbols have been found convenient, even indispensable, to mathematicians and astronomers, it is quite certain that a uniform method of designating pelvic diameters, fetal positions and presentations, and other data of exact knowledge would be of great advantage to all who read and teach obstetrics.

To Professor Alexander Russell Simpson, of Edinburgh, belongs the credit of taking the initiatory steps which are likely to result in the adoption of a universal nomenclature. In his introductory lecture¹ at the University of Edinburgh, October 19, 1887, Professor Simpson gave an entertaining and gratifying account of his recent visit to this country, and also a brief history of his own and his associates' efforts to perfect and present to the profession an obstetric nomenclature for the civilized world. The desirability of such a nomenclature was suggested by Professor Simpson to the International Medical Congress which met in London in 1881, and a committee was appointed of different nationalities to consider the subject and report at the next congress. At Copenhagen, however, the committee could report but little progress; but the subject was again referred to the committee for further conference, and subsequently Professor Simpson submitted a scheme to the Edinburgh Obstetrical Society. This scheme with some modifications suggested by the numerous specialists to whom it had been submitted, was presented by Professor Simpson to the International Congress in Washington, for final action. After a long discussion the scheme was referred to a committee consisting of Professors Simpson, Lusk, King and Miller for final revision: this revised report was unanimously adopted.

Copies of the proposed nomenclature are soon to be distributed to the various obstetrical writers and teachers of the countries represented at the congress, and although it is almost inevitable that some changes

will be made, it is probable that the scheme will be essentially accepted.

While we cannot reproduce the proposed nomenclature here, we may say that it is essentially the one now followed in the Harvard Medical School. It is proposed, however, and it is indeed necessary, that when initial letters are employed, they shall be those of the corresponding Latin words; and it will therefore be necessary for us to substitute *dextra* and *læva* for right and left; O. R. P. will thus become O. D. P., while O. L. A. remains the same. The only decided change to us is the manner of designating presentations of the shoulder. Having said this much it is unnecessary for us to express our approval of the new nomenclature, and our hope that it will meet with universal acceptance.

THE NEW MASSACHUSETTS "ACT CONCERNING COMMITMENTS AND TRANSFERS OF THE INSANE."

At the close of the last session of the Massachusetts Legislature, a bill was passed which seems worthy of more consideration than was given to it by the body which passed it. We refer to the "Act concerning Commitments and Transfers of the Insane." This act provides, in the first place, that on and after the first day of July, 1887, each State Lunatic Hospital shall receive patients only from a certain district surrounding that hospital, the State outside of Suffolk County being divided into four districts. These districts, however, are arranged so as to take in the four older hospitals, Danvers, Taunton, Worcester, and Northampton, and patients from any of these districts may, if they choose, be sent to the new hospital at Westborough — an arrangement which would seem to be reasonably simple and satisfactory. The Suffolk County insane, however, are excepted from this provision. They "may be committed alternately and in equal numbers to the State Lunatic Hospitals at Danvers, Taunton, Worcester, the Westborough Insane Hospital, and the Boston Lunatic Hospital at South Boston; omitting from the enumeration such insane persons as, upon request of their friends, shall be sent to the Westborough Insane Hospital, the McLean Asylum, or any duly authorized private asylum." Further provisions exempt patients who are able to pay, from the provisions of this act, and put discretionary power as to its enforcement into the hands of the State Board of Lunacy and Charity.

The chief argument — and one which, to the ordinary mind, had a show of fairness in behalf of the establishment of a special hospital for the insane under homœopathic management — was that it was no more than right that the insane patient might be treated, if he or his friends chose, by physicians of the homœopathic school. Therefore, the hospital at Westborough was established, and provision was made for furnishing homœopathic treatment to such insane patients as desired it — a provision which has been

¹ British Medical Journal, Nov. 5, 1887.

maintained in the act under discussion. The pauper insane in Suffolk County, however, are placed in a curious position by this act. If they desire homœopathic treatment at Westborough, they are privileged to claim it; but, if they object to homœopathic treatment, they must take pains to become insane during the terms assigned to the other hospitals, for, if they fall insane during the term assigned to Westborough, they have no choice but to be sent there and receive homœopathic treatment. Moreover, in spite of the great over-crowding of the Boston Lunatic Hospital, it must receive its quota of one-fifth of the Suffolk County insane in the year, which, at present, is impossible.

We do not know whether this act was framed with deliberation or in ignorance. It was certainly hurried through the Legislature at the close of the session without due deliberation. By its provisions, four-fifths of the Suffolk County insane have the privilege of choice between regular and homœopathic treatment in the hospitals. What justice or what fairness there is in excluding the other fifth from such a privilege, and in sending them to Westborough whether they wish or not, is known only to the framers of the act. To the ordinary mind, it does not seem to be either just or right, and certainly, if any class of the insane deserve fair treatment, it is the unhappy class in whom poverty is added to their disease.

ON THE PSYCHOLOGY OF JOKING.

In a very characteristic lecture delivered before the Medical Society of London, October 17, 1887,¹ Dr. Hughlings Jackson calls punning a species of "mental diplopia." "It is," he says, "a caricature of normal mentation. A miser has been defined as an amateur pauper; the habitual drunkard is certainly an amateur lunatic; and in the same style of speaking we may say that punning is playing at being foolish; it is only morbid in that slender sense."

Further on, however, our lecturer treats the punster with greater respect. He thinks that it was a great advance when men began to value things for their beauty apart from their use; when over and above mind required for mere animal existence, he had some surplus mind for greater ends of life. "For the dawn of a sense of the merely ridiculous, as in punning and the simplest jokes shows the same thing as the dawn of æsthetic feeling — surplus mind, something over and above that required for getting food, and for mere animal indulgence."

Dr. Jackson finally finds reason for the conclusion "that persons who are deficient in appreciation of jocivities in their degrees of evolution, are in corresponding degrees deficiently realistic in the scientific conception," "*pari passu* with the evolution of the sentiment of jocosity (playing at unreality) in the evolution of power of realistic scientific conception —

from sense of the merely ridiculous with parallel realistic conception of simple things, up to sense of humor with parallel realistic complex things."

MEDICAL NOTES.

—The Crematory of Paris will be opened during the present month. It is estimated that the furnaces will be able to consume 4,500 bodies annually, which is said to be about the average number of corpses leaving the hospitals in Paris during the year.

—A correspondent of the *Lancet* calls attention *à propos* of the recent anti-vaccination agitation in England to figures taken from a very instructive colonial surgeon's report for 1886, by Mr. P. B. C. Ayres, of Hong Kong:

Small-pox Hospital (European), 11 admissions, with one death — that is, a mortality of 9.1 per cent. Small-pox wards of Tung Wa Hospital (Chinese), 54 admissions, with 42 deaths — a mortality of 77.7 per cent. In connection with the European cases it is stated in the report that "most of the cases were of a mild type," but that the Asiatic cases were "mostly of the worst type, unvaccinated, and the majority children."

—Dr. Graham, of Canada, in a recent address, quoted the following account from Dr. Roouth of an interview held by the latter with the late Dr. Golding Bird a few weeks before his death. "He was," says Dr. Roouth, "then in the zenith of his popularity, and recognized by all as one of the ablest of our London physicians. I called upon him one morning with a relative to consult him. Several other medical men preceded me. His rooms were full, and I had to wait three hours ere I could obtain admission to his study and consult him about the case. I congratulated him on his success in practice. 'Yes,' he said to me, 'you are right; but I wish nevertheless, to make your remark a text for a little parting advice. You see me at a little over forty in full practice, my rooms are full and I am making my several thousands per annum (I think he said seven), and if I die to-morrow I do not leave as many hundreds to my family. All this I have done by sheer perseverance, unceasing hard work, and no holiday. But I am to-day a wreck. I have fatal disease of the heart, the result of anxiety and hard work. I know I cannot live many months and my parting advice to you is this: never mind at what loss, take your six weeks' holidays. It may delay your success, but it will insure its development. Otherwise you will find yourself at my age a prosperous practitioner, but a dying old man.' Six months after this conversation he was dead."

—A correspondent writes to the *British Medical Journal*: There are said to be at present no fewer than 2,600 soldiers in hospital in the Odessa district under treatment for ophthalmia of a more or less acute form. It has, it is stated, been found necessary to erect tem-

¹ *Lancet*, October 22, 1887.

porary wooden hospitals for the accommodation of this extraordinary number of ophthalmic patients. No doubt the excessively hot, rainless, and dusty summer, and the dazzling sun-glare on the barren steppes outside where the garrison were encamped for four months, have this season abnormally swelled the ordinary number of patients from this disease, which every autumn crowds the military hospitals. In the northern provinces the hospitals are usually filled in the early spring with this class of patients, who suffer from the snow-glare of the protracted northern winters. One would naturally suppose that owing to the general prevalence of this affection in the Russian army, ophthalmia would not only be especially studied by the medical faculty, but the Russian military specialist would excel in theoretical and practical knowledge of this distressing complaint. But such is not the case. The greater part of these ophthalmic patients are, it is said, never treated by a qualified practitioner, but are left entirely in the hands of ignorant regimental dispensers. There are no available statistics to show how many Russian soldiers are every year rendered permanently blind through aggravated ophthalmia and neglect of treatment, but on the authority of the first ophthalmic medical men in Russia, the number is very large.

BOSTON AND NEW ENGLAND.

—The Medical Department of Dartmouth College graduated a class of twenty-eight on the evening of November 22d.

—The Boston Medical Library Association have recently received by the will of the late Charles Eliot Ware, M.D., the larger portion of his medical library. The gift comprises nearly two hundred and fifty volumes of standard medical works, and one thousand medical pamphlets and periodicals.

NEW YORK.

—On the 18th of November the "anniversary discourse" before the Academy of Medicine was delivered by Dr. Andrew H. Smith, who chose for his subject, "The Family Physician of the Future."

—Typhoid fever is said to have become so prevalent at Albany that the Mayor, at the instance of the Secretary of the Board of Health, has issued a proclamation requesting the citizens to boil the reservoir water before using it. The water is obtained from the Hudson River, and as the latter is unusually low, it is believed to be of even worse quality than is ordinarily the case. It is at all times, unfortunately, liable to contamination from the sewage of Troy, Cohoes, and other places along the upper Hudson, as well as that from the towns on the Mohawk.

—At the last meeting of the Society of Medical Jurisprudence and State Medicine, Dr. E. Miller Reid, of Baltimore, Chairman of the Section on Medical Jurisprudence of the American Medical Association, read a paper on "The Application of Legal Medicine to the Exigencies of the Times."

Miscellany.

ANTIPIRYN IN SEA-SICKNESS.

THE Paris correspondent of the *Lancet* writes: "The Société de Biologie has devoted part of its last two sittings to the discussion of the different means recommended for the relief of sea-sickness. A note was presented by M. Hantz on the best way of administering cocaine, and received without any expression of opinion. M. Dupuy said that sea-sickness was more severely experienced by dyspeptic subjects, and particularly those who had dilatation of the stomach. In eleven cases he had given antipyrin in doses of from two to three grammes for a few days before embarking, and the patients had all informed him that they had been free from sickness. M. Dastre said he had instituted a series of experiments upon animals, imitating as closely as possible the movements of 'pitching' and 'rolling.' He has found that there was an incredible displacement of the abdominal viscera, which strike against the diaphragm and cause the gastric uneasiness. The body struggles with these displacements by means of muscular contractions, and the respiratory rhythm accommodates itself to them. Professor Brown-Séquard remarked that this theory of visceral displacement was very old, and one which he had been able to verify in his frequent passages across the Atlantic. It was evidently the view entertained by Wollaston, who recommended Arago to place a pad over his stomach when he crossed the Channel. M. Maurel had no doubt as to the influence of the stomach, but thought the cerebral shock also played a part in the determination of the symptoms, inasmuch as the sickness always occurs when the boat is going down, never when it is being lifted up. The best preventive was lying on the back. Beyond the statement that sea-sickness is associated with dilatation of the stomach, and the hope held out by M. Dupuy that in antipyrin we now possess a remedy for it, there was nothing new in the views expressed by the different speakers."

TABLE OF FEES IN BOSTON IN 1785.

At a meeting of the Boston Medical Society, December 7, 1785, the committee appointed to regulate the fees of practitioners in physic in this town having duly considered the business, report as follows, viz:

Midwifery, £2, 8s.
Capital operation, viz.: amputation of the large extremities, stone, trepan and the excision of large tumors, £5.
Amputation of fingers and small tumors, £1, 6s.
Tapping for dropsy, dislocations and fractures of large bones, £1, 8s.
Dislocation and fractures of large (?) bones, 14s.
Operation for fistula in ano according to the difficulty of the operation from 28s. to 100s.
Visit and passing the catheter, 12s., if frequently repeated 8s.
Dressing at surgeon's house, 4s.
Single visit, 4s.
Consultation, 1st, 12s., each visit after, 6s.
Rising in the night, 20s.; extra advice, 12s.
Decoction of red bark pr. lb., 8s.; common, do., 4s.
Huxham's tincture, pr. dr. 2s.; simple 1s., 6d.; red, do., 3s.
Emetic, cathartic, anodyne, each, 2s.
Blister large, 3s.; middling, do., 5s., small, 1s.

Visit in a vessel in the stream above the castle, 9s.; below the castle, 28s.

Sp't Mind, pr. dr., 1s., powdered red bark, pr. oz., 6s., common, do., 3s.

Alterative powders, 4d. each, pills, 3d.

Elec., pr. oz., 1s. 6d.

Juleps and mixtures, 9d. each.

Visit in the country beyond 8 miles, 6s. pr. mile; short of 8 miles, 4s. pr. mile.

Venereal cases, 60s.

N. B.—From the 25th of August, 1795, all the above charges were raised 50 pr. cent.

This schedule of fees were sent to the Boston Medical Library Association, by Dr. J. Nelson Borland of New London, Conn. It presumably belonged to his great-grandfather, Dr. James Lloyd. November 7, 1887.

MERCURIAL WASHES SOMETIMES DANGEROUS.

A CORRESPONDENT requests us to republish the concluding paragraph of a lecture on "Practical Legal Medicine,"—given at St. Mary's Hospital by A. J. Pepper, M.S., late Examiner in Forensic Medicine to the University of London, etc., and published in the *London Lancet* of November 5, 1887, p. 905,—as a gentle *caveat* in the present fashionable practice of injecting and washing wounds and other surfaces with poisoning solutions.

Mr. Pepper says: "In concluding this lecture, I will direct your attention to a source of danger to life which, so far as I know, has not hitherto been noticed in the medical press. I refer to *poisoning from the use of perchloride of mercury in the form of very weak solutions*—for example, 1 in 1500 or 2000. I understand that in midwifery practice it is not at all uncommon to employ injections of the strength just mentioned for cleansing purposes, not only as a corrective against septic discharges, but also as a prophylactic. Where the patient is free from organic disease of the kidneys one has little need to fear untoward consequences from the treatment under consideration. I am aware of two cases of death from acute inflammation of the bowels following closely on the injection of very weak mercurial solutions into the vagina shortly after parturition. As in each instance no other cause of the fatal complication could be discovered, there is little doubt that the acute irritative lesions in the intestines were due to the perchloride in the course of its elimination. The action of the salt was concentrated, so to speak, in this particular region by reason of grave renal affection. In one of the two cases I made a very exhaustive post-mortem examination. The whole of the small and large intestine was acutely inflamed. There were thousands of hæmorrhagic patches, punctate and irregular in shape. There were a few minute recent ulcers. The catarrhal congestion was extreme. Lymph was effused into the substance and upon the surface of the mucous membrane. Slight general peritonitis seemed to have started at the middle of the colon, where the intestinal lesion was more marked than elsewhere. The stomach was not affected. The kidneys were in an advanced state of fatty degeneration. No aperients had been administered to the patient, but a solution of bichloride of mercury (1 in 2000) had been injected into the vagina to prevent decomposition of the lochia. Profuse diarrhœa ensued, and continued

until death. The body temperature was never raised, and latterly it was subnormal. I was at a loss to account for the ultimate cause of the diarrhœa and its fatal consequences until the circumstances were explained to me by an obstetric physician who was present at the necropsy, and who had witnessed a precisely similar case in his own practice. The lesson to be learnt from the foregoing narrative is—that even a very attenuated solution of a mercurial salt should not be employed as a vaginal injection without first ascertaining the state of the kidneys by an examination of the urine."

THE VERMONT NERVINE ESTABLISHMENT.

THIS institution is located at Burlington, Vt., and managed by Dr. A. J. Willard, late Superintendent and Resident Physician of the Mary Fletcher Hospital. Though still in its infancy, it is in successful operation, giving good promise of permanence and usefulness. The manager is desirous of securing endowments, to the end that the advantages which he offers may be made useful to nervous invalids who are unable to pay for such treatment as is desirable for this large and increasing class of patients. The Adams Nervine Asylum, the benefits of which are limited to residents of Massachusetts, has shown what may be done in this direction.

LAPAROTOMY FOR TUBERCULAR PERITONITIS.

A MOST interesting discussion on the treatment of this affection took place at a meeting of the Clinical Society of London, October 28th, with papers by Mr. Barwell and others. This *crux medicorum*, which has long been given over by medicine, seems to have been taken up enthusiastically by the broad shoulders of surgery. The *Medical Press*, commenting on the discussion, says:

"The number of cases on record in which laparotomy has been performed for the relief of tubercular peritonitis is now sufficiently large to enable us to form some opinion as to its propriety and as to its effects. Mr. Treves quoted thirty-six cases, in only six of which recovery did not take place, and this alone would suffice to warrant further trials when we consider the intractable nature and fatal tendency of the malady. A series of ninety-six cases brought before the Congress of German Surgeons yields almost, if not quite, as favorable statistics. In view of these successes, it may almost be laid down as a rule of treatment that, whenever we detect symptoms of tubercular peritonitis, the proper course is to open the abdomen and cleanse the peritoneum. The extraordinary impunity with which the peritoneal cavity can be manipulated under these circumstances is not the least interesting feature of the operation. The fact has long been recognized that, when the membrane has been the seat of chronic inflammatory changes, it is less apt to resent interference than under normal conditions, and advantage is taken of this to subject it to treatment which would have inspired surgeons of but a few years since with unmitigated horror."

Evidence was presented in the discussion that con-

comitant tuberculosis of the lungs is often favorably influenced by the amelioration of the abdominal disease. The accuracy of the diagnosis in some of the cases of most marked benefit from surgical treatment was confirmed by microscopical examination of the granulations with which the peritoneum was covered.

In several of the cases alluded to, the ascites had been first treated by aspiration, which, though it relieved the mechanical distress, did not have the effect of the more daring operation which was subsequently performed. Most operators attach great importance to the use of the drainage-tube, which is generally brought out through the abdominal wound, but Mr. Barwell did not employ it in the case which he brought before the Society, and objected to it as unnecessary, and even useless, seeing that a tube from the front could not be reasonably expected to drain the abdominal cavity of a patient lying on the back. In any case, he maintained that it was preferable to give the patient a chance of doing without it for the first twenty-four hours, even if it had subsequently to be inserted. Although Mr. Treves was firm in his advocacy of the use of the tube, which he considered a principle of the treatment, one of his cases tended to prove the contrary, for, although the tube was inserted, subsequent accumulation took place, in spite of all the efforts made to obtain a free discharge. It is not without interest to note that in this particular case, the patient being a child, Mr. Treves went a step further, and injected a solution of iodine, again not only with untoward result, but with positive advantage to the patient, whose temperature then and there fell to normal, and never after rose.

ANTAGONISM AMONGST BACTERIA.

DR. C. GARRÉ, of Basel, has found in cultivation of micro-organisms that there is a sharp antagonism amongst some, probably through their excretions (*Deutsche Med. Wochenschr.*, No. 27, 1887. *London Medical Record*, October, 1887). For instance, some aérobies, which spread only on the surface of gelatine, in a short time so alter the nutritive substratum that certain other micro-organisms cannot exist in it. He says that this fact has not been taken into consideration as yet, though various observations made in the cultivation of cholera and typhoid-bacilli, and experiments on the multiplication of pathogenic bacteria in water have shown that there is probably antagonism between the pathogenic species and saprophytes. To elucidate this, Garré adduced the following facts. A non-liquefying cultivation was planted on the surface of meat-peptone gelatine. After complete development, it was removed with a sterilized platinum spatula. Other micro-organisms were then planted on the remaining sterilized medium. A comparison of the retarded growth with another cultivation gives the degree of antagonism between the two species. With liquefying species the nourishing substratum was filtered through potter's earth, and gelatine added afterwards. In this way the mutual relations of a number of pathogenic and non-pathogenic species were tested. One species proved to be pre-eminent antagonistic; namely the bacillus fluorescens putridus, described by Flügge. It excretes specific, easily diffusible substances, the oxidation-products of which tinge the gelatine with a greenish color, and hinder the development of the one set of

species, whilst it has no effect whatever on the other set. If such cultivations were removed from the gelatine in the manner described on the third or fourth day, and the staphylococcus pyogenes aureus inoculated on this "fluorescens medium," no development took place, nor did the typhoid-bacillus, the pneumonia-bacillus, etc., develop. The Asiatic cholera-bacillus and the bacillus-mycoides developed but slowly, but the bacillus-anthraxis and the comma-bacillus had a luxuriant growth. It appears, therefore, that the bacillus fluorescens putridus is a pronounced enemy of the pneumonia and typhoid-bacilli, and by its implantation the nutritive substratum is protected against them. The reverse, however, does not hold good. There are, however, so-called symbiotic bacteria that flourish side by side, and some even, which Garré terms metabolic bacteria, whose existence depends on the presence of others. Garré asserts that these facts are not confined to experiments in test-tubes. He points to the strife between saprophytes and cholera-bacilli in ichor and canal water, the cholera-bacilli always succumbing. Such conditions may occur in the intestines, and may in some cases lead to the erroneous supposition of natural indisposition to cholera. The torpid development of periostitis of the jaw, when the staphylococcus must come into conflict with other species, is explained by Garré on the supposition of such antagonism. He closes with the two following points as regards immunity. 1. That immunity from a certain disease may be caused not only by micro-organisms of like species (vaccination), but perhaps by entirely different microbes. 2. Antagonism quickly produced in the living body may favorably affect infectious diseases already existing. If this be true, a wide and fruitful field is open up to bacterial treatment.

MEDICAL APHORISMS.

A CORRESPONDENT signing himself "Artz," sends to the *Canada Lancet* the following professional aphorisms of Amédée Latour:

1. Life is short, patients fastidious, and the brethren deceptive.
2. Practice is a field of which tact is the manure.
3. Patients are comparable to flannel—neither can be quilted without danger.
4. The physician who absents himself runs the same risk as the lover who leaves his mistress; he is pretty sure to find himself supplanted.
5. Would you rid yourself of a tiresome patient, present your bill.
6. The patient who pays his attendant is but exacting; he who does not is a despot.
7. The physician who depends on the gratitude of his patient for his fee is like the traveller who waited on the bank of a river until it finished flowing, so that he might cross to the other side.
8. Modesty, simplicity, truthfulness! cleansing virtues, everywhere but at the bedside; there simplicity is construed as *hesitation*, modesty as *want of confidence*, truth as *impoliteness*.
9. To keep within the limits of a dignified assurance without falling into the ridiculous vauntings of the boaster, constitutes the supreme talent of the physician.
10. Remember always to appear to be doing something—above all, when you are doing nothing.
11. With equal and even inferior talent, the cleanly and genteely-dressed physician has a great advantage over the dirty or untidy one.

Correspondence.

THE CONDITION OF THE NEW YORK QUARANTINE INDEFENSIBLE.

NEW YORK, November 19, 1887.

MR. EDITOR,—Will you please oblige me by publishing this correction of mistake in your summary of the proceedings of the recent meeting of the American Public Health Association, in your issue of 17th inst., so far as they relate to my remarks on the condition of the New York Quarantine Station? So far from attempting to defend it, I distinctly declared it to be disgraceful to the State. That while in its conception and plan, I believed it to be the most complete quarantine establishment in the world, it had never been finished and adequately equipped, and that much that had been done up to fifteen years ago, had been neglected and allowed to decay in the face of continuous dangers. But, nevertheless, such measures had

been extemporized in the recent emergency, as, in my judgment, have been effectual in preventing any danger of the introduction of Cholera by the *Alesia's* and *Britannia's* passengers.

Truly yours,

A. N. BELL.

— Sir William Gull, the eminent English physician, who has lately suffered from an attack of hemiplegia is recovering.

— On Hospital Sunday at Birmingham, England, the Jews arranged to hold a service so as to be in harmony with their Christian fellow citizens in the charitable movement. The theatres also joined in the work, the orchestra furnishing the musical part of the programme, and a clergyman delivering an address.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	658	238	17.70	13.95	3.30	.45	10.20
Philadelphia	993,801	345	110	13.80	12.60	1.80	4.20	6.90
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	120	37	15.71	15.71	2.49	2.49	3.32
Boston	400,000	194	73	19.38	14.28	2.55	2.04	8.16
New Orleans	242,750	116	31	13.76	13.76	3.44	.86	6.02
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	80	19	12.50	12.50	1.25	3.75	5.00
Pittsburgh	210,000	76	32	33.00	3.64	3.64	6.60	18.48
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	16	6	31.25	12.50	18.75	6.26	6.25
Charleston	60,145	27	11	22.20	3.70	7.40	3.70	7.10
Portland	40,000	16	2	12.50	6.25	—	6.25	—
Worcester	68,383	19	10	21.04	—	5.26	—	10.52
Lowell	64,051	32	7	12.52	18.78	—	6.25	6.26
Cambridge	59,660	20	7	30.00	15.00	—	5.00	20.00
Fall River	56,863	19	8	42.08	21.04	21.04	5.26	10.52
Lynn	45,861	11	4	9.09	45.45	—	—	9.09
Lawrence	38,825	26	6	19.25	7.70	3.85	7.70	3.85
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	10	0	10.00	—	—	—	10.00
Somerville	29,992	16	4	31.25	12.50	—	6.25	—
Salem	28,084	10	3	10.00	30.00	10.00	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	14	4	42.84	7.14	—	7.14	7.14
Taunton	23,674	7	4	28.56	—	—	—	28.56
Haverhill	21,795	7	3	—	—	—	—	—
Gloucester	21,713	5	3	—	—	—	—	—
Brockton	20,783	7	2	—	—	—	—	—
Newton	19,759	8	1	25.00	12.50	12.50	—	—
Malden	16,407	5	1	20.00	—	—	—	20.00
Fitchburg	15,375	7	3	—	14.28	—	—	—
Waltham	14,609	4	0	—	25.00	—	—	—
Newburyport	13,716	8	1	12.50	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,873: under five years of age 630; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 331, consumption 245, acute lung diseases 263, diphtheria and croup, 153, diarrhœal diseases 56, typhoid fever 44, scarlet fever 33, malarial fever 14, cerebro-spinal meningitis seven, puerperal fever seven, measles six, erysipelas five, whooping-cough three. From scarlet fever, Boston 13, New York nine, Somerville three, Philadelphia, District of Columbia and Chelsea two each, Portland, Cambridge and Newburyport one each. From malarial fever, New York six, New Orleans four, Baltimore three, Lawrence one. From cerebro-spinal meningitis, New York, Baltimore, Worcester, Fall River, Chelsea, Haverhill and Newburyport one each. From puerperal fever, Pittsburgh three, New York, Philadelphia, Charleston and Chelsea one each. From measles, New York four, Baltimore two. From erysipelas,

New York two, Baltimore, Pittsburgh and Somerville one each. From whooping-cough, Baltimore two, New York one. From small-pox New York one.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 29th, the death-rate was 21.5. Deaths reported 3,808: infants under one year of age 920; scarlet fever 138, measles 76, diarrhœa 65, whooping-cough 68, fever 50, diphtheria 45, small-pox (Sheffield 19, London, Bristol and Birmingham one each), 22.

The death-rates ranged from 13.1 in Leicester to 32.1 in Preston; Birmingham 18.1; Bradford 20.0; Brighton 19.9; Halifax 15.2; Hull 15.1; Leeds 21.0; Liverpool 24.8; London 21.5; Manchester 25.0; Newcastle-on-Tyne 23.6; Sheffield 24.6; Sunderland 18.1.

In Edinburgh 21.2; Glasgow 24.4; Dublin 32.1.

The meteorological record for the week ending November 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
Week ending																			
Saturday, Nov. 12, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, ... 6	30.15	42.0	51.0	28.0	69.6	55.0	71.0	65.0	W.	S.W.	S.W.	12	12	16	O.	F.	C.		
Monday, ... 7	29.94	55.0	69.0	44.0	65.0	43.0	74.0	61.0	S.W.	S.W.	S.W.	16	13	12	F.	C.	C.		
Tuesday, ... 8	29.99	41.0	63.0	39.0	53.0	47.0	63.0	16.0	W.	N.	N.W.	12	18	14	O.	F.	C.		
Wednes., ... 9	30.28	36.0	45.0	26.0	67.0	36.0	64.0	56.0	N.	W.	W.	12	6	8	C.	C.	C.		
Thursday, ... 10	29.83	43.0	50.0	30.0	53.0	63.0	100.0	72.0	W.	S.	S.E.	12	10	16	O.	O.	R.	7	.82
Friday, ... 11	29.28	37.0	48.0	36.0	82.0	76.0	96.0	85.0	W.	W.	W.	18	15	15	O.	O.	N.	1	†T.
Saturday, ... 12	29.38	38.0	43.0	34.0	83.0	60.0	86.0	76.0	N.W.	N.W.	N.W.	24	24	15	C.	O.	C.		
Mean, the Week.	29.864	42.9	54.0	34.0				61.6											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 12, 1887, TO NOVEMBER 18, 1887.

BYRNE, C. B., captain and assistant surgeon. Relieved from temporary duty at Fort McHenry, Md., and will return to his proper station, Washington Barracks, D. C. S. O. 242, Division of the Atlantic, November 11, 1887.

WALKER, F. V., first lieutenant and assistant surgeon. Relieved from duty at Post of San Antonio and assigned to duty at Fort Ringgold, Tex. S. O. 130, Department of Texas, November 8, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 19, 1887.

RIXEY, P. M., passed assistant surgeon. Ordered to the Naval Dispensary, Washington, D. C.

SOCIETY NOTICES.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. — A Southern Surgical and Gynecological Association has been formed with the following officers: Dr. W. D. Haggard, of Nashville, Tenn., President; Drs. R. D. Webb and J. W. Sears, both of Birmingham, First and Second Vice-Presidents, respectively; Dr. W. E. B. Davis, of Birmingham, Alabama, Secretary; and Dr. H. P. Cochrane, of Birmingham, Treasurer.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the Hall of the Roxbury City Guard, 67 Warren Street, Roxbury, November 29, 1887, at 7.45, p.m. Communications: I. "Lessons from a Year in Obstetrics. Topics: Antisepsis; Abdominal Palpation; Ante-partum Hemorrhage; Uremia." II. W. Broughton, M.D. II. "The Examination of Drinking-Water," J. A. Tanner, M.D. Dr. Benjamin Cushing, Dr. D. D. Gilbert, and Dr. E. P. Gerry, are expected to take part in the discussions. Members of other Districts are cordially invited to be present and participate.

S. ALLEN POTTER, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

Notes on the Cause and Treatment of Functional Insomnia. By B. Sachs, M.D., of New York. 1887. (Reprint.)

Erfahrungen eines Lungenkranken. Von D. L. Friedmann, Arzt in Berka (Thüringen) Nervi (Italien). Berlin. 1887.

In Thrallom. A Psychological Romance. By Leon Mead. Fireside Series, No. 33, November, 1887. New York: J. S. Ogilvie & Co.

Comparison between the Surgical Diseases of the White and Colored Races. By Louis McLane Tiffany, M.D., Professor of Surgery in the University of Maryland. 1887. (Reprint.)

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.A., M.D., LL.D., etc. Sixth Edition. Revised and Enlarged. New York: D. Appleton & Co. 1887.

Four Months among the Surgeons of Europe. By N. Senn, M.D., Ph.D., of Milwaukee, Wis., Attending Surgeon to the Milwaukee Hospital; Professor of the Principles and Practice of Surgery and Clinical Surgery in the College of Physicians and Surgeons, Chicago, Ill. 1887. (Reprint.)

On the Treatment of Felon without Incision. By L. Duncan Bulkley, A.M., M.D., Attending Physician to the New York Skin and Cancer Hospital, etc. 1887. (Reprint.)

A Short Manual of Surgical Operations. By Arthur E. J. Barker, F.R.C.S., Surgeon to University College Hospital, etc. With 61 illustrations. London: Longmans, Green & Co. 1887.

Persistent Vomiting of Labor arrested by Tincture of Iodine. By Llewellyn Eliot, M.D., Assistant Physician Central Dispensary, Emergency Hospital, etc., Washington, D. C. 1887. (Reprint.)

Supra-pubic Lithotomy: A Historical Sketch. By Charles W. Dulles, M.D., Surgeon to Out-Patient Department in the Hospital of the University of Pennsylvania, and in the Presbyterian Hospital in Philadelphia, etc. 1887. (Reprint.)

A Handbook on the Diseases of the Skin, with special Reference to Diagnosis and Treatment. By Robert Liveing, A.M., and M.D., Cantab., F.R.C.P., London. Fifth Edition. Revised and Enlarged. London: Longmans, Green & Co. 1887.

Dental Caries and the Prevention of Dental Caries. A Series of Papers reprinted from the Journal of the British Dental Association. By Henry Seville, M.R.C.S. and L.D.D.S., Eng. Second Edition. London: Baillière, Tindall & Cox. 1887.

One Year's Statistics of Lithotomy Operations performed in the Hyderabad Civil Hospital, Sind, India. By Surgeon-Major B. C. Keelan, Indian Medical Department, Civil Surgeon and Superintendent of the Medical School, Hyderabad, Sind. Bombay, 1887.

Diet in Cancer: I. Full Text of Nine Cases. II. Theoretical Considerations. By Ephraim Cutter, A.M., M.D., LL.D., Associate Member Philosophical Society of Great Britain; Corresponding Member Societe Belge de Microscopie, etc. 1887. (Reprint.)

On the Occurrence of Ulcers resulting from Spontaneous Gangrene of the Skin during the later Stages of Syphilis, and their Relation to Syphilis. By Hermann G. Koltz, M.D., Attending Physician to the German Hospital and Dispensary of New York. 1887. (Reprint.)

A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Phar. D., etc. Third edition with 257 illustrations. Lea Brothers & Co. 1887.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By the late Richard D. Hoblyn, M.A., Oxon. Eleventh Edition Revised Throughout, with Numerous Additions. By John A. P. Price, B.A., M.D., Oxon., etc. London: Whittaker & Co. George Bell & Sons. 1887.

On Arrested Cerebral Development, with Special Reference to its Cortical Pathology. By B. Sachs, M.D., Instructor in Mental and Nervous Diseases at New York Polytechnic; Clinical Assistant to the Chair of Nervous Diseases, College of Physicians and Surgeons, New York. 1887. (Reprint.)

Hydrophobia. An Account of M. Pasteur's System, containing a Translation of all his Communications on the Subject, the Technique of his Method, and the Latest Statistical Results. By Renaud Suzor, M.B., C.M., Edin., and M.D., Paris. With 7 illustrations. London: Chatto & Windus, Piccadilly. 1887.

Contusion of the Abdomen, with Rupture of the Intestine. Being the Essential Part of an Essay awarded the Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons, of New York. By B. Farquhar Curtis, M.D., Assistant Surgeon to the New York Cancer Hospital. 1887. (Reprint.)

Original Articles.

PULMONARY TUBERCULOSIS AS A SEQUEL TO ORDINARY PLEURISY WITH EFFUSION.¹

BY HERMAN F. VICKERY, M.D., OF BOSTON,

One of the Physicians to Out-patients, Massachusetts General Hospital, and Assistant in Clinical Medicine, Harvard Medical School.

THE object of this paper is to show the possibility of a pleurisy with serous effusion being, clinically, the first step towards consumption, or, in other words, that a man who has heretofore been apparently sound, and falls ill with acute pleurisy, may be destined, finally, to succumb to pulmonary tuberculosis.

Undoubtedly, this proposition will be accepted by many unhesitatingly. There is ample authority for making it. We may instance Gerhard², Niemeyer,³ Germain Sée,⁴ Bartholow,⁵ Anstie,⁶ and Donaldson.⁷ Strümpell⁸ says: "In an aetiological sense, we must declare the larger part of the ordinary 'pleuritic effusions,' which, clinically, seem to be primary, to be tubercular. . . . The further course of the cases, if we can watch them for years, almost always permits us, finally, to recognize the tubercular nature of the disease." Indeed, some have claimed that every pleurisy is tuberculous in its origin.

On the other hand, Donaldson⁹ states that "of fifty-three cases reported by Blakiston, not one became phthisical during several years after recovery from the pleurisy." And Flint¹⁰ regarded pleurisy as having "little or no tendency to eventuate in phthisis."

In August, 1884, Chauffard and Gombault¹¹ made a preliminary report of certain experiments having a direct bearing upon our subject. They injected into the peritoneal cavities of twenty-three guinea-pigs a small amount of fluid obtained from serous cavities; twenty of the twenty-one cases from whom the fluids were taken had pleuritic trouble, and one peritonitis. In some cases, however, the fluid was purulent, but in the rest it was serous. Other animals were kept with the inoculated ones, so as to control the experiments, and scientific cleanliness was observed. Of the twenty-three cases, in four there was no result, death being too speedy, in nine there was a negative result, and in ten there was positive tuberculosis. The experiments permitted them, in certain instances, to affirm the tubercular nature of a pleurisy which had apparently terminated in complete recovery.

Dunin, writing upon the present subject, says in the *Gazette Hebdomadaire* of May 6, 1887: "In the majority of cases, there is reason to suspect the tubercular diathesis." He evidently regards this as a conservative statement. He feels able in many instances to distinguish the portentous cases from the benign. The tubercular case is usually young. Being in good health, he is suddenly seized with high fever, perhaps a chill, great pain in the side, and sometimes with somnolence, severe headache, or delirium; the course is tedious; the amount of effusion may not be large, but it is not readily absorbed, and, even if we aspirate,

the fever persists, so that convalescence may be delayed for weeks or months.

Usually, the fluid is serous. It is sometimes excessively coagulable: out of three of this sort, two have died of phthisis, and the third, although still well himself, has lost a brother from the same disease.

The benign form is chronic, and insidious in its onset, the patient seldom seeking medical advice till, after some weeks, the effusion begins to cause dyspnoea.

Having myself become greatly interested in the matter, I will venture to report a number of positive cases, of which four have been kindly described to me by others, and the remainder have come under my personal observation.

Unfortunately, I have not been able to follow up a series of cases, so as to learn what proportion of the whole number developed pulmonary trouble eventually, but I should certainly expect to find that proportion much greater than was observed by Flint or Blakiston.

CASE I. Reported by Mr. A. F. Chandler, Medical Student. R. B., aged twenty-three. Family history good. Habits alcoholic. In April, 1886, after exposure to wet and cold, he began to have a slight cough, with scanty, white, and frothy expectoration. He was tapped in the left side, and soon became much better; but the cough persisted and grew worse, till, in October, 1886, almost all the rational and physical signs of phthisis were present. The changes were mainly confined to the upper third of the left lung, and, although no disparity in the respiratory movements of the two sides could be detected, there was a slight dullness in the lower portion of the left chest, and respiration was slightly diminished there also, but it was vesicular in quality.

CASE II. The notes of this and the following case were kindly furnished me by Dr. G. M. Garland, whose patients they were. Miss Minnie R., aged twenty-seven, had never had any thoracic trouble before October 1, 1884, when she had a chill, followed, forty-eight hours later, by pain in the right axillary region, and cough, with scanty expectoration.

November 9th, three pints of serum were removed by Dr. Garland. The patient then gained in every way, but the cough persisted. One year later, she died of consumption at her father's home in Germany.

CASE III. A commercial traveller, aged forty-one, had a large pleuritic effusion on the right side in 1881, which subsided without tapping, but convalescence extended over several months. He then remained well till November, 1886, when he "took cold" and had an incessant cough, losing ten pounds in two weeks. There was no expectoration, nor were there any night-sweats. On examination, the right side seemed to be slightly fuller than the left, and to move less with respiration than did the left. There was normal resonance over both fronts; behind, the right subscapular region was slightly dull, and gave a diminished respiratory murmur. On June 4th (three days ago), the patient applied again to Dr. Garland for relief. He had lost thirty-three pounds. The temperature was 99.5°, the pulse 100, and the physical signs were such as to warrant Dr. Garland's statement that "the man evidently has tuberculosis of the right apex."

CASE IV. Reported by Mr. L. S. Stevens, Interné at the Massachusetts General Hospital. Charles M., aged thirty, printer. Tendency to phthisis on the mother's side. With the exception of an attack of

¹ Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication in the Journal.

² Wiener Med. Wochenschrift, No. 40, 1879.

³ Text-book of Practical Medicine, Vol. I, p. 269.

⁴ Boston Medical and Surgical Journal, March 11, 1886.

⁵ Pepper's System of Medicine, Vol. III, p. 513.

⁶ Pepper's System of Medicine, Vol. III, p. 513.

⁷ Pepper's System of Medicine, Vol. III, p. 513.

⁸ Text-book of Medicine, p. 244.

⁹ Pepper's System of Medicine, Vol. III, p. 513.

¹⁰ Pepper, Vol. III, p. 394.

¹¹ Gazette Hebdomadaire, August 29, 1884.

pleurisy when young, and of fever and ague in 1878, he had been in perfect health until March, 1880, when he was treated in the Massachusetts General Hospital for an acute pleurisy on the right side, with moderate effusion, for which he was tapped. The physical signs at the time were confined to the base of the right chest. Reported several months later, when there was still dullness and feeble respiration at the right base. Re-entered the Hospital February, 1887, for "rheumatism and other disorders," at which time there was obtained a history of progressive loss of flesh, strength, and appetite, dating back three months, with night-sweats, but no cough. Signs in the chest were found throughout the upper third of right side, and at the extreme left apex, and showed, besides catarrh, a slight consolidation, limited to the right side.

CASE V. Mr. F. E. L., of Malden, aged twenty-six, examined April 14, 1887. Family history good, except that one sister died of consumption nine years ago. Three years ago, having been well previously, he had an acute attack of pleurisy, which lasted six weeks. He was tapped twice successfully, and about two quarts of "lightish-green," clear fluid were removed each time. Upon a third aspiration, nothing but a little blood was obtained. From this illness he never fully recovered. There is now, occasionally, a slight diarrhoea. Both lungs present the physical signs of advanced phthisis. He weighs ninety-six and one-half pounds, or twenty-eight and one-half pounds less than in 1884.

CASE VI. J. M., aged sixty, seen March 25, 1887. Always well till he was forty years old. Sixteen years ago, was in bed three weeks "with a cold," but regained his health. Three years ago, he had palpitation and dyspnoea on exertion, with a slight cough. Three pints of clear fluid were withdrawn from the left side. He recovered, and was apparently well till November, 1886, when he "took cold." He has since then lost fifty pounds. The pulse is 96. There are at both summits dullness, bronchial respiration, increased vocal resonance and fremitus, and crackling râles. The right side is the worst; that is, the side opposite the pleurisy.

CASE VII. P. F., aged about twenty, seen June 3, 1887. Entered Massachusetts General Hospital, August 22, 1881, with symptoms of acute pleurisy. He was aspirated, and fifty-six ounces of serum were removed. He was discharged "well," but he is now feeble and emaciated, and presents signs of consolidation at the left apex and the right base, with coarse, crackling râles and bronchial respiration.

CASE VIII. Mr. N. H. M., aged thirty-seven, seen in February, 1887. A sister of his father died of phthisis. Eight years ago, he had pleurisy with effusion, not having been subject to cough previously. Recovery was apparently complete. One year ago (seven years after the pleurisy), had a hacking cough, which has now returned. He has lost flesh and strength. There is dyspepsia, and also a tendency to diarrhoea. At the top of the right lung there is slight dullness, with numerous moist râles in the upper third of both lungs. The expectoration is in part frothy, and in part muco-purulent, with some cheesy-looking particles. Repeated examinations show large numbers of the specific *bacilli tuberculosis*. Dr. Harold Ernst was kind enough to confirm this last observation, after looking at several slides which I took to him.

CASE IX. J. C., coachman, aged forty-one. Lost a mother, brother, and sister of phthisis. He was never ill up to three weeks before entering the Boston City Hospital, in November, 1884. The first symptoms were a slight cough, with very scanty expectoration, and a sharp, "catching" pain in the left side. Upon entrance, the record states that there was flatness in the left front, below the third rib, and over the entire left back. Vocal fremitus was absent, aphony was present, the heart's apex was in the median line of the body. At the end of three weeks the effusion had cleared up, and the patient was discharged "well." Just one year later, however, having been in apparently good health meanwhile, he entered the Massachusetts General Hospital with nearly identical symptoms, except that it was the right side, and not the left. The diagnosis was pleurisy with effusion, and the case seemed sufficiently typical to be shown to the students as an instance of that affection. An unfavorable prognosis as to the man's future health was expressed, because the pleurisy had now affected both sides. Two weeks after entrance he was discharged "well," to go to the Convalescent Home. Four days before he left, the record gives: "Good resonance and respiration in both fronts. A few friction-murmurs throughout right front. Behind, dull below middle of right scapula, and nearly flat below the angle of the scapula, with feeble respiration and voice-sounds. Coughs but little. Temperature normal."

September 27, 1886 (about two years after the first attack of pleurisy), the patient entered the Massachusetts General Hospital again, with slight changes in the left lung, but marked changes in the right lung, the lower portion of which had probably never expanded after the pleurisy. He was evidently in consumption. In a short time he developed an ischio-rectal abscess, which was opened.

November 11th. He left his bed to walk a short distance, but he fell, fainting, and soon died. No autopsy was allowed.

CASE X. J. S., aged thirty-two, teamster, seen in May, 1887. For fifteen years, he has been subject to chronic pharyngitis. Otherwise, he was well till five years ago, when he began to experience discomfort in the left side, and had a cough, with scanty expectoration. At the end of about four weeks he was aspirated, "two quarts" of "tea-colored" serum being removed. He now complains of a cough, worse at night, with a viscid, whitish expectoration. The temperature was 100° F. At the inner end of the left clavicle there was dullness, with broncho-vesicular respiration and fine, crackling râles. The signs, though of limited extent, seemed distinct.

The reason of this sequence of diseases is given variously by different authorities. Some believe that the pleurisy is, in reality, preceded by minute tubercular foci in the lungs. Dunin thinks that this is always the case. To others, it seems reasonable to suppose that in a certain number of cases the pleuritic effusion, by compressing the lung and hindering its respiratory movements, renders it a favorable nidus for the ubiquitous bacilli. Thirdly, the tubercles may originate in the pleura, and thence extend. The work of Chauffard and Gombault above referred to, would seem to point in this direction; and Delafield¹² reports the case of a seaman, who had a large effusion of clear serum into the right pleural cavity, and in whom tu-

¹² American Journal Medical Sciences, October, 1880.

bercles were found in the right pleura, and only there.

Coming now to the practical lesson, it is briefly this: in all cases of pleurisy with effusion, long after apparent recovery, the patient is in danger of pulmonary tuberculosis, and demands all possible hygienic precautions.

MULTIPLE NEURITIS. CASES.¹

BY GEORGE B. SHATTUCK, M.D.,
Visiting Physician, Boston City Hospital; Instructor in Clinical
Medicine, Harvard Medical School.

ALTHOUGH I find it necessary at the very outset of my remarks this evening, gentlemen, to warn you that I have no new theories to advance, and no really new facts, even, to record, I still shall abstain from going farther in that direction and apologizing for my choice of a subject, and my mode of treating it under these circumstances.

The earliest recognizable and suggestive clinical description of multiple peripheral neuritis, as caused by the use of alcohol, originated in Boston with Dr. James Jackson, in 1822.² Subsequently, the earliest detailed report in this country of cases of multiple neuritis, with accurate specifications as to the anatomical situation and the supposed pathological processes involved in the affection—the earliest, at least, of any with which I am acquainted—proceeded from another Boston source, Dr. S. G. Webber (1884),³ and mainly from cases presenting themselves at the Boston City Hospital. Again, last year, Boston and its City Hospital furnished another contribution to the subject in a paper by Dr. C. F. Folsom, read before the Clinical Section of the Suffolk District Society.⁴ It, therefore, seemed to me not amiss that this subject should be brought up in Boston again, and that the records of the City Hospital should contribute their story from the point where it had previously been left. Nor do I feel that, except, possibly, to a small number of nervous specialists, in doing this I am really in any sense thrashing out old straw. From Dr. Jackson's description of a complex of symptoms which attracted his notice in 1822, the subject received no attention whatever until 1852, when it was taken up by Magnus Huss, of Sweden, in a work on chronic alcoholism. It was not until the end of 1883, as Dr. Allen Starr states in last year's excellent Middleton Goldsmith lecture, the best *résumé* of the whole question of multiple neuritis which has as yet appeared, that the third stage in its history, that of pathological discovery, could be considered as terminating. Not until that recent date, had the symptoms of the affection been recognized as constituting a distinct, clinical picture; had previous hypothetical lesions in the spinal cord been abandoned, and the pathology of the disease been described.

Since 1883, an elaboration of the symptoms, as bearing on diagnosis and differential diagnosis, and of the pathological processes, has been going on. But as late as the beginning of this year, Dr. Starr, whose bibliography would indicate a pretty comprehensive research, mentions finding only about one hundred published observations of cases.

Moreover, I am convinced that still the general

practitioner is not on the lookout for the complex of symptoms, and, in most cases, does not understand or recognize the disease when presenting itself to his observation, as it unquestionably has in the past, does now, and will in the future, with sufficient frequency to make it really important that he should; especially as there is no reason why he should not care for many of these cases himself if he chooses to, and, in any event, he would, at least, know what was the best disposition to make of them, and what to say with reference to the probable course and prognosis. Within a few days a typical case of alcoholic neuritis has come under my care, in which the diagnosis previously made was, "incipient paralysis."

When Dr. Webber read his paper before the American Neurological Association, in June, 1884, he had found the records of six cases without autopsies, and twelve cases with autopsies. In addition to, and distinct from these, he mentions eighteen cases as having entered the Boston City Hospital in the autumn and winter of 1883-84, in his own service, or that of Dr. J. H. Denny—in the nervous service. Of these, he reported four in detail. In May of this year Dr. Folsom reported three cases—two from the City Hospital service. In addition to these two cases, the records show that fifty-one cases of multiple neuritis have been observed and recognized at the Hospital since the summer of 1884. These have all occurred in the nervous service, or been transferred to it, except one case, which entered and died in one of the other services. Of these cases, twenty-nine have been in males, and twenty-two in females; and, I think, in no case has the patient been under twenty years of age, nearly all being between thirty and fifty years old. I have selected eleven cases for reporting in as brief a manner as possible.

The predominating cause of neuritis among such a class of patients as the City Hospital receives, and, indeed, among all those affected by it, I believe, is alcohol, and the abuse of alcohol produces this group of symptoms more often among women than men, though it so happens that a greater proportion of men have entered the Hospital. Phthisis is beginning to be recognized as a not infrequent cause of the affection, and I have, consequently, included some cases. It is difficult, however, to get such illustrative cases as would be desirable among our patients, and, had I had more time at my disposal, I should have looked for them elsewhere. Phthisis is too apt to be preceded or complicated by an alcoholic history. There are two cases in which the underlying cause could not be ascertained, probably owing to the limitations of our means of information, though, in each case, especial pains were taken to get at all sources of information. I am fully alive to the unavoidable imperfections of hospital records, even when carefully revised and controlled. The only case among those recorded breaking out in a sudden, acute, explosive manner, suggestive of an acute disease with an infectious origin was the Case I, reported by Dr. C. F. Folsom in his paper last May. That case followed positive exposure to cold and wet. He was under my care for some months after the expiration of Dr. Folsom's service. I questioned him carefully many times, and I could not evolve any reasonable source of exposure to infection from his statements in regard to his surroundings. There is no other case among those gone over which lends any countenance to the German theory that cases

¹ Read before the Boston Society for Medical Improvement, November 14, 1887.

² New England Journal of Medicine and Surgery, Vol. XI, p. 351.

³ Archives of Medicine, Vol. XII, p. 33.

⁴ Boston Medical and Surgical Journal, Vol. CXI, p. 493.

of multiple neuritis, as such, are due to a specific germ. It may, however, very well be that beri-beri has its specific microbe, and that multiple neuritis is often an accompaniment of beri-beri. Œdema and swelling of joints were neither marked nor frequent features of the cases recorded.

Personally, I have not seen any cases which could be traced to such toxic influences as arsenic, lead, sulphide of carbon (to which rubber-workers are exposed), etc.

Brissaud⁶ thinks that acute poisoning by a large amount of arsenic is necessary to produce multiple neuritis with paralysis, that it does not follow chronic poisoning; if such a position were substantiated, it would, of course, simplify the consideration of arsenic as a possible cause in a given case.

I have not gone into questions of differential diagnosis, except incidentally. The distinguishing points between multiple neuritis and acute anterior poliomyelitis, Landry's ascending paralysis, locomotor ataxia — the forms of nervous affections with which it may sometimes, but not often be confounded — have been several times differentiated. I think that the cases I report, if regarded from the combined points of view of history, symptoms, and course, will not be challenged as probably ranging themselves under the category of multiple peripheral neuritis.

I have not dwelt on the question of treatment especially. It is a question whether any given treatment is applicable to any number of cases. In the acute stage, pain must be relieved as it occurs; subsequently, when pain has subsided, electricity, rubbing, and massage are useful in correcting and restoring the paralyzed muscles. Nutritious food, and enough of it nearly always; stimulants almost never; arsenic, salicylic acid, quinine, antipyrine sometimes, are indicated.

In the determination of the electrical reactions of cases in my own service, I wish to acknowledge the attentive assistance of my senior house-officer, Dr. C. F. Carter.

CASE I. *Alcoholic Neuritis; no Phthisis. Two Attacks.* E. M., a male, aged twenty-six years, furniture polisher, single. No specific history. No history of exposure to cold. Uses alcohol "a little." About the first of May, 1883, began to have sharp pains in the feet extending gradually into the calves, knees and thighs. These pains were followed by numbness in the legs and later in the thumbs, loss of power in legs and hands, burning sensation in the feet. After being in bed ten days these symptoms diminished. When admitted to the hospital, July 11, 1883, in Dr. Webber's service, was able to move arms and legs but complained of weakness. Could move feet but little. Paresis of extensors of hand. Sensation good. No noticeable atrophy of arms and legs. No cutaneous reflexes. Patellar reflexes absent. No ankle clonus.

July 13th. No lead line on gums. Complete paralysis of the extensors of the feet. The tibialis anticus and peronei do not react to faradism, extensors of the arm react feebly.

July 31st. Faradism administered every other day. Improving rapidly. Can move feet very well; the muscles react somewhat to faradism.

September 6th. Walks about fairly well, though complaining of some pain in the feet; has difficulty in

raising the toes when walking, the feet being thrown forward and the toes striking the ground first.

Discharged October 30th, at which time he was able to walk as well as ever he could, but the electrical reactions were still diminished. Duration in hospital three and one-half months; total duration six months.

Admitted second time to hospital June. 15, 1885, in Dr. C. F. Folsom's service with symptoms similar to those reported. Had continued the use of alcohol since his discharge.

June 17th. Patella tendon reflex absent; increasing loss of power in grasps of hands; could rise from chair only with assistance; when standing would lean far forward and could not maintain equilibrium with the eyes shut.

June 27th. Extreme sensitiveness to pressure over main nerve trunks of both arms and legs, but no pain on motion.

July 22d. Could walk the length of the ward without assistance. Previously mentioned symptoms diminishing. Discharged from the hospital September 14th, much relieved, and has not been heard of again. Duration in the hospital, two months.

CASE II. *Alcoholic Neuritis with subsequent Phthisis.* M. T., aged twenty-seven years, female, single, domestic, with an unimportant family history. Had been a hard drinker at times and for three or four weeks before admission to hospital, September 5, 1885, in Dr. Folsom's service under care of Dr. Morton Prince. She had had difficulty in walking for several days, and numbness in both legs for two weeks. Absence of the patellar reflex, patches of anesthesia on the inside of the legs. Walked with difficulty on account of staggering, which she attributed to weakness; complained of pains in the calves. Hand grasps of fair strength, no ataxia of the hands; tremor when extended. Reaction of degeneration in muscles of both legs.

General condition improved slowly up to October 18th, when signs of incipient phthisis were noticed and these developed steadily, but the patient was discharged relieved of the neuritis, January 13, 1886. Duration, five and one-half months.

CASE III. *Alcoholic Neuritis.* M. K., aged thirty years, male, employed in a brewery, loading the teams. A large, strong man, who, up to the beginning of present attack, had enjoyed good health. Had been in the habit of drinking a good deal of beer in the early morning before breakfast, after loading the wagons. Entered the hospital, September 17th, (in Dr. Denny's and Dr. Shattuck's service.) Temperature, 99°, pulse, 72; tongue bright red like raw beefsteak; feet slightly swollen and œdematous; pupils equal, reacting to light and accommodation, slight nystagmus on looking to the right; grasps equal but both weak; knee-jerks and plantar reflexes absent; tenderness on pressure over both posterior tibials; tremor of extended hands. It was learned from patient's wife that he had been sick in bed for sixteen days before coming to the hospital, having lost the use of his legs at the beginning of that period; he had had double vision and been "queer," especially in regard to his memory which was greatly impaired. Was unable to walk or stand when brought to the hospital.

September 27th. Had been somewhat noisy at times since previous record; without knowledge of where he was or how long he had been there; remem-

⁶ Paralyties Toxiques, Thèse, Paris, 1886.

bered nothing of recent or past occurrences; sometimes unable to pass water without being catheterized; tenderness over posterior tibials about the same; unable to stand on feet.

October 7th. At this date could stand with assistance.

October 14th. Mental condition improving slowly; cried like a child and bewailed himself bitterly if left alone in bed with the screens around the bed. Was able to stand without assistance; tenderness over posterior tibials less pronounced.

October 20th. Walked about the ward with a cane.

October 30th. Walked without a cane, could stand easily with his eyes shut; mental condition clearer; patellar reflex still absent; electrical reaction of degeneration in both legs; grasps by manometer right = 86; left = 80.

November 8th. Was improving mentally and physically rapidly. Could walk well, even vigorously. Was anxious to go home and was discharged much relieved. I communicated with his employers and learned that he, the patient, had exhibited unusual stupidity, and inefficiency in his work for about three months before coming to the hospital; that he had lost strength in his feet and legs and been complaining of them for "a year or more;" that he gave up work the last day of August. Used "to drink hard" but not to intoxication. Duration of symptoms from beginning, twelve to fourteen months; of acute symptoms before entrance, seventeen days; in the hospital seven weeks and a half.

CASE IV. *Alcoholic Neuritis*. A. H., aged thirty-three years, male, grocery and liquor business. Had hip disease, left hip, when four years old, but grew up to be a strong, vigorous man; no rheumatism; no venereal. Used to be a butcher, until six years ago when he took up his present occupation. Drank liquor moderately, until two years ago, when he began to drink hard, twenty-five or thirty glasses of all sorts of liquor in the course of the day. Had an attack similar to the present one eighteen months ago, from which he partially recovered, on leaving off alcohol partially. Subsequently began to drink again, kept himself in a boozing state most of the time, but was never too drunk to take care of himself. Up to thirteen weeks before coming to the hospital had been drinking especially hard, but since then has abstained entirely. Entered the hospital, November 1, 1887, as a private patient under Dr. Shattuck. Thirteen weeks before began to notice increased weakness in his legs, the hands also became weak and he had to give up work; a week later limbs became numb and felt asleep, but were acutely sensitive to the touch; for three or four weeks had had sharp, darting, corkscrew pains in the legs, and especially in the feet, but not such as to keep him from sleeping; these pains had been diminishing, and at entrance had assumed the character of occasional dull pain and a numb feeling; no pain in arms, except slight lameness in region of right elbow; eyesight good, but fifteen weeks ago saw double and vision was blurred for a week or two.

November 1st. Appetite good, sleeps pretty well; temperature 98.8°, pulse 104. Tongue clean, protrudes straight; pupils equal, reacting to light and accommodation; grasps weak, with manometer right = 35, left = 32; left leg three inches shorter than the right; weakness of extensors of both feet very marked; toe-drop on left foot; knee-jerks and plantar reflexes

absent; tenderness on pressure over the course of all nerves of the arms and legs, but most pronounced over the posterior tibials; sensation diminished in legs and arms, but more marked in some areas, less noticeable on arms than on legs; perverted sensation on legs and feet, a touch on inner side of right foot referred once to left foot and again to right leg, a touch on right leg between knee and ankle referred to top of left foot. Romberg's symptom not tested on account of hip. Reaction of degeneration in legs.

November 10th. Improving slowly under galvanism (weak current), massage, quinine and arsenic. Present duration three and one-half months. Remains in the hospital, and will probably recover perfectly, perhaps in from four to six months.

CASE V. *Alcoholic Neuritis*. K. S., aged thirty-eight, female, married, housework. Had "rheumatism" twice, facial erysipelas once. No syphilitic history. Had borne six children and had two miscarriages; youngest child eight years old. Acknowledged the habit of drinking "a little beer." Entered the hospital, November 15, 1886, Dr. Shattuck's service.

Subjective Symptoms. For a month had complained of great weakness, poor appetite, occasional dry cough. Any little unusual event worried or excited her unduly; lately when excited had experienced feeling of oppression about the heart. Sleep pretty good.

Objective Symptoms. Examination of thorax and abdomen negative result, except a good deal of tenderness in lower intercostal spaces on both sides of thorax. Tongue pale and flabby. Tongue, eyelids and hands tremulous. Pupillary reaction to light and accommodation present. Patellar reflex absent; plantar reflexes very active; slight diminution of sensation in legs; tenderness on pressure in right calf and over upper portion of both sciatics. Temperature 99.2°, pulse 104, respiration 24. Urine normal.

November 20th. Appetite and sleep pretty good, but mentally mildly confused. Got out of bed several times at night and wandered about aimlessly. Complaining of pains in the legs, and of a "crushed" feeling about the heart. Pulse small and somewhat accelerated.

November 24th. Complaining of stiffness in the knees, and much tenderness over the nerves of the legs was noticed.

November 27th. Marked tenderness over both sciatics and over posterior tibial nerves on both sides; slight diminution of sensation in areas over both legs, especially on right; loss of power in muscles which move right toes and foot, less on the left side. Knee-jerks still absent. No tenderness in the arms. Had delusions that she went to various places during the day, at night got out of bed and wandered aimlessly about.

December 4th. Quite emotional; no memory, delusions as to time and space.

December 7th. Still great tenderness over nerves in the legs, especially posteriorly; knee-jerks still absent, and plantar reflexes active. Tongue brown, dry and heavily coated; pulse 120; temperature 100°. Thorax and abdomen were examined without finding anything abnormal.

December 10th. Growing weaker; attempts at speech for the most part unintelligible mutterings. Sordes on teeth and lips.

December 12th. Failed rapidly since the last record; nearly comatose, respiration very rapid, swallowing almost nothing; when moved in bed seems to suffer great pain. Death.

Duration in hospital twenty-five days; from beginning about two months. An autopsy could not be obtained; about one and one-half inches of the upper part of the posterior tibial nerve was given Dr. W. W. Gannett for microscopical examination, but he failed to find any signs of neuritis in that piece.

CASE VI. *Alcoholic Neuritis with previous Phthisis.* E. F., aged thirty-one years, female, married, housewife. No history of alcoholic habits. Entered the hospital, general service, July 21, 1885, on account of phthisis, for which she was treated. One sister died of "consumption." She reported having had "rheumatic" pains a year previously, and confessed to drinking beer. Her illness began four months before admission to the hospital with a "cold." Record says: "for past three weeks has noticed that she sees double at times. At first the right eye turned out somewhat and the eyelid drooped a little. . . . Pains all over her, especially in the legs."

August 4th. Pains in the legs less, general condition improved.

August 13th. "Rheumatic" pains now chiefly in the feet.

August 17th. Feet strongly extended and painful. Gastrocnemii painful and spasmodically contracted and twitching.

August 31st. Less pain in feet, but still strongly extended.

September 2d. Splints applied to feet.

September 4th. Patient could move feet freely; slight sensation of pins and needles in the legs. Sat up.

September 16th. Could move the feet freely, but still complained of the pin-and-needle sensation, pains in legs and feet much better. The signs in the lungs had increased in extent, and the patient constantly lost flesh and grew weaker. She was transferred to the "nervous service," in charge of Dr. Prince, and the record of this service says: "For the past four weeks has been unable to walk; complains of numbness in the legs and a feeling of pins and needles in the toes; legs and arms have been very painful on pressure for six weeks. Some tenderness now present over the course of the anterior crural and sciatic nerves; general weakness of the legs; no anæsthesia of the legs; patellar reflex absent."

September 26th. Marked choreic movements of toes reported as coming on at intervals of an hour or two and lasting a few minutes. Right tibialis anticus responded to only the strongest faradic current; electrical excitability with faradic current much diminished in both calves, and the same true of the extensors of the thighs; other muscles were not tested; electrical sensibility of the skin diminished.

The pulmonary signs pursued a progressive course; the patient failed and died November 17th. The autopsy gave: tuberculosis of lungs (chronic), tubercular ulcer of the intestine, fatty infiltration of the liver. Dr. W. W. Gannett, who made the autopsy, removed the ischiatic nerve of the left leg from a little below the middle of the thigh, together with its two primary branches, down nearly to the ankle, hardened portions in osmic acid and examined them microscopically, but no evidence of neuritis or other lesion was discovered.

CASE VII. *Alcoholic Neuritis with Phthisis.* E. W., aged thirty-two years, female, housewife. Was brought to the hospital, October 18th, to Dr. G. H. Lyman's service, in a delirious condition, and unable to give an account of herself. From the husband, the following points were subsequently obtained: One sister died of phthisis; had been married seven years; never pregnant, catamenia very irregular and scanty, but painless. For three or four years, patient had been much troubled with vomiting, and this had increased markedly in the previous six months. For about three years, had been subject to so-called hysterical attacks, lasting a few hours, during which time her mind was much confused. For three weeks, had vomited much less; fell into a state of semi-unconsciousness two weeks before, from which she had not been aroused. Tongue dry, brown, and parched; pulse 132; abundant fine, moist râles over both backs, most marked at right apex, where there was dullness, broncho-vesicular breathing at both apices. Urine and feces passed involuntarily. Pupils equal, reacting to light; no strabismus. Feet held in position of equino-varus; loss of power in extensors, and muscles of calf of leg flabby, patella tendon reflex absent, tenderness on pressure over nerve trunks of legs and thighs; sensation diminished over both legs. Weakness of extensors of forearms, with tendency to wrist-drop.

October 24th. Pulse 148, respiration 48. Patient's pulse and respiration became more rapid, and she died October 26th.

An autopsy by Dr. Gannett gave, as a pathological diagnosis: Chronic adhesive pleurisy; fatty infiltration; chronic tubercular broncho-pneumonia of liver; tuberculosis of spleen; tubercular ulceration of intestine; infantile uterus, small ovaries. The brain and cord were removed for examination. The peripheral nerves were not examined.

The husband, upon being further questioned, admitted that his wife took stimulants by physicians' orders, but never, to his knowledge, to excess. It was also subsequently learned from the physicians in charge before the patient entered the hospital (Drs. Doe and Breck), that a diagnosis of alcoholism had been made early in the summer; that the patient had been noisy and troublesome at times, but there had been no signs of tuberculosis, and no paralysis as late as the end of September.

CASE VIII. *Alcoholic Neuritis, with Nephritis.* C. S., aged thirty-three years, female, married, a housewife. Decided alcoholic history. Unable to walk for a week before admission to the hospital, September 14, 1885, under Dr. Prince. When seen, complained of loss of power in the legs, and was unable to stand; also of a feeling of numbness in the legs. Had to lift the legs to cross them. Patella tendon reflex absent. Spots of incomplete anæsthesia and analgesia on the legs, which became more extensive and more pronounced a few days later. Pain and tenderness over nerve-trunks and muscles in legs, but not in arms; also over muscles of abdomen, chest, and back. Reaction of degeneration in muscles of legs.

October 20th. Knee-jerk still absent, but tenderness over the nerve-trunks of legs little noticeable.

November 12th. She had improved so far as to be able to walk a short distance, and was discharged, relieved, at her own request. Course, two months.

CASE IX. *Alcoholic Neuritis — Nephritis.* F. M., aged forty years, female, widow, dress-maker. Had always good health. Borne four children, and had as many miscarriages. No syphilitic history obtained. Entered the hospital, November 16, 1886, Dr. Shattuck's service.

Subjective Symptoms. For two months, had been losing appetite and strength, smell of cooking causing nausea. Had felt nervous and "fidgety," and a strong craving for beer. Said that she had lost more flesh than she could "afford to." Gave up work three weeks before admission.

Objective Symptoms. Well developed, rather corpulent. Tongue red and glazed. Decided tremor of tongue, less of the extended hands. No tenderness or impairment of sensation over the arms. Great sensitiveness over the nerve-trunks in the calves, and in front of the thighs. Below the lower third of the thigh, considerable hyperæsthesia of the skin, sensation perverted; and, in lower portions, tactile sensibility impaired in areas. Patellar reflex absent. Unable to move toes of left foot, and those of right but slightly.

Examination of thorax and abdomen. Negative.

Urine. Turbid, alkaline, albumen; sediment, pus, squamous epithelium, numerous hyaline casts. Temperature 97.4°, pulse 124, respiration 24.

November 19th. Grew steadily worse since record. Slept little, delirium of a muttering type, stupor, at times somewhat noisy. Pulse rapid and small, temperature subnormal.

November 22d. Stupor had increased, gradually deepening, interrupted by occasional delirium. Pulse had continued rapid and almost imperceptible at the wrist; respirations were shallow and jerky; temperature always subnormal. Patient swallowed pretty well till just before death, which occurred on this date.

Duration. Six days in the hospital; nine weeks from the time she began to feel sick.

Autopsy by Dr. Gannett. Chronic adhesive pleurisy; injection of kidneys; chronic salpingitis; chronic pelvic peritonitis. Right ischiatic nerve removed, hardened for twenty-four hours in a one per cent. solution of osmic acid, and examined in glycerine. It showed extensive destruction of axis cylinders, and loss of white substance of Schwann.

CASE X. *Multiple Neuritis. Alcohol and Phthisis not present; No Syphilitic History, though undoubtedly frequently exposed to infection; Toxic Influences could not be ascertained as present, or as having been active; Epileptic until two years before coming under observation; No Rheumatic History; No History of Exposure to Cold or Fatigue.* T. H., aged forty-five, female, widow, nurse. Entered the hospital, April 6, 1887, Dr. Shattuck's service.

Subjective Symptoms. Three months before, began to have a feeling of numbness in the fingers of the right hand (Dr. J. J. Putnam's "numb fingers"). This extended up the arm, and then up the other arm, and both feet and legs were affected in the same manner. Since five weeks, had not been able to walk without assistance. She said when she stood, it felt as though she were standing on pins and needles. Could not hold anything in her hands without watching it. During the first part of attack, could not see to read; subsequently, as well as usual; at one time, had difficulty in swallowing, but that passed away. Complained of cramps in feet and legs, and of coldness of extremities.

Objective Symptoms. Great tenderness on pressure over all the affected parts, but greater over nerve-trunks in the left leg and arm than in right; sensation in hands and arms, in feet, legs, and thighs much impaired, considerable pressure with the finger not felt, but a slight prick was felt immediately. Patellar reflex entirely absent; both grasps extremely weak; could not stand without assistance, but by leaning on a chair-back walked very slowly moving the feet a few inches at each step. Pupils responded to light and to accommodation. General health was pretty good, temperature and pulse normal.

April 16th. Complaining of pain in the limbs, but less severe. Sitting up daily for a time. Pain relieved by friction with hot olive oil; also had massage and weak galvanic current.

April 26th. Was able to walk a short distance without assistance. Still complained of slight pains and of vague disagreeable sensations in the legs and feet. Blisters were applied over the course of the nerve-trunks.

May 6th. Steady improvement since last record, and had been out walking in the yard a few times. The day before returned from the yard feeling cold, and went to bed. Shortly after had an epileptic convulsion followed by two others.

May 16th. No return of the convulsions, continued to improve, and was transferred to St. Luke's Home, from which she was discharged, June 7th, "much relieved." She has since been heard of as pursuing her usual avocations. Duration before entering the hospital three months; in the hospital, St. Luke's Home, two months; total five months.

CASE XI. *Multiple Neuritis. No Cause Ascertained.* E. K., female, forty-six years old, married. Entered hospital, August 27, 1887. Service of Dr. T. M. Rotch, who was succeeded in charge by Dr. A. L. Mason, by whom patient was transferred to Dr. Shattuck. Family history negative. Said she had an attack similar to the present at the age of seventeen years, following exposure to wet and cold, and had had "rheumatism" several times. She thinks the present attack due to exposure in her work as a washerwoman. She seems to be a very respectable person, and repeated careful questioning has failed to elicit an alcoholic history. She is a German; has been ten years in this country; occasionally but not regularly takes a small amount of beer. Present attack began three weeks before entrance, with pains in ankles, knees, and hands, some swelling of ankles, chilly sensations. Appetite poor.

Physical examination. Well developed and nourished. Heart and lungs negative. Tenderness on pressure over nerves of body, limbs, and head. Sensation diminished. Atrophy and marked loss of power in the arms and legs. Patellar reflexes absent.

Temperature 100.2°, pulse 124, respiration 30. Urine pale, acid 1011, no albumen.

September 5th. Atrophy more marked. Tenderness over nerves still persists.

September 23th. Legs flexed on thighs constantly; considerable pain on attempting extension. Appetite good.

September 29th. Grasps very weak. Legs cannot be straightened.

October 6th. Flexion more marked; has been sitting up in chair daily since last note.

October 12th. Legs have been straightened by means of ham splints; and massage daily.

October 19th. Can move legs freely, but cannot flex and extend feet. Is just able to stand, but cannot walk.

November 3d. Moves legs a little more freely, but is unable to stand. Reaction of degeneration quite marked in arms and legs.

November 8th. Patient was transferred to Dr. Shattuck's service. Physical examination revealed the following: Marked loss of power in muscles of forearms and hands; grasps extremely weak, (with dynamometer right = 10, left = 13). Both legs weak, and moved with great difficulty. Complete toe-drop on both sides. Plantar and patellar reflexes absent. Some atrophy of muscles of forearms and legs; right calf measures 10 inches in circumference, left $10\frac{3}{4}$ inches. Sensation much diminished over forearms, hands, legs, and feet, more marked in some areas than in others. Tenderness over peripheral nerves most marked in forearms and legs.

This patient is still in the hospital, and has been there now two months and a half. Her attention was first attracted to her condition three weeks before admission, making the total duration about fourteen weeks. She improved at first somewhat, and then relapsed. She is again improving slowly but steadily under galvanism, massage, citrate of iron and quinine, and generous diet. She will probably recover, though it may take from six months to a year. I have been unable to discover any toxic influence as a cause, and I am inclined to believe her statements with reference to alcohol.

THE ENDOSCOPIC INSTRUMENTS OF JOSEPH LEITER OF VIENNA AND THE PRESENT DEVELOPMENT OF ENDOSCOPY.¹

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WHOEVER has had much experience with the endoscope, especially in examination of the bladder, knows with what difficulty a well-illuminated field is maintained, since every deviation of the mirror reflected light, by hand-movement or otherwise, leaves the field in darkness, and the examination must be discontinued until the light is returned. This want of a permanent and easily maintained illumination has undoubtedly been what has kept the practice and good results of endoscopy so much in the background.

One year ago, I had the pleasure of showing before the Suffolk District Society my own endoscopic tubes. Since that time the improvement in methods of illumination has been so great, that from the practical standpoint there is scarcely any comparison. This has all been brought about by the successful application of the electric light to endoscopic illumination through the efforts of Joseph Leiter, the celebrated instrument-maker of Vienna.

About twenty-five years ago Bruck, of Breslau, had produced an electrical illuminating apparatus for examination of the mouth and bladder. The light was from a platinum wire, and in order to overcome the intense heat produced, a coil of pipe for circulation of cold water about the lamp was necessary. This instrument, although it could be used, was never of very practical application.

In 1877-78, Dr. Nitze, of Vienna, devised, and had made by Leiter, similar endoscopic instruments, but their complexity and high cost stood in the way of their extended use either for instruction or practical purposes. Urged by Nitze to further continue experimental work with these instruments, Leiter, by his indefatigable energy and admirable devotion to the not very remunerative work, has at last succeeded in perfecting all that seems necessary to the further and rapid development of endoscopy.

In 1883, I had the pleasure of visiting the International Electrical Exhibition at Vienna, and I afterwards learned that it was there that Leiter's attention became directed to the carbon filament light, and the problem of endoscopic illumination seemed then to be solved. Professor Dittel, who had already obtained some good results with the previous instruments in examination of the bladder, gave his strong coöperation to Leiter, and towards the end of 1886 a practical endoscope for this purpose, cystoscope, was produced. In 1887, an electro-reflector for the illumination of plain endoscopic tubes was finished, and as it was to be applied to all tubes for examination of any of the body cavities, Professor Dittel suggested for it the name of "Panelectroscope." The gastroscope was made under the the direction of Professor Miculicz, who has had the most extended experience with this instrument. It corresponds closely to the cystoscope in construction differing only in a double reflection of the picture in its optical arrangement, and in having in addition a double air current through its tubes, one for cooling the lamp and the other to distend the stomach.

In March of 1887, Professor Dittel showed the instruments before the Imperial Medical Society of Vienna, and the thanks of the society were voted to Mr. Leiter for the self-sacrifice and zeal which he had shown in bringing his efforts to a successful termination.

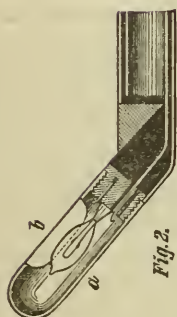
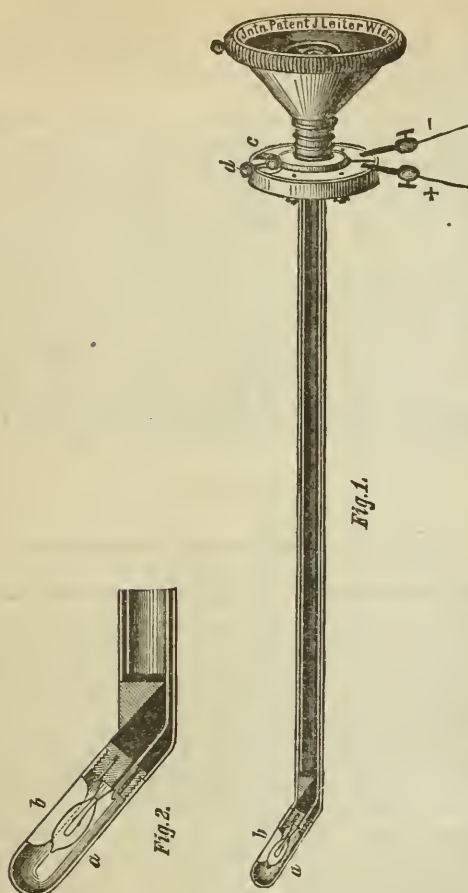
In detailing the construction of these instruments I can do no better than to quote as much as possible from a description by my friend, Dr. Alexander Brenner, of Vienna, published in the *Centralblatt für Chirurgie*, 1887, No. 25.

THE CYSTOSCOPE.

The body of this catheter-shaped instrument is formed by two thin metallic tubes, one within the other, separated by an intermediate layer of non-conducting material. These two tubes are connected with the battery. The lumen at the outer end of the tubes is closed by an ivory plate into which two cylindrical metal capsules are sunk. The capsules are connected one with the inner, one with the outer tubes for conduction. If now a small incandescent lamp is united with the tubes at their lower end, and the capsules are connected above to the wires from the the battery, the current circulates through the carbon filament, and with a strength of about three to four volts brings it to a white heat. The intensity of the light when run by the battery and fluid as made by Leiter (Fluid = 336 gms. pure chromic acid; 250 gms. sulphuric acid; 2000 gms. water), remains for hours equal. The lamps last about thirty hours, and when burned out can be replaced.

In order to be introduced into the bladder, and for its best protection, the lamp is covered by a metallic capsule, the "lamp-house," which screws down over

¹ Read before the Massachusetts Medical Society, Suffolk District, October 29, 1887.



it. A thick crystal glass window is placed in the side of the lamp-house, and through it the rays of light stream out into the bladder-cavity. The capsule forms a water-tight joint about the lamp, and excludes possibility of injury to the bladder in case the lamp should break. At the same time it admits of the lights being held under water whereby the heat distributed upon its relatively large surface is rapidly conducted away by the fluid in the bladder, the instrument being always used in a bladder filled with water to which some antiseptic has been added. The water circuit for cooling is thus unnecessary. A circuit-breaker is attached to the outer end of the instrument, the "Pavillion," so that the light may be first started after the instrument is within the bladder. It consists of a metal switch which is connected with the inner tube, and can be moved from an ivory isolating plate on to the ring in connection with the outer tube and battery, and the current thus conducted to the inner tube and lamp. When the switch is pushed back upon the isolating plate the current is broken.

In a bladder distended with from six to eight ounces of fluid, the instrument can be kept for an hour without any appreciable change in the temperature of the surrounding fluid being felt, and without causing any pain to the patient from the instrument becoming warm. The cystoscope is introduced with the circuit open. After introduction the current is closed and the bladder illuminated. Before withdrawing the instrument the circuit is again opened. Figure 6 shows the cystoscope in an artificial bladder.

The battery for these lights must be so arranged

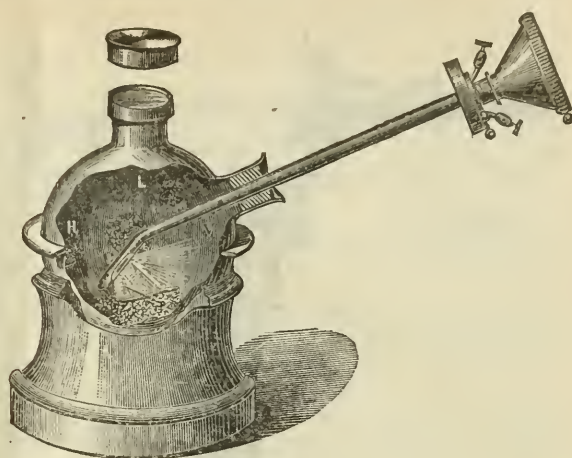


FIG. 6.

as to admit of regulating the current strength in order that the lights be not ruined by too high tension. Such a battery is the one made by Leiter in which the elements are raised and lowered on a supporting screw-rod. The plates are lowered into the fluid until the lamp glows with sufficient brilliancy. Any battery with which the current strength can be regulated suffices, and the same may be accomplished by the use of a rheostat.

The optical part of these instruments is similar to the already familiar Nitze instrument, the lenses focusing for a large field with diminished size of object.

My endoscopic tubes as figured in this JOURNAL of November 11, 1886, and above, are now made by Codman & Shurtleff, attachable to the panelectroscope. With them, excepting the interposition of the fenestrum, the object is seen directly, but must be gone over in detail. Through the open tubes *instrumentation within the bladder* is admitted, and small pieces of tumor or other objects can thus be removed for examination. In this connection it is perhaps interesting to quote from my paper of last year Professor Grünfeld's statement that "the introduction of instruments into the (male) urinary bladder under control of the endoscope, as well as their application there, was, for apparent reasons, not to be thought of." The anterior bladder-wall is only to be seen by the Leiter-Dittel cystoscope with mirror reflection.

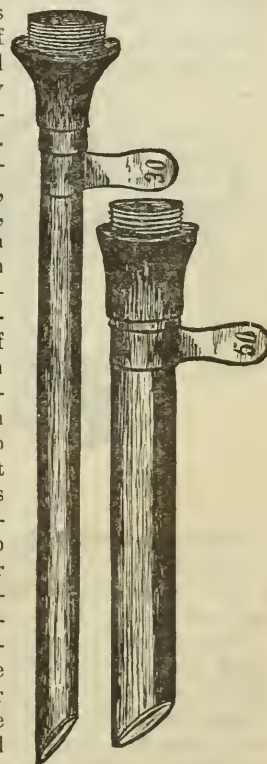


FIG. 4.

The construction of the panelectroscope is made apparent by the figure. The electric lamp is moved up or down by screw-adjustment so that the rays of light may be reflected from the fixed mirror *a* into the tube in the manner indicated by the lines in the

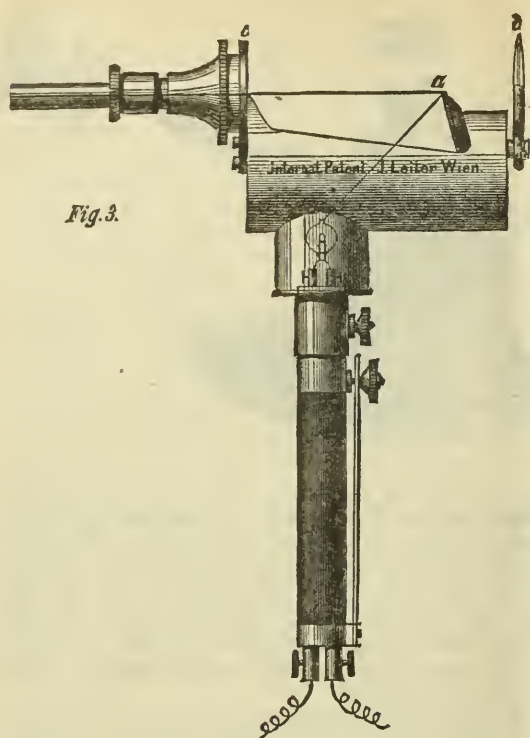


Fig. 2.

figure. Over the top of the mirror a view of the field is obtained, and instruments may be passed down into the tubes. A lens may be inserted at *b* for myopic or hypermetropic individuals.



FIG. 5.

The importance of these instruments lies in the fact that from their simple construction and practicality a closer knowledge of the physiological and pathological conditions of the bladder may be readily obtained.

I have already had the pleasure of twice diagnosing a tumor of the bladder, once for Dr. M. H. Richardson, and again for Dr. C. B. Porter, both of the Massachusetts General Hospital. It is no exaggeration to say that the growth could be seen as plainly as a section under the microscope, and there seems to be now nothing in the way of bringing these hitherto obscure cases to rational and intelligent treatment.

Who is not familiar with that type of intractable bladder disease, where with symptoms of stone, tumor, foreign body, tuberculosis, or other cause of cystitis, all manner of examination still fails to reveal its true

nature, and it is either necessary to undertake a serious operative measure, or, eventually, in case of fatal termination, to plead for an autopsy before a correct diagnosis is made possible.

In the use of these instruments, success aside from practical manipulation depends upon carefully preparing the bladder through rest and irrigation so as to remove the only hindrance to a clear view of the bladder-wall, a fluid made cloudy by hæmorrhage, mucus or other cause. If, during the examination, bleeding is too persistent to admit of clear vision, it is necessary to wait a day or two until the viscus is in better condition for manipulation. The use of cocaine in the urethra is advisable when the examination is not made under anaesthesia. The normal bladder offers a very instructive and beautiful view, and for practice the artificial bladder made of metal by Leiter is very useful.

CASES OF URETHRAL ENDOSCOPY.¹

BY G. W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

IN connection with Dr. Newell's exhibition of the electric light, as applied to his endoscopes, the report of a few cases of urethral endoscopy may be of interest, although it is too early to give the final results. The cases have been treated at the Boston Dispensary, and the endoscopes used are those designed by Dr. Klotz, of New York, and described by him in a very interesting article, which appeared in the *New York Medical Journal* (November 27, 1886), very soon after Dr. Newell showed his endoscopes at the meeting of this Society a year ago. These endoscopes are made of coin-silver, which allows of their being very thin and light, and are less affected by the solutions used in treatment. To the distal end is attached a disc, faced with unpolished gutta-percha, to prevent the reflection of light, and large enough to keep a redundant prepuce out of the way when the endoscope is pushed in deeply.

The light used in these cases is furnished by an Argand gas-burner, intensified by means of a lens, and reflected into the urethra from a head-mirror. The patients have been examined standing. In treatment, nitrate of silver alone has thus far been used, in solutions of one, two, and three per cent., applied by means of a cotton tampon on the end of a wire. I have not yet examined the membranous or prostatic urethra. Of the various appearances described by Dr. Klotz, I have yet seen only congestion of different degrees, with an occasional granular appearance, œdematous swelling of the mucous membrane, rigidity of the urethral walls at the seat of strictures of large calibre, and, in one case, dark spots, which probably showed a higher degree of inflammation about the lacunæ of Morgagni; also, occasionally, dilated capillaries in the bulbous portion.

The results here reported are by no means remarkable; but, considering the short time covered by the treatment, the lack of experience, and an imperfect light, they seem encouraging enough to warrant a continuance of the practice, with such improvements in method as may be developed. The patients have all expressed themselves as feeling better than under any

¹ Read before the Massachusetts Medical Society, Suffolk District, October 29, 1887.

other treatment, even when the improvement has apparently been slow.

CASE I. S. R., aged twenty-three, had gonorrhœa five years ago, and has had an almost constant urethral discharge ever since. He has been treated quite steadily for nearly two years with injections, irrigations, sounds, etc. On August 4th, he was examined with the endoscope. The mucous membrane of the urethra was found to be congested, especially in the bulbous portion, where a network of capillary vessels was visible, and in the middle of the spongy portion, where there were granular patches of a deep-red color, and where a marked rigidity of the mucous membrane was noticeable at two or three points. A one per cent. solution of nitrate of silver was applied. This treatment was repeated twice a week until August 30th, with steady diminution of the discharge, and improvement in the appearance of the mucous membrane; but suddenly, without apparent cause, the discharge increased in amount, although thin and watery, and treatment was suspended until September 20th, when the endoscope showed considerable congestion, less, however, than when first examined. After this, the treatment was less frequent and regular, but improvement continued. The strength of the solution applied was increased to two, and later, to three per cent.

October 27th. What little discharge there is, is of the sticky nature of prostatic secretion. Endoscopic examination shows diminished congestion throughout. In the middle portion, the mucous membrane is still quite rigid, although much less so than at first. In place of the granular patches, reddish-brown spots, the size of a large pin-head, are to be seen.

CASE II. C. S., aged thirty-three, had gonorrhœa eight years ago, and again three years ago; since this last attack, there has been a constant discharge. Within the last year, he has had two attacks of inflammation at the neck of the bladder, the last one, in June, very severe; and, on August 23d, when the endoscope was first used, the effects were still noticeable in a slightly increased frequency of, and straining after, micturition. The mucous membrane, at the first examination, appeared deeply congested, especially in the bulbous portion, and the anterior half of the penile urethra; in the middle portion, it was swollen, granular, and rigid. It was touched with a one per cent. silver solution, which was subsequently changed, as in the first case, to two, and then to three per cent. This treatment was continued six weeks, about twice a week, with relief of the urinary symptoms, and gradual improvement in the appearance of the mucous membrane.

October 6th. The patient was examined for stricture, and one was detected with a bougie à boule No. 31 (French scale), but it easily admitted a 33. The size of this stricture, on June 7th, was 27, and no instrument larger than 27 had been passed through it since, or at that time.

Improvement continued, although very slow, the meatus being sometimes perfectly dry, and sometimes showing a slight discharge. A relapse of the urinary symptoms was relieved by a deep injection of nitrate of silver, and at present, the mucous membrane, although considerably congested for the space of about two inches in the middle portion, no longer has the livid hue which it had at first, and the rigidity of the urethral walls is very much diminished.

CASE III. F. C., aged twenty-eight, first had gonorrhœa ten years ago, has had many fresh attacks and exacerbations since, and has had a constant discharge for more than a year.

August 25th. The endoscope revealed a congested condition, especially of the middle portion of the urethra, which was painted with a one per cent. solution of nitrate of silver, and, five days later, already looked better.

September 3d. The patient reported himself as entirely free from discharge for the first time in a year.

October 22d. He returned with a slight discharge. The condition of the mucous membrane was about the same as when last seen. It was touched with a two per cent. silver solution.

CASE IV. E. M., aged nineteen, has had a chronic urethral discharge for nearly a year. The urethra was examined with the endoscope, September 13th, and the mucous membrane found to be quite deeply congested in the middle portion, where it was also rigid and sensitive to the touch. The one per cent. solution was applied, and, at the third visit, the discharge had stopped, the local condition was found improved, and the patient said he was better than he had been for six months. The improvement has not continued uninterrupted. At times, generally after nocturnal emissions or other sexual excitement, there has been a little discharge, and a slightly increased degree of congestion has been noted, but, on the whole, he is doing well. At present, the discharge is almost imperceptible, and the urethra looks much healthier than it did six weeks ago.

CASE V. W. C., aged nineteen, had gonorrhœa nine months ago, but has had no discharge for four months. He has a stricture, which has been dilated to 28.

September 15th. He complained only of vague sensations in the penis, and the endoscope showed a moderate degree of congestion at a point just anterior to the bulbous portion. This was touched with the silver solution, and the treatment repeated every four or five days, the endoscope showing a gradual improvement in the local condition. The patient says he is better than at any time since the beginning of his trouble. The mucous membrane now appears almost normal, and he is practically well.

REPORT ON DERMATOLOGY.

BY G. H. TILDEN, M.D.,

Physician to Department for Diseases of the Skin, Boston City Hospital; Instructor in the Boston Polyclinic.

MYCOSIS FONGOIDE.

THE evidence collected during the past two years with regard to mycosis fongoide has gone to show¹ that there are no specific microorganisms which bear an etiological relation to the development of its cutaneous lesions, and that the streptococci mentioned by Rindfleisch and Hammer in this connection, are in reality those belonging to septicæmic processes, while those described by Auspitz and his assistants are merely accidental and such as might be found in any so favorable a culture medium as fungous tumors, deprived of epidermis.

¹ Vide Dermatological Report in this Journal of May 12, 1887.

Kühne² has recently given the results of his examination of the pathological specimens furnished by a victim of this disease. The case presented the usual clinical picture and fatal termination of mycosis fungoides. Death took place with symptoms of general septicæmia and after partial gangrenous destruction of several of the cutaneous tumors.

Two points of interest were shown by the microscopic examination of sections made from the cutaneous lesions:

(1) The walls of the contained bloodvessels were normal in structure and were not invaded by the new growth, and composed of embryonic cells, as is the case in true sarcoma.

(2) In no section made from pathological cutaneous tissues still covered by epidermis, were to be found any microorganisms whatever.

CUTANEOUS PIGMENT.³

If the skin of a white man be transplanted to the body of a negro, the white and transplanted portion of skin becomes as black as the skin of the negro. Black skin, on the other hand, when transplanted to a white man, loses its pigment and becomes white. The cutaneous pigment reaches the epidermis by means of the prolongations of cells which lie at the junction of the rete Malpighi and cutis, and which deliver their pigment granules to the cells of the epidermis. These pigment-carrying cells and their prolongations play an important part also in the nutrition of the epidermis. For, as long as the network formed by the pigment cells is not present or undeveloped, so long do the epithelial cells of transplanted skin present all the signs of poor and insufficient nutrition. The epithelial layer is thin, the nuclei of its cells do not readily absorb artificial coloring matter and in the cells themselves are to be found vacuoles and fat granules. As soon, however, as the pigment cells make their appearance, there ensue numerous karyokinetic⁴ figures.

In white skins also, these branched cells exist, but they and more especially the network formed by their prolongations, are difficult of demonstration on account of their deficiency in pigment as compared with the same cells in the skin of the negro.

Kölliker confirms the statements according to which no pigment is formed in the epidermis, but is conveyed to it by means of the immigration of pigmented and wandering cells from the neighboring connective tissue. In human hair; in the "velvet" of the antlers of the stag, when in a state of development; in the feather germs of the hen and in the epidermis of the dromedary and gorilla, this condition of things is most easily detected and demonstrated. The branched and pigment-carrying cells as they insinuate their prolongations between the epidermal cells supply the latter with pigment. The horny cells of the epidermis are usually uncolored on account of the small amount of pigment contained in the epidermal structures. Sometimes, however, they contain a diffused pigment or else granules of pigment; as may be seen in dark hairs, in the nails of the anthropoid apes, and

in the horny layer of the skin of the gorilla and of the whale. In the skin of the negro and in the pigmented epidermis of the Caucasian race, v. Kölliker was unable to find branched pigment cells, but he did find often in such cases, numerous, small, rounded and spindle-shaped pigment cells in the outermost layers of the cutis, which pigment cells also recurred among the deepest layers of the epidermal cells.

IMPETIGO, FURUNCULOSIS AND SYCOSIS.

At a meeting of the Medical Society of Wiesbaden, Dr. Max Bockhart⁵ delivered a lecture upon this subject. With regard to the existence of impetigo as a distinct disease there has been difference of opinion. Erasmus Wilson was the first to give a definite form to the conception of impetigo, by saying that he regarded as impetigo only those pustular eruptions which appeared upon the skin as pustules from the beginning, and which were not developed from pre-existing nodules or vesicles. Hebra, on the other hand, denied the existence of impetigo as a distinct disease (with the exception of impetigo contagiosa, so-called, and impetigo herpetiformis), and was of the opinion that impetiginous pustules were always a secondary development from some preëxisting form of cutaneous inflammatory process.

So-called impetigo simplex is a pustular eruption, which begins as such and the pustules of which it is composed, are formed quickly and undergo but little subsequent change in the way of development. As a rule they are small in size, varying from that of the head of a pin to that of a pea. If punctured and emptied of their contents they quickly refill, remain for days unchanged, and gradually dry to yellowish crusts, which, as a rule, are slow in falling off and which leave behind no scar. Oftentimes these pustules are pierced by a hair and usually the skin in their neighborhood remains unchanged, or is but slightly reddened. It is seldom that itching forms a prominent symptom, being usually absent, or if present but slight in amount. These lesions may develop upon any part of the body and, as a rule, they are scattered over the skin in variable quantities, their most common seat being the extremities and particularly the nates. Sometimes they may be seen upon the mucous membrane of the lips and front of the mouth, in which situation they result in the formation of rounded and superficial erosions. Occasionally the eruption may be almost universal. In cases where the disease attacks hairy portions of the body, such as the bearded parts of the face, the clinical picture presented is not that of impetigo but that of sycosis non-parasitica. The affection may be acute or chronic and the eruption appears in successive crops. Often during the course of the disease there are formed one or several furuncles in the midst of the impetiginous eruption, and even after the disappearance of this eruption it is not uncommon to see furuncles subsequently develop. Besides this form of simple and idiopathic impetigo there occurs a variety of the eruption, called by the writer accidental, and which appears only during the course, and as a complication, of various inflammatory and pruriginous cutaneous diseases, such as eczema, scabies, prurigo, etc. This latter form of eruption, however, is the same in course and appearances as the former.

With regard to the etiology of this disease, the

² Ergänzungsheft, No. iii, 1887. Monatshefte f. Prakt. Derm.

³ Karg, Ueber Haut-pigment und Ernährung der Epidermis. Anatomischer Anzeiger, No. 12, 1887.

⁴ Kölliker, Woher Stammt das Pigment in den Epidermisgebilden? Anatomischer Anzeiger, No. 15, 1887.

⁵ Karyokinetic figures are lines and figures which appear in the nuclei of epidermal cells while they are in a process of division and multiplication. Their presence indicates the existence of cell activity and life.

⁵ Monatsheft. f. Prakt. Derm., 1887, No. 10.

writer has examined ten cases of idiopathic impetigo, and twelve of the so-called accidental variety. From each one of these twenty-two cases was taken the purulent contents of unruptured pustules, which was examined both microscopically and by means of culture experiments. The microorganisms thus obtained were propagated from generation to generation in various media. In every one of the specimens of pus thus examined were found the same kind of cocci, namely, small staphylococci of from 0.5μ to 0.8μ diameter. They were found both free and contained in the pus cells, and existed occasionally as monococci, more often as diplococci, and were sometimes arranged in groups. Their number was variable and cultivation showed them to be made up entirely of two varieties, namely *staphylococcus pyogenes aureus* and *albus*. These two varieties are to be distinguished one from the other, merely by the different colors of their colonies when produced in pure cultivations. They are the same microorganisms which are found in connection with acute purulent processes in other tissues than those of the skin, such as felon, acute infectious osteomyelitis, ulcerative endocarditis, acute abscesses and phlegmonous inflammation of the subcutaneous connective tissue. In the lesions of impetigo both varieties of cocci were usually found combined in the same pustule, but occasionally only one or the other would be present. In the contents of the unruptured vesicles of so-called impetigo faciei contagiosa, the writer has never found either the *staphylococcus aureus* or *albus*. Examination of the furuncles, which so often appear during the course of impetigo, showed that they as well as the impetiginous pustules, contained both *staphylococcus aureus* and *albus*.

The idea naturally suggests itself that these microorganisms are the cause of both the above forms of cutaneous lesion, and in order to determine this point by other than clinical evidence, Bockhart made two inoculations upon himself with pure cultures mixed, of *staphylococcus aureus* and *albus*, in the sixth and tenth generations. The inoculations were made upon the arm, the skin of which had been previously disinfected and slightly scratched with a scalpel. In each instance there ensued in from twelve to fourteen hours after inoculation, the development of numerous, separate and typical pustules of impetigo. The experimenter saw many of these pustules during the process of formation, and is able to confirm the statement of Wilson with regard to them, namely, that they appear as pustules from the beginning and do not materially increase in size after having once been formed. After an existence of eight days most of these pustules had dried up and the crusts had fallen off without leaving behind any scar. Two of them, however, became transformed into painful furuncles, which lasted for two weeks or more. The pus taken from these pustules and furuncles was found by examination and by cultivation experiments to contain both *staphylococcus aureus* and *albus*.

In order to determine in what manner these cocci were arranged in the cutaneous tissues and in what way they found an entrance into the skin, the author caused to be excised from his arm a piece of skin upon which were situated three pustules. From microscopic examination of sections made from this piece of skin and from the inoculation and cultivation experiments mentioned above, Bockhart draws the following conclusions: The pustule peculiar to impetigo is

caused by the entrance into the epidermal tissues of the *staphylococcus pyogenes aureus* and *albus*. The openings through which these microorganisms find entrance, are: (1) The openings of the ducts of the sweat glands, (2) the mouths of the hair follicles and the ducts of the sebaceous glands, and (3) regions of the skin which by reason of insult are deprived of the horny layer of the epidermis. So soon as these pyogenetic cocci have been introduced into the skin they propagate and develop in the wall of the excretory duct of a sweat gland and in the Malpighian layer of cells immediately around its mouth; or in the outer root-sheath of a hair follicle, and in the excretory duct of a sebaceous gland and its neighborhood; or else in any portion of the epidermis which has been deprived of its horny layer. They multiply with great rapidity and set up in the surrounding tissues an acute and essentially purulent inflammation, the activity of which is shown by the rapid formation of pustules. The process, however, does not usually spread beyond the epidermis, and the pustule represents its ordinary culmination. Furuncles, however, may be developed from pustules, which are situated over a hair follicle, or over the duct of a sweat gland by reason of the propagation of these pyogenetic microorganisms into these glandular tubes and sacks, and the consequent excitement of peri-glandular inflammation. The so-called "core" of the boil is modelled by the glandular and follicular sheaths, and consists of masses of cocci and necrosed tissue.

Not only in these two varieties of cutaneous lesions did the author find the *staphylococcus aureus* and *albus* constantly present, but also in the lesions of so-called sycosis non-parasitica. Five examples of this disease were examined, and in every case the nodules, pustules, furuncles and abscesses peculiar to it were found to contain the *staphylococcus aureus* and *albus* separately or in combination. As a rule, sycosis of the upper lip is accompanied by chronic nasal catarrh and it is suggestive in this connection to note that the mucous discharge from the nose of one patient afflicted with sycosis was found to be swarming with these pyogenetic microorganisms. Clinically, however, sycosis differs from impetigo in two points: (1) That usually the pustules in sycosis are developed from preëxisting nodules, and (2) that in sycosis there are often developed large inflammatory swellings which may contain but little pus. In the opinion of the author these clinical differences are due to the peculiar structure of the regions of skin which are the seat of sycosis.

These pyogenetic microorganisms are among the most ubiquitous of all the pathogenetic bacteria. They have been found in wash water and in the swaddling clothes of infants. Bockhart detected them, both by microscopic examination and by the production of pure cultures upon gelatine, in the scrapings from the skin of three healthy persons out of eight examined, and under the nails of one individual out of six examined with reference to their presence. The experiments of the author seem, so far as they go, to fulfil the four conditions supposed to be necessary in order to establish the claim of any special microorganism to be considered as pathogenetic with regard to any special disease, namely:

- (1) Their presence in every case of the disease.
- (2) Their presence in sufficient quantity to account for the existing pathological condition.

(3) Their isolation and the production of their pure cultures upon some medium outside of the living organism.

(4) The reproduction of the disease in question by the inoculation of some healthy organism, with the pure cultures thus obtained.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 14, 1887. The President, Dr. O. F. WADSWORTH in the chair.

DR. GEORGE B. SHATTUCK read a paper on

MULTIPLE NEURITIS.¹

DR. S. G. WEBBER said that many of the cases reported to-night seem to be much milder than his own. Before the disease was recognized he had seen a few cases supposed to be temporary disease of the spinal column; and a few supposed to be locomotor ataxia, which may have belonged to this class; but making all possible allowance for unrecognized cases, there was in 1883 to 1884 a very great increase in the number of patients with the symptoms of neuritis, above the number previous to 1883. People drank beer and liquor before, and it is singular that there should be so many cases seen in so short a time with so few seen previously. Possibly there have been changes in the manufacture of beer that may account for it. In one respect the cases of the reader differ from most of those of the speaker. In his own there was a marked contraction and stiffness of the extremities, the legs being flexed on the thighs and the thighs on the abdomen. This contraction was not so marked in the arms. There seems also to have been less tenderness than in Dr. Webber's cases, at least it was not spoken of. In other respects the symptoms were about the same. Numbness was a marked symptom in some of the cases. The tenth case of Dr. Shattuck suggests lead poisoning, but if lead was not found in the urine after treatment with iodide of potassium, it was probably absent.

Inflammation of the muscles without neuritis needs to be diagnosticated from the changes caused by neuritis. Last year Dr. Jackson reported such a case and another case has been reported in the *Zeitschrift für Klinische Medicin*.

DR. C. F. FOLSOM said that he wished to call attention to cases of peripheral neuritis in which there were neither pain nor unusual tenderness on pressure, several of which he had lately seen. He supposed the lesion to be a sub-acute parenchymatous degeneration. If in the legs, the differential diagnosis between neuritis and posterior spinal sclerosis may be exceedingly difficult and sometimes for a while impossible.

He had also seen two cases ending in recovery, which involved the arms, where the conditions closely simulated those of anterior poliomyelitis. He believed that the favorable prognosis of the books, in the case of anterior poliomyelitis of adults is due to errors in diagnosis, multiple neuritis being mistaken for that disease.

He asked whether the contraction mentioned by Dr. Webber might not be due to the posture of extreme flexure to avoid or diminish pain, and now controlled by splints, etc., more than formerly.

DR. J. J. PUTNAM inquired as to the symptoms in the case where autopsy showed nothing.

DR. SHATTUCK answered that in one case a small piece of nerve only, could be got. In this *piece* the result was negative.

DR. J. J. PUTNAM spoke of the various different forms under which neuritis appears, some of them suggesting the presence of regular system-disease, like those met with in the affections of the spinal cord.

A recent writer upon the pathology of lead paralysis, reasoning in this manner, has suggested that the original cause of the neuritis may perhaps consist in a slight disorder of the ganglionic matter of the spinal cord, and that the reason the nerves become diseased at their peripheral extremity first, is that this part is farthest removed from their nutritive ganglionic centre.

Dr. Putnam spoke of a case formerly in the Massachusetts General Hospital, under the care of Dr. S. L. Abbott, where the symptoms tended unequally to show the presence of multiple neuritis of all four extremities. The case ended fatally. The peripheral nerves, unfortunately, were not examined, but a number of spots of softening were found in the brain, and the lateral columns of the spinal cord were sclerosed, and the bloodvessels greatly thickened.

It is quite probable that these latter changes were chronic, and in a measure independent of the neuritis, but some pathological connection may exist between them. This seems the more probable from the fact that the ganglionic cells were evidently more or less altered.

A large number of patients have been under observation at the out-patient's department of the Massachusetts Hospital, not presenting the atrophy and paralysis and marked sensory disorders seen in Dr. Shattuck's cases, but characterized by either persistent or recurrent numbness and prickling, with slight weakness, but without neural tenderness, having the same location as the severer symptoms.

DR. WEBBER spoke of the pathological changes which he had found in a case of neuritis. Even the specimens which were most extensively changed, contained some fine fibres which seemed unaffected. Perhaps these belonged to the sympathetic system. In other specimens taken nearer the trunk, one or two degenerated fibres were found, the others being apparently healthy or only very slightly changed.

DR. S. L. ABBOT said that the case referred to by Dr. Putnam was exceptional, as the autopsy showed several spots of softening in the brain. It has recently been emphatically stated that in general neuritis the brain is never affected. At the outset the patient complained mostly of pain in the feet which was decidedly lessened during the use of salicylate of soda. As the pain became more general, however, it was not controlled by this remedy. The progressive paralysis with corresponding defect of intelligence led to the impression that there was acute cerebral softening, a condition which was found at the autopsy.

DR. P. C. KNAPP said that, although the pathological processes in peripheral neuritis were not yet thoroughly understood, we must, nevertheless, rec-

¹ See page 523 of the Journal.

ognize at least two processes. One was a true inflammation of the nerve, attended with hyperæmia, swelling, cell-infiltration, and hæmorrhages into the connective tissue; the other was a degenerative atrophy without inflammation, where the nerve-fibre atrophied, and was replaced by connective tissue. The clinical types of multiple neuritis were varied and numerous. We could distinguish at least three distinct classes; those due to toxic agents of a purely chemical nature, such as lead, arsenic, and alcohol; those due to some poison, chemical or organized, following infectious disease, as diphtheria, typhoid, or tuberculosis; and finally a class of apparently idiopathic cases, where a special infectious agent might be the cause of disease. In regard to Brissaud's theory concerning arsenical neuritis, it did not seem to him to be supported by facts, for Dana; in an exhaustive review of the subject, had found that arsenical neuritis might also arise from continuous exposure to small doses, even from poisoning by arsenical wallpaper. Rosenheim is at present disposed to deny that there is a special infectious form of multiple neuritis, and he finds scarcely an autopsy of a case apart from the chemico-toxic forms, where neuritis, has not developed with or after some acute infectious disease or tuberculosis. On the basis of his own investigations he cannot admit that an organized virus is the agent of disease in multiple neuritis. Although autopsies on such cases are rare, nevertheless a certain number of such cases have been reported clinically, as, for example, an interesting series of cases recently reported by Eisenlohr. In regard to the cases of multiple neuritis at the City Hospital, it had seemed to the speaker, judging merely from his own impressions in visiting the hospital since 1883, that the majority of cases had occurred in the last half of each year, being admitted in the late summer and in the fall, and that in the spring and early summer there had been fewer cases. Eisenlohr had found multiple neuritis commoner in certain years, as in 1886-7, and had also seen more cases in the fall and winter. Alcoholic neuritis exhibited two distinct types: the paralytic form with atrophy, and the ataxic form which closely resembled tabes dorsalis. In regard to the paralytic form Buzzard makes the rather remarkable statement that foot-drop is as characteristic of alcohol as wrist-drop is of lead. This is manifestly incorrect, for foot-drop may occur in other forms of neuritis, as the speaker had seen it in lead paralysis and in neuritis after typhoid. There was a symptom-complex, however, from which, without any history of alcoholism, it seemed justifiable to diagnose alcohol. That was when, as in Dr. Shattuck's fifth case, there was added to the symptoms of neuritis, a peculiar and characteristic mental condition. The patient became demented, passed urine and fæces in bed, was childish and lachrymose, had various delusions, and while lying helpless in bed would tell a detailed story of going to various remote places, seeing different people, and would give a full account of the conversation held with them. Such a mental condition, when added to neuritis, the speaker believed was almost pathognomonic of the alcoholic form.

Dr. W. N. BULLARD desired to draw the attention of the Society to the great similarity between certain forms of multiple neuritis when existing in persons subject to chronic alcoholism, and some forms of gen-

eral paralysis. In certain cases where the mental weakness was marked, an immediate differential diagnosis was impossible.

Dr. Bullard also asked the reader whether any data had been obtained in regard to the time of the disappearance of the patellar reflex, and the time of its reappearance.

If it can be shown, as seems probable, that in many cases the appearance of this reflex is one of the earliest symptoms preceding many of the more prominent ones, it may be of much value as a means of diagnosing this disease in the earlier stages.

Dr. T. M. ROTCH remarked that during the last year he had had three cases of multiple neuritis under his care, all women. All were extremely hyperæsthetic. In one the mental excitement was extreme, amounting at first to mania and later to imbecility: alcohol appeared to be a cause in this case. In the second case there was no acute mental excitement, but a dull apathetic condition. In the third case there were spasmodic contractions. The cause was not known in the last two cases.

Dr. MYLES STANDISH wished to call attention to a possible relationship between the so-called tobacco amblyopia, or amblyopia *ex abusu* more properly speaking, and alcoholic paralysis. In April, 1886, he reported in the *Boston Medical and Surgical Journal* a case of alcoholic peripheral multiple neuritis, which had been preceded three months by amblyopia *ex abusu*; since that time a case that had been under treatment for several weeks at the out-patient department of the Boston City Hospital for amblyopia *ex abusu* was noticed by him to have a peculiar walk, and upon examination it proved to be a case of alcoholic multiple neuritis. He has had still other cases related to him by brother practitioners. The point he wished to make is that amblyopia *ex abusu* may be an early indication of alcoholic peripheral multiple neuritis, and if such is the case the sooner so understood the better.

Dr. SHATTUCK, in closing the discussion, said with reference to Dr. Webber's criticism upon the number of cases reported as occurring since 1884, that the service to which such cases were apt to be referred was much larger than formerly when Dr. Webber was connected with it, and, moreover, that these cases of multiple neuritis were more generally looked out for and recognized than formerly. There were, undoubtedly, among the fifty-one cases found in the records, several which a strict revision would probably exclude, but there were also others where the diagnosis was not made which ought by such a method to be included. The pathology of the affection is far from being definitely settled.² There is an acute degeneration in the course of the peripheral nerve-trunks, but as there is variation in the clinical picture, so there is probably variation in the pathological process. At least, two forms of degeneration of the nerves are accepted. It is not definitely settled whether the cord is involved or not. No constant lesions have been found; an incidental lesion may, of course, be found in the cord or in the brain. The speaker said he knew the cases reported by Dana were not in accord with Brissaud's statement that arsenical poisoning must occur in the severe acute form to produce neuritis; if Brissaud's position were correct it would simplify the ætiology of those cases where the cause

² Bernhardt Zeitschrift f. klin. Medicin. Vol. XI, p. 363, 1886. H. Oppenheim, p. 232, 1886.

could not be ascertained, and arsenic in common with other toxic agents might be suspected, as in case No. X of those reported. In this case the urine was examined for arsenic without result, but it might have been too late. To Dr. Bullard's question as to the absence of the patellar reflex, he replied that this symptom was occasionally, but very rarely absent; it was among the early symptoms in its appearance and one of the last to yield, so that some cases were frequently discharged well, or greatly relieved in other respects, whilst the patellar reflex was still absent or much diminished. It was, therefore, difficult to gather useful data in regard to its duration. The speaker was disposed to agree with Dr. Folsom, that contractions and flexions, referred to by Dr. Webber, were characteristic of the more severe forms of the affection, and they had been noted in one or two of the cases reported.

DR. J. B. AYER reported a case of

SEPTICÆMIA FROM PURULENT INFLAMMATION OF THE PORTAL VEIN (SUPPURATIVE PYLEPHLEBITIS).

A lady, seventy-one years of age, has had several bilious attacks (not severe) yearly since the age of eleven, which have not grown worse of late years. He was called to her, October 27th, for bilious vomiting, accompanied by epigastric and general pain, and relieved her by giving a hypodermic injection of morphia. Debility followed the attack, but she had begun to sit up when he again saw her on the morning of November 2d, for severe chills. Eight chills occurred at irregular intervals up to the evening of November 7th. Before the chills the temperature was in the neighborhood of normal, but rose after the chill as high as 105°. During the next four and a half days (up to the 12th) there were no chills, and the temperature became more regular with a higher average. On the 11th it was between 102° and 103°. On the 12th (the last day of her illness) there were three severe chills.

The diagnosis of septicæmia was plain, but its origin was difficult to determine, there being no enlargement of the liver, nor marked enlargement of spleen, no constant epigastric pain, nor *marked* jaundice. Dr. Minot saw her in consultation. The autopsy was made by Dr. Cutler.

DR. E. G. CUTLER, who had made the examination, said there was old inflammatory thickening of the wall of the gall-bladder with adhesions to the front wall of the stomach. In the centre of these adhesions was a perforation, the size of a slate pencil, into the stomach. Several gall-stones were found in the hepatic and common ducts and the mucous membrane was ulcerated in one or two places. In the portal vein near one of these ulcerated ducts was a broken-down thrombus, and scattered throughout the liver were several abscesses varying in size from that of a nickel to a pullet's egg. These abscesses all contained a foul-smelling bloody pus and had ill-defined walls. The hepatic acini were not well marked and the hepatic cells were cloudy.

The spleen was enlarged and very soft (it measured 7 x 4 x 2½ inches); on section, the Malpighian bodies were indistinct.

The kidneys weighed each about five ounces and the tubules of the cortex were cloudy and tawney. There was a small cheesy nodule in the upper part of the right kidney.

The heart was moderately filled with a loose dark clot—the muscular walls were friable, and on section proved to be quite fatty. There was slight fatty degeneration of the intima aortæ. The valves were competent, and except two small vegetations on the right anterior aortal segment, were healthy.

The lungs were rather dry, and on close inspection were found to be slightly emphysematous. They were otherwise not abnormal.

The stomach contained a considerable quantity of fluid stained by bile and aside from the perforation spoken of was healthy. The intestines were not abnormal.

The uterus had several very small sub-serous fibroids and a mucous polyp in its interior as large as the last joint of the thumb.

The other organs were not diseased.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.

STATED meeting, at 19 Boylston Place, October 29, 1887.

Society called to order by the President, DR. JOHN HOMANS, at 8.08 P. M.; seventy-two members present.

The records of the last meeting were read and approved.

The report of the Secretary, giving the names of deceased members, removals out of, into, or within the district, together with the names of newly-elected members of the Society, was given.

The President called for the report of the special committee on the employment of a stenographic reporter.

DR. NICHOLS, for the Committee, said: At the last annual meeting of the Society, the question of employing a reporter, and also of employing a clerical assistant, was referred to the Committee of Supervision, with full powers. They referred it, with full powers, to the Sub-Committee, which presents the following report: The Committee have arranged to have the postal-cards directed for the sum of thirty-five dollars. They have also procured the services of a medical stenographer, at the rate of three dollars an evening, the bills to be presented and paid monthly, and either party to have the privilege of terminating the agreement at any time. The Committee were led to make this arrangement by several facts: First, there was a very general demand on the part of the Society for a stenographic record; second, it was found, upon consultation with the different Secretaries of the Sections, that they were unanimously in favor of such a report of the meetings; and finally, it was found that a gentleman could be obtained possessing medical acquirements, thus answering a serious objection that had been made to the stenographer previously employed. The one objection to the course which the Committee have adopted was the one of expense, and that we felt to be a serious one; but, in guarding against the contingency of a depleted treasury, they have put the whole matter in the hands of the Treasurer, so that he can terminate the agreement at his option.

DR. BUCKINGHAM said: I have the honor of being on that Committee, and there is one thing I wish to say. It is very certain that this Society is going to have extra assessments from time to time. Probably

the extra assessments will be more frequent during the next two or three years than they heretofore have been. This was understood when the Committee took its action, and the Committee understood, too, that there were men in the Society who find it hard to meet their expenses. I speak of this because, when the extra assessment comes, we wish no one to think that the Committee has taken a step in the dark; it has been foreseen.

DR. J. LESLIE FOLEY read a paper on

THE HAIR: ITS DISEASES AND TREATMENT.

DR. O. K. NEWELL demonstrated the use of

LEITER'S PANELECTROSCOPE AND CYSTOSCOPES,¹

in connection with various kinds of endoscopic tubes, including his own improved patterns of tubes for examination of the bladder. After showing various books and pamphlets, in order to point out the different stages in the development of the endoscope of to-day, he explained the principles on which Leiter's instruments are based, in virtue of which a constant and steady illumination may be maintained.

Members of the Society were then given opportunity to look at the inner surface of an artificial bladder, which had been made for such study.

DR. G. W. ALLEN exhibited a set of

KLOTZ'S ENDOSCOPES,²

and reported a series of cases in which they were used.

The President appointed the following Secretaries of Sections: I, M. H. Richardson; II, A. N. Blodgett; III, G. Haven; IV, F. H. Williams; V, G. H. Monks; VI, C. H. Williams; VII, G. F. Jelly; VIII, W. J. Otis.

By vote of the Society, the President appointed the following Committee of five to prepare a list of candidates for officers of the Society: Drs. D. W. Cheever, F. I. Knight, F. W. Draper, E. W. Cushing, A. B. Morong.

Motion for adjournment being in order, the Society adjourned at 9.45 P. M.

Recent Literature.

A Manual of Midwifery. By A. L. GALABIN, M.A., M.D. Small 8vo. pp. 753. 227 illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

The author has sought to write a book "which should be a manual in point of size, and yet should include all that is likely to be required by students and practitioners": he has succeeded very well. By leaving out the usual description of the female sexual organs and of the development of the embryo, subjects which belong properly to works on anatomy and embryology, space has been saved for the consideration of topics of more strictly obstetrical importance. The book is free from that profuse quotation of authorities, which only embarrasses the student and leaves him in doubt as to what the author himself really believes; and this feature, together with a clear and unassuming style, makes the reading easy and agreeable.

The chapter on Puerperal Fevers is not all that could be desired; but opinions on this subject are in such a state of change, that the perfect portrayal of puerperal pyrexia must not be expected at present.

The chapters on Operative Obstetrics are excellent, although to the American student less valuable, since the descriptions are made with reference to the left lateral position, still the customary one for obstetric operations in Great Britain. For decapitation the author recommends a hooked knife with a serrated edge,—a suggestion worth consideration perhaps, although the combined use of Braun's hook and Ramsbotham, Jr.'s, decapitating knife has proved easy and effectual.

Altogether the book is an excellent one, and well adapted to the use of students.

Hand-Book of Gynecological Operations. By ALBAN H. G. DORAN, F.R.C.S., Surgeon to the Out-Patients, Samaritan Free Hospital for Women and Children, London. Philadelphia: P. Blakiston, Son & Co. 1887.

This hand-book treats of the surgical operations on the female genital organs, leaving out of consideration those minor manipulations and forms of treatment which are usually included in works on gynecology but which are not distinctly surgical. The author's special acquaintance with, and predilection for abdominal surgery as applied to affections of the pelvic viscera, fostered by his connection with the Samaritan Free Hospital, in London, naturally result in a large portion of the work being devoted to this branch of gynecological surgery. In this part of his subject the author is thoroughly at home, and has a great deal to say which is worth reading. This is the most valuable part of the book. The other parts of the work devoted to plastic operations on the vagina and cervix, while fairly well treated, are not especially original nor quite so clearly described as they might be. As a whole, however, it is a very well written and readable book, and one which will well repay study on the part of those general or special surgeons, who are called upon to perform the operations of which the book treats.

To make his work as comprehensive as possible, the author has discussed several subjects which are not usually treated of in similar books, and which lie on the border-line between obstetrics and gynecology. Such for instance are Extra-uterine Pregnancy, Cæsarean Section, and Porro's Operation. Their presence here is, however, quite in keeping with the scope of the book, and distinctly adds to its value.

The illustrations are, as a rule, very good; many of them being original, and drawn from fresh specimens and from preparations in the Royal College of Surgeons. The book is attractively printed and bound.

—It is said that a bill to make vaccination compulsory is soon to be introduced into the Austrian Reichsrath.

—The late Chaplain of Clerkenwell Prison is said to have remarked that at one time that institution contained in separate cells, on charge of drunkenness, a grandmother, a mother, a daughter, the latter with a baby at her breast.

¹ See page 528 of the Journal.

² See page 530 of the Journal.

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THURSDAY, DECEMBER 1, 1887.

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THE VARIATIONS OF THE NORMAL KNEE-JERK.

THE study of the knee-jerk has fairly entered upon the second stage of its existence. In the twelve years that have elapsed since Westphal and Erb first published their discovery of the significance of the knee-jerk, investigators have sought chiefly to explain the mechanism of its origin, and its variations in disease. The second stage in the study, the investigation of its variations in health, may fairly be said to have begun with Jendrassik's¹ discovery that, in health, if a decided muscular effort, such as clenching the hands, was made at the moment the tendon was struck, the muscular response was increased. Jendrassik's discovery was corroborated later by the exhaustive and interesting experiments of Drs. S. Weir Mitchell and Morris J. Lewis,² who found that various changes in the activity of the nerve-centres caused corresponding variations in the intensity of the knee-jerk. These experiments have lately been supplemented by a series of extremely valuable and interesting observations made by Dr. W. P. Lombard, and published in the October number of the *American Journal of Psychology* for the present year. Dr. Lombard's observations were made upon himself during a period of six weeks; sixty-six hundred and thirty-nine observations being made at two hundred and thirty-nine different times.

These investigations are more exact than any others that have yet been made, for Dr. Lombard has devised an apparatus which can strike a blow upon the tendon with the same force and upon the same spot each time, while every movement of the foot during the knee-jerk is registered and measured in millimeters. By this apparatus, therefore, a constant force can be given to the blow, and an exact register can be made of the amount of the knee-jerk.

From these investigations, Dr. Lombard has found

that the knee-jerk undergoes great variations in health. The average extent of the knee-jerk on rising, when not fully awake, is low; it rises greatly after breakfast, falls off during the forenoon, rises after luncheon, falls off during the afternoon, rises after dinner, and falls again during the evening. There is, moreover, a constant decline during the day, the after-dinner average, for instance, being lower than the after-luncheon average. Fatigue, hunger, sleep, depressing weather, or anything which lowers bodily activity, lowers the average extent of the knee-jerk; rest, a meal, wakefulness, and invigorating weather, which increase bodily activity, increase it. Furthermore, even under circumstances which depress the average, mental excitement may raise it temporarily, while, when in vigorous condition, drowsiness or sleep may depress it. Not only do the various muscular efforts reënforce the knee-jerk, as Drs. Weir Mitchell and Lewis have shown, but various mental stimuli, such as an unusual noise or music, have the same effect. We have not space here to dwell upon all the curious and interesting details of Dr. Lombard's experiments, for which we must refer those interested to the article itself; but these experiments form a most valuable contribution to our knowledge of this important symptom.

THE DOCTOR'S WIFE.

It is useless to suppose for an instant that any description of the doctor's wife can do justice to her, for doctor's wives differ as stars from each other in magnitude: or, a comparison more to the point, quite as widely as their husbands. It is even doubtful if a composite photograph could so blend their many virtues and individualities as to produce a face in which each community could find their own doctor's wife. But yet, as a class, the wives of physicians possess certain common traits, as well as common graces, which are known and appreciated not only by their husbands, but by all those who possess an extended acquaintance with doctors and their families, though these characteristics are modified by the peculiarities of the woman, and the character of the practice to which she is wedded. The wife of a doctor in general practice differs very decidedly from the wife of a specialist. The business of the latter is commonly confined to certain hours: his office door is tended by a trained servant, who does not need appeal to the wife for information as to the doctor's whereabouts; but, in general practice, when the domestic answers the bell, and holds a parley with the anxious individual who wishes to find the doctor, the doctor's wife is very apt to be somewhere within hearing, at the head of the stairs, or behind the office door, and is very likely to take the conversation into her own hands. She, perhaps, knows the caller, and is able to dispose of him according to his merits. If it is near the time of the doctor's return, she may exercise va-

¹ Beiträge zur Lehre von den Sehnenreflexen. Deutsches Archiv f. klin. Med., xxxiii, 177, 1883.

² Physiological Studies of the Knee-jerk, and of the Reactions of Muscles under Mechanical and other Excitants. Medical News, February 13, 20, 1886.

rious transparent devices for keeping him, allowing him, if he is garrulous, to tell her what has driven him to consult the doctor.

In the early days of her married life, she may have gone forth herself to pursue her husband in his route through the village, to hasten his footsteps in some new direction; but it would take something very unusual to start her off in a chase after the doctor in her maturer years. It seems to be a superstition among the more helpless class of patients that the doctor's wife must have some share of the wisdom which they attribute to her husband, and it is by no means rare for her advice to be asked as to the course to be followed when the doctor himself is not available, and she learns, in the course of years, a series of stock recommendations — that a baby in a fit may be safely put into hot water, that a broken leg can be left an hour or two until the doctor comes.

But there are patients who resent her interference and disregard her suggestions. They will neither tell their errand, nor promise to call again. They arouse, sometimes, her pity, sometimes her curiosity, a quality of which the model doctor's wife should possess but a minimum. She finds it difficult sometimes to manifest a proper interest in her husband's business without appearing too curious. She is seldom a gossip, or, if she is a little talkative with her neighbors, one of the staple topics of conversation will be the dreadful uncommunicativeness of her husband, whom, under such circumstances, she will possibly characterize as "close-mouthed."

The doctor's wife is almost sure to hold strong opinions on hygienic subjects, and she talks with an air of learning about sewers and traps and ventilation. If she is the wife of a doctor who practises in the city, she holds strong ideas about medical charities. Perhaps she appreciates too highly the doctor's unpaid efforts. She has been known to express very radical ideas about hospitals, and night-calls she abominates. She does not like the doctor to imperil his life by attendance on diphtheria. In fact, her constant tendency is to over-value his services. She feels that he does not receive all he ought for the exhausting labor he performs. And yet, with the sweet inconsistency which belongs to the sex, she hurries the good man off on certain occasions. She has been known to drop to sleep after the night-bell had summoned him, and, awakened again by the noise he makes on his return, oblivious of the time that has passed, to chide him that he has not yet started.

She takes it to heart when the doctor is discharged from a case and a rival practitioner installed over it, and if the family who have thought it for their interest to make the change are numbered among her friends, a little coolness is an almost inevitable result. Her life-long friends do not always fully appreciate her husband's peculiar virtues, and it is a constant surprise to her that any of them should continue to employ their old practitioner.

The doctor's wife is usually emphatically the

domestic manager. The domestic machinery is of necessity left to her control, for the irregular and absorbing nature of the doctor's vocation renders him somewhat unreliable as a purveyor. He is occasionally absent-minded, even when present in the body. If he undertakes to do the marketing, he will forget to order the dinner. On the other hand, the care of the children is apt to pass into the doctor's hands rather more than in other families. He gets up at night to see why John coughs, and what it is that makes Benjamin so restless.

There is one fond delusion which the doctor's wife hides in her own breast, and never reveals, except to her mother, her sisters, and her few intimate friends, and occasionally to her husband, when he is particularly exasperating: she is sure that her husband's success in his profession is, in reality, due to her. His professional attainments are all very well, but, without her directing hand, who can tell where his lack of worldly wisdom would have led him.

ON THE PATHOGENY OF SEA-SICKNESS.

At a recent meeting of the Society of Biology the subject of sea-sickness was discussed by Dupuy, Dastre, Brown-Séquard, Laborde, and others.

Dupuy has found sea-sickness much more frequent and more grave in dyspeptics with dilated stomachs. He has of late been in the habit of recommending his patients to take daily, for two days before and three days after embarkation, thirty grains of antipyrine. In every instance he has had occasion to felicitate himself on the success of this treatment.

Dastre has ascertained, by carefully conducted experiments, that the viscera undergo displacement by the heaving and pitching of the vessel; to attenuate as much as possible this displacement, which is the principal factor in sea-sickness, the organism reacts by contraction of the antagonistic muscles, and especially the diaphragm, and thus a particular rhythm is imparted to the respiration.

Brown-Séquard remarked that it had long been known that sea-sickness results from displacement of the abdominal viscera and consequent traction on the nerve plexuses; on this account he had seen recommended to voyagers abdominal belts with a pad designed to make pressure over the stomach.

Morel thought that there was no doubt that displacement of the viscera, and particularly of the cerebrum, was the chief cause of sea-sickness. What, moreover, proves this, is that every thing which minimizes this displacement, horizontal decubitus, walking, suspension in a frame, etc., attenuates the sea-sickness. It is also worthy of note that the vomiting always follows the pitch of the vessel. Another speaker, who followed Morel, doubted the existence of any cerebral displacement, though conceding that of the abdominal viscera.

Laborde felt inclined to give due weight to the

cases which had been named, but thought that due account had not been taken of nervous predisposition as a prominent factor in the pathogeny of this affection. Sea-sickness, in fact, is a vertigo, and many persons are attacked with it as soon as they get aboard of a ship, even before the least oscillation has been experienced. In such persons every kind of treatment is certain to be futile.

AUSTIN FARM AND THE SUFFOLK COUNTY INSANE.

FOR a good many years the city of Boston has been considering the question of what should be done for its insane. The accommodations in the city asylum are substantially what they were forty years ago, so that to-day the city is forced to keep some seven hundred of its insane, away from the reach of their friends and their families, in the State institutions. These are already overcrowded, and the day cannot be far distant when the law requiring Boston to care for its own insane in a city asylum must be enforced.

When the plan arose for transferring the various pauper institutions to Long Island, the suggestion was made that some relief for the present state of affairs in regard to the city's insane might be obtained by converting the buildings at Austin Farm—then the asylum for female paupers—into an asylum for the insane. This plan met with the approval of Dr. Fisher, the Superintendent of the Boston Lunatic Hospital, who, in his last three reports, has urged its acceptance, and has suggested the details requisite for putting it into successful operation. Having made a careful inspection of the buildings, he decides that they are not suited for violent or sick patients unless extensive repairs should be made. With slight changes, however, they would be well adapted for quiet, mild cases. He furthermore objects to limiting the institution to chronic cases, for he believes that it would often be advantageous to send mild acute cases and convalescents there, and that it would be well to send other selected cases there for a few weeks for the benefit of change of scene. His plan contemplates that Austin Farm should be regarded as a branch of the Boston Lunatic Hospital, with a resident assistant physician, but under the same management as the Lunatic Hospital, so that transfers of patients from one institution to the other might be made without any legal formalities, just as patients are now transferred from one ward to another.

This plan involves no extraordinary expense; it is simple yet well-adapted to the situation, and it affords an excellent opportunity for a suitable classification for the insane. It has not, however, met with the approval of the Board of Directors of Public Institutions. They have seen fit to establish at Austin Farm a separate and independent institution for the care of the insane, and have put it in charge of a gentleman, who, although skilful and experienced as a general practitioner, is entirely lacking in the special training

and experience requisite to fit him for that position.

In former days the Board of Directors of Public Institutions was made up of gentlemen whose character and high-standing in the community were sufficient assurance that the institutions should be conducted with the highest regard for the welfare of their inmates and for the public good. The Board, as at present constituted, has greatly deteriorated. Various acts of late indicate that its members are "there for the offices," and that they are disposed to use those within their gift for the benefit of their friends. Their course in regard to Austin Farm is indefensible. Without any satisfactory reason they have rejected the carefully-studied plan of an expert in asylum management for a scheme similar to that employed in our State asylums, which has incurred the criticism of all competent alienists, who regard proper classification of the insane in asylums as a crying need. Worse than this, however, they have gone back to the old method of treating the insane as paupers, to be shut up in a county almshouse under the care of some local practitioner. That is a method which enlightened communities have abandoned. Furthermore, their appointment of a superintendent must be condemned. No man is fit for such a position unless he has had the special education and training which render him qualified to speak and act as an expert in mental diseases; lacking such training he is unfit for the position, and his appointment is wrong. The last place where personal favoritism or political influence should prevail is in an insane asylum. The Cook County asylum in Illinois shows the results of political influence in its management, and, if the reports from it be true, its example is not one which Suffolk County would do well to imitate.

MEDICAL NOTES.

—Dr. J. W. White, physical director of the University of Pennsylvania, has offered, in the name of the University, a prize of excellence in general athletics to the principal schools in Philadelphia.

—In the report of the Customs Inspector at Shanghai, China, a case is reported in which a young man had lost an eye by puncture for his father's debt; the physician called in attendance was successful in saving the other eye, but the injured eye was lost. The practice is said to be common in some districts of China, and the attention of the Government has been called to it.—*Medical News*.

—Apropos of the cases of mischief following the puerperal use of corrosive sublimate recently referred to in the JOURNAL, we note that in a paper on the "Washing out of the Puerperal Uterus," Dr. Halliday Croom has collected reports of four fatal cases after mercurial irrigation, and thirteen cases followed by serious symptoms. The strength of the solution, when

used, should not be stronger than 1 in 5,000. In cases of anæmia and renal disease, he says, corrosive sublimate should be avoided altogether.

— A report on the case of the Crown Prince of Germany, covering the time from his visit to England up to November 10th, has been published by Sir Morell Mackenzie simultaneously in the medical journals of England and the *Berliner Klinische Wochenschrift*, by the request of the Crown Prince. After giving the history, of the substance of which our readers have already been informed, he concludes: "In my opinion the œdema is due to limited perichondritis, which, in its turn, has probably been set up by the growths which have been formed from time to time in the larynx. Although the nature of the growth which has lately appeared has not been determined by microscopic examination, it presents every appearance of cancer."

— Mr. Justice Kay, in the case of C. A. Vogeler & Co. v. Middleton, recently before one of the English Courts, was asked to restrain the defendants from advertising and selling an oil as St. Joseph's Oil, as being an infringement of the plaintiff's trade-mark, and calculated to deceive the public. The judge after remarking that both the plaintiffs and defendants were vendors of quack medicines which were largely advertised to heal all manner of external injuries, declined to rule that the use of any saint's name in the calendar was an infringement of the plaintiff's trade-mark. But lest either party should use his judgment as an advertisement, he hoped they would add that no one should employ either preparation except under medical advice. We fear that neither party will be likely to conform to the judge's excellent counsel.

— A correspondent of *Science* calls attention to the fact that the discovery, through the experiments of Goldscheider, and of Dr. Donaldson and Prof. G. Stanley Hall in Johns Hopkins University, to prove the existence of a separate system of nerves for temperature, was anticipated by Sir William Hamilton. His observations of psychological phenomena seem to have been nearly as extensive as his philosophic reading. In his edition of Thomas Reid's works (vol. ii. p. 875), after commenting on a singular and exceptional case of paralysis, in which sensations of touch did not seem to be localized, he takes the occasion to hazard the conjecture, based upon observations of his own, that there is a distinct set of nerves for sensation of temperature. His language is:

"I may notice also another problem, the solution of which ought to engage the attention of those who have the means of observation in their power. Is the sensation of heat dependent upon a peculiar set of nerves? This to me seems probable, (1) because certain sentient parts of the body are insensible to this feeling, and (2) because I have met with cases recorded, in which, while sensibility in general was abolished, the sensibility to heat remained apparently undiminished."

BOSTON.

— The Boston Medical Library has received a legacy of \$2,000 from a source as yet not publicly announced, and also the sum of \$500 from an equally modest benefactor, the latter sum being given as a specific contribution towards the new building for which the society has just acquired land.

NEW YORK.

HOSPITAL SATURDAY AND SUNDAY FUNDS.

— At a meeting of the Hospital Saturday and Sunday Association, held November 20th, the annual statement from the twenty-eight hospitals included in it was presented. This forms the basis for the distribution of the annual hospital collection, and it appears that during the past year the total expenditures of those institutions amounted to \$740,722.27. Their total income from invested funds was \$142,147.85, leaving \$598,575.42 to be raised for their support. Towards this the hospitals received \$56,355.51 from the city, and \$163,808.09 from paying patients, and the balance of about \$300,000 was left dependent upon private contributions, including the annual hospital collection. In the department of work the following showing was made: The number of house or bed patients was 13,920, of whom 10,157, or about 75 per cent., were free patients. In addition, there were treated 119,124 free dispensary patients, who made a total of 365,920 visits. A committee on dispensaries reported in favor of a scheme by which dispensaries connected with hospitals should be entitled to share in the distribution of the general collection fund.

Miscellany.

HYSTERIA AND HYSTERO-EPILEPSY IN SOLDIERS.

THE *British Medical Journal* quotes from the *Weekblad van het Nederlandisch Tijdschrift voor Geneeskunde* an account by Dr. Janssen of several cases of hysteria and hystero-epilepsy occurring amongst Dutch soldiers. In one of the latter class of cases occurring in a man of twenty-one, who had come of a highly neurotic family, where there were several attacks during the day characterized by semi-consciousness, extremely rapid respiration, abdominal tenderness, coldness of the extremities, with cold sweating, pulsation of the carotids and other arteries, opisthotonos, and convulsive spasms of the extremities, Dr. Janssen found that the attacks could be arrested by exerting firm and deep pressure with the closed hand on the left iliac region, or by a powerful induced current. The surface of the body was anæsthetic, and if the skin were lightly pricked with a pin, not only did the man not cry out, but no blood appeared. Various anti-epileptic and anti-hysterical remedies were tried without benefit. Different metals were applied to the surface of the forearm, but the only one which produced any effect was silver, which left a red mark. This induced Dr. Janssen to prescribe nitrate of silver for internal use, and this produced a

great improvement in the patient. In another case there was aphonia and aphasia, the lad being able to understand what was said to him, and to read and write, but not to speak—an example of Charcot's hysterical mutism. Treatment produced no effect upon this patient, and he had to be discharged from the army.

DISINFECTION AT THE NEW YORK QUARANTINE.

DR. G. M. STERNBERG, in his presidential address at the late meeting of the American Public Health Association, gave the following account of the ceremony performed at the New York Quarantine, as observed by him when entering that port last August on a vessel from Brazil:

"As another illustration of the evils arising from the present system of supporting quarantine establishments, I will mention a circumstance which occurred upon our arrival at the port of New York. With the deputy health officer, who boarded our ship, came a man with a jug. I was informed by one of the officers of the ship that he was to disinfect the vessel. Being somewhat curious to know the method of disinfection employed, I asked the ship's surgeon to go with me to inspect, when, after a detention of less than one hour, we had started from the quarantine station for our wharf. We found that the man with the jug had lowered a bucket by means of a rope through one of the hatches between decks. Upon pulling up this bucket, I found that it contained two or three pounds of some powder, which had been wet, probably with acid solution, and which gave off an odor of chlorine. No doubt, when first lowered between decks, there had been a considerable evolution of chlorine, but, in the vast space to be disinfected, it was so diluted that at the end of an hour I did not detect the odor of chlorine gas when I lifted the hatch, and it was only by approaching my nose to the bucket that I was able to ascertain what disinfectant had been used. The most curious part of the story is that I was informed that the bucket had been lowered between decks to disinfect a quantity of hides which were stored in the hold. What was the object of this 'disinfection'? Evidently not to disinfect, for no one at the present day would think of maintaining that the hides in the hold had been disinfected by the procedure of the man with the jug.

"The only object that I can conceive of depends upon the fact that there is a fee for disinfecting, which must be paid by the agents of the ship; at least, I was so informed by the officers of the ship."

CASES OF ADDISON'S DISEASE.

At a recent meeting of the Liverpool Medical Association, as reported in the *Medical Press*, Dr. Davidson showed one patient suffering from this disease, and referred to two other cases recently under his care. The patient exhibited was a sailor, aged twenty-seven, and the disease had existed about three years. A few months ago, when he attempted to resume work, his symptoms became more aggravated, and he was admitted into the Liverpool Royal Infirmary. The patient was deeply bronzed, especially on the face, back

of the hands, and other parts exposed to the air; also on the left side, where blisters had been applied eight years ago for an attack of pleurisy. There were also deeply pigmented patches on the lips and mucous membrane of the cheeks. When he was admitted into the Infirmary, three weeks ago, his debility was so great he could hardly stand or walk; he had much abdominal pain, and intense vomiting. He was kept in bed, blisters were applied to the epigastrium, and, when the sickness subsided, twenty grains of iodide of sodium were given daily. The urgent symptoms had now abated, but the bronzing of the face had perceptibly increased since his admission. Dr. Davidson referred to two other cases of Addison's disease recently under his care. In one of the other cases described, the patient, a man aged thirty-three, died from exhaustion three months after the first appearance of the symptoms. He had great muscular weakness, vomiting, and abdominal pain and bronzing. At the post-mortem examination, the supra-renal capsules were seen to be masses of curdy, tubercular matter, and were matted to the surrounding tissues. The left testicle was tubercular, and there was an encysted empyema in the right pleura. The other case was an interesting example of disease of the supra-renals without bronzing of the skin. The patient, a man aged forty-five, was admitted into the Royal Infirmary in July, 1883, in a state of extreme exhaustion and emaciation, like the collapse of cholera. He had caught cold two months before, and since that time had gradually got weaker, and suffered from inability to take food. He had no vomiting and no diarrhoea till just before his admission. He died next day. On post-mortem examination, both supra-renal capsules were found to be much diseased, and adherent to the neighboring tissues. The left was completely destroyed, its structure being replaced by caseous and calcareous matter. The right was enlarged, hard, and fibrous, with small calcareous deposits. No apparent change in the sympathetic nerves.

THE DIETETICS OF MUSTARD AND PEPPER.

DR. P. BURJINSKY, one of the house-physicians (ordinator) to Professor Manassein's clinic, has described, in his St. Petersburg Inaugural Dissertation for 1887, (see *London Medical Record*, November 15, 1887), the results of an experimental inquiry into the influence of two of the commonest condiments—mustard and pepper—on assimilation and metabolism. The author's experiments were conducted on nine quite healthy persons (including himself and a lady), aged from twenty-two to thirty. In one series of the experiments, five in number, the influence of mustard (the best Sarepta sort) on the assimilation and metabolism of nitrogenous constituents of a mixed food was studied. In another group of four, experiments, the same points were elucidated in regard to pepper, the best—so-called "Russian"—sort of the *piper nigrum*. Finally, in a third category, including two experiments, the influence of mustard on the assimilation of fats of cow's milk was inquired into. Each observation in all the three groups was divided into two periods, each of several—from three to seven days' duration—during the first of which the subject experimented upon was receiving no condiment; while during the subsequent one, he or she in-

gested daily either mustard or pepper, all other conditions remaining as equal as possible from the beginning to the end. The results of Dr. Burjinsky's laborious and scrupulously careful experiments may be summed up as follows: 1. When given with meals in small quantities, in the daily amount varying from 8 to 18 grammes of the condiment prepared of 50 grammes of the mustard-flour and 80 grammes of warm water—that is, when taken exactly as in daily life—mustard does not show any influence on the assimilation of nitrogen of mixed diet (consisting of butcher's meat, milk, white and rye bread, potatoes and beef-tea, and tea). 2. Pepper, in the daily quantity from 0.7 to 1.0 gramme, lowers the assimilation, the decrease varying from 0.4 to 2.3 per cent. 3. Mustard, in the daily amount of 4 to 10 grammes, lowers the assimilation of fats, the fall amounting to 2.2 per

cent. 4. Neither mustard nor pepper show any influence on the systemic metabolism. 6. Mustard somewhat improves appetite, while pepper diminishes it. 6. Mustard has no influence on the daily quantity of urine, though Dr. Lauder Brunton, in his classical *Text-book of Pharmacology*, 1885, p. 379, regards the condiment as a diuretic. 7. But pepper, as a rule, increased the secretion of urine, the daily surplus varying from 3 to 14.8 per cent. The urine at the same time acquires a strongly pronounced characteristic odor. Probably both the diuresis and odor should be attributed to the presence of an essential oil isomeric with turpentine (Flückiger). 8. Both mustard and pepper very frequently give rise to gastro-intestinal disturbances—colics, diarrhœa with eight to ten stools a day—in persons unaccustomed to the use of the condiments in question.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 19, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	670	228	17.40	19.80	1.05	8.55	1.95
Philadelphia	993,801	372	111	10.80	10.80	2.70	9.60	1.20
Brooklyn	745,108	311	100	21.12	17.60	1.28	14.72	2.24
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	156	54	19.20	9.52	2.56	10.24	.64
Boston	400,000	190	55	13.25	25.97	2.12	3.71	5.30
New Orleans	242,750	119	35	20.64	9.46	.86	8.55	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	94	29	10.66	10.66	4.24	2.12	—
Pittsburgh	210,000	80	29	20.00	20.00	7.50	11.25	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	13	4	15.38	15.38	—	7.69	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	16	7	25.00	6.25	—	6.25	18.75
Worcester	68,383	23	11	25.10	17.50	—	21.75	—
Lowell	64,051	32	6	18.78	12.52	—	6.26	3.13
Cambridge	59,660	25	14	20.00	24.00	—	10.00	12.00
Fall River	56,863	21	11	14.28	—	—	14.28	—
Lynn	45,861	17	6	23.52	—	—	11.76	5.88
Lawrence	38,825	14	5	14.28	14.28	14.28	—	—
Springfield	37,577	13	4	15.38	7.69	—	—	—
New Bedford	33,393	10	4	40.00	—	—	40.00	—
Somerville	29,992	19	8	36.82	21.04	5.26	5.26	10.52
Salem	28,084	12	4	8.33	—	—	8.33	—
Holyoke	27,894	7	2	28.56	28.56	14.28	14.28	—
Chelsea	25,709	9	1	44.44	11.11	—	—	22.22
Taunton	23,674	10	2	30.00	10.00	20.00	10.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	3	12.50	—	—	—	—
Brockton	20,783	5	1	—	40.00	—	—	—
Newton	19,759	—	—	—	—	—	—	—
Malden	16,407	7	1	—	14.28	—	—	—
Fitchburg	15,375	7	1	—	—	—	—	—
Waltham	14,609	7	4	28.56	—	—	—	—
Newburyport	13,716	7	0	—	14.28	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,274: under five years of age 733; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 385, acute lung diseases 363, consumption 311, diphtheria and croup, 196, scarlet fever 46, typhoid fever 46, diarrhœal diseases 40, malarial fever 19, measles 11, cerebro-spinal meningitis nine, whooping-cough seven, erysipelas seven, puerperal fever four. From diarrhœal diseases, New York 18, New Orleans eight, Baltimore and Lowell three each, Boston and Brooklyn two each, Pittsburgh, Springfield, Gloucester and Waltham one each. From measles New York six, Baltimore three, Boston and Chelsea one each. From cerebro-spinal meningitis, New York four, Somerville three, Worcester and Lynn one each. From erysipelas, New York three, Philadelphia and New Orleans two each. From whooping-cough, New York two, Brooklyn, Baltimore, Boston, New Orleans and Nashville one each.

From puerperal fever, Philadelphia, District of Columbia, Springfield and Chelsea one each.

In 22 cities and towns of Massachusetts with an estimated population of 1,082,707, the total death-rate for the week was 21.90 against 20.85 and 20.42 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 5th, deaths reported 3,800: infants under one year of age 902; acute diseases of the respiratory organs (London) 506, scarlet fever 144, diarrhœa 77, measles 75, whooping-cough 60, fever 57, diphtheria 57, small-pox (Sheffield) 21.

The death-rates ranged from 12.7 in Hull to Halifax 31.0; Birmingham 17.5; Bradford 22.5; Derby 25.0; Liverpool 21.7; London 21.5; Manchester 23.1; Newcastle-on-Tyne 26.6; Nottingham 18.2; Sheffield 25.6.

In Edinburgh 16.1; Glasgow 22.4; Dublin 31.0.

The meteorological record for the week ending November 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Nov. 19, 1887.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather, ¹			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 13	29.96	40.0	48.0	32.0	77.0	66.0	74.0	72.0	N.W.	N.W.	W.	7	8	8	F.	O.	C.		
Monday, ... 14	30.05	42.0	48.0	32.0	77.0	69.0	85.0	77.0	W.	S.	S.	5	6	6	O.	O.	F.		
Tuesday, ... 15	29.41	48.0	52.0	40.0	100.0	87.0	92.0	93.0	E.	W.	W.	14	10	10	R.	O.	F.	12	.97
Wednes., ... 16	29.52	40.0	46.0	34.0	87.0	81.0	83.0	84.0	N.W.	N.W.	W.	18	24	18	O.	F.	C.	2	.03
Thursday, 17	29.70	45.0	54.0	36.0	76.0	63.0	65.0	68.0	S.W.	S.W.	W.	6	24	14	O.	F.	C.		
Friday, ... 18	30.05	41.0	48.0	35.0	65.0	40.0	58.0	54.0	S.W.	W.	S.W.	12	16	10	O.	F.	C.		
Saturday, 19	29.69	45.0	50.0	34.0	75.0	100.0	100.0	92.0	S.	E.	S.	4	24	6	F.	Lt.R.	G.	8.	.14
Mean, the Week.	29.769	43.0	49.0	35.0				77.1										22.	1.14

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 19, 1887, TO NOVEMBER 25, 1887.

PERIN, GLOVER, colonel and assistant surgeon general. Retired from active service November 17, 1887, by operation of law. S. O. 268, A. G. O., November 17, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Assigned to duty as attending surgeon in New York city.

SMITH, J. R., lieutenant colonel and surgeon. Ordered for duty as Medical Director, Department of Dakota.

HORTON, S. M., major and surgeon. Granted six months leave of absence on surgeon's certificate of disability.

ARTHUR, W. H., captain and assistant surgeon. Granted two months leave of absence, with permission to apply for two months extension, to take effect on the arrival at Fort Niagara, N. Y., of assistant surgeon Paul R. Brown.

KEAN, J. R., first lieutenant and assistant surgeon. Granted two months leave of absence, to take effect about December 1. S. O. 269, A. G. O., November 18, 1887.

BROWN, PAUL R., captain and assistant surgeon. Ordered to Fort Niagara, New York.

SKINNER, JOHN O., captain and assistant surgeon. Ordered to Fort Ontario, New York.

RICHARD, CHARLES, captain and assistant surgeon. Ordered to post near Denver, Colorado.

CARTER, E. C., captain and assistant surgeon. Ordered to Willett's Point, New York. S. O. 270, A. G. O., November 19, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 26, 1887.

NASH, F. O., passed assistant surgeon. Detached from duty at the Smithsonian Institute, and ordered to the Washington Navy Yard.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, on Wednesday evening, December 7th, at 8 o'clock. Dr. Edward Reynolds will report a case of "Stricture of the Rectum Treated by Incision." Drs. E. H. Bradford and M. H. Richardson will read papers on "The Treatment of Inflammations in the Neighborhood of the Cecum," and will report cases.

G. H. MONKS, M.D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—The regular meeting will be held at the Medical Library, 19 Boylston Place, on Monday evening, December 5, 1887, at 8 o'clock. Readers: Dr. H. E. Marion, "Pyo-pneumothorax with Autopsy, in a Subject with Extreme Retro-lateral Curvature of the Spine." Dr. A. N. Blodgett, "Twelve Years in the History of the Development of a Case of Moral Imbecility of the Pomeroy Type." At nine o'clock balloting for new members.

CHARLES P. STRONG, M.D., Secretary.

OBITUARY. FREDERICK HYDE, M.D.

Dr. Frederick Hyde, who died in Cortland, N. Y., October 15, 1887, practised his profession successfully in that neighborhood for more than fifty years. Up to within a few days of his death he performed difficult surgical operations with his accustomed skill and zeal. He was Professor of Surgery in the Syracuse Medical School, in which department he had been busy as a teacher for forty years. Notwithstanding his arduous and continuous duties as a practitioner, Dr. Hyde found time to give to many things which concerned the general public welfare. He was at the time of his death, President of the Cortland Normal School; president of the Cortland Savings Bank; trustee of the Franklin Hatch Library Association, and of the New York State Idiot Asylum. Dr. Hyde will be greatly missed in the community in which he lived and worked.

DEATHS.

Died in Westfield, Mass., November 23, 1887, James Henry Waterman, M.D., M.M.S.S.

In North Abington, Mass., November 25, 1887, Nelson Briggs Tanner, M.D., M.M.S.S., aged seventy years.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Minnesota State Medical Society, 1887.

The Variations of the Normal Knee-jerk, and their Relation to the Activity of the Central Nervous System. By Warren Plympton Lombard, M.D. (Reprint.)

Transactions of the American Surgical Association, Volume V. Edited by J. Ewing Mears, M.D., recorder of the Association. Philadelphia. Printed for the Association and for sale by P. Blakiston, Son & Co. 1887.

An Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis. By B. A. Watson, A. M., M.D., Surgeon to Charity, St. Francis, and Christ Hospitals, Jersey City, N. J. Reprint. 1887.

To What Extent can we Classify Vesical Calculi for Operation? With a Report of Cases and Remarks on the Different Methods Employed. By A. Vanderveer, M.D., of Albany, N. Y. (Reprinted from the Transactions of the American Surgical Association, May 11, 1887). Philadelphia: William J. Dornan, Printer. 1887.

A Complete Handbook of Treatment arranged as an Alphabetical Index of Diseases, to facilitate Reference and containing nearly 1000 Formule. By William Aitken, M.D. (Edin.), F.R.S., etc. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D., Late Electro-Therapist to the New York State Women's Hospital. New York: E. B. Treat. 1887.

On the Animal Alkaloids, the Ptomaines, Leucomaines and Extractives in their Pathological Relations. Being a Short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir William Aitken, M.D., F.R.S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.**THE TREATMENT OF PULMONARY PHTHISIS
BY THE PNEUMATIC CABINET, WITH A
REPORT OF CASES.**

BY D. ROLLINS BROWN, M.D., BROOKLYN, N. Y.

THE therapeutic history of Pulmonary Phthisis is disheartening. The numerous remedies that have been brought to our notice from time to time, as having an especial preventive or curative influence upon the disease, have so far failed to fulfil the promises made for them, that its continued and dreadful mortality is regarded as a reproach to medical science, and presents a pathetic contrast to the inherent optimism of its subjects. Mindful of a past so full of discouragement, medical men very naturally doubt the efficiency of whatever remedial measures may be proposed. This attitude is praiseworthy, if it implies a willingness to investigate theory, to sift, and honestly adjudicate upon, the evidence furnished by practice. Herein lies the true conservatism: it never degenerates into carelessness or indifference — counterfeit presentments against which the most candid minds must ever be on guard. One of the latest candidates for favor in the management of pulmonary disease, is the instrument known as the Pneumatic Cabinet. Dr. Williams of Brooklyn, to whom we are indebted for the suggestions out of which it grew, has spent much time and labor to perfect its mechanism, and to present its theory and practice to the profession. Whatever its achievement, to him and his co-workers, is due the credit of having furnished means for making exhaustive study of aero-therapeutics. Moreover, the advent of this method has quickened scientific thought, and aroused fresh endeavor to the end that the resources of medicine shall be made more equal to the consumptive's need. The time is marked by the appearance of fresh devices for the relief of these cases, and there is much to encourage a belief that phthisis is at length taken from the list of ailments whose management must be left to the inadequate operation of general principles. Knowledge that an intimate relation exists between the bacillus of tuberculosis, and the disease seated in the lungs, indicates the line along which search for the remedy is likely to be rewarded, and it is with direct regard to this knowledge, that the cabinet has been constructed. While furnishing the mechanical, it proposes to convey to the site of the morbid process, its chemical antidote. That it does the former cannot be denied; as to its ability to do the latter, there is diversity of opinion among physicians, arising, it must be supposed, from a misunderstanding of the physical laws involved in its operation. Perfect comprehension of them must be followed by the conviction that topical application can be made to the lungs, though perfect clinical demonstration of the fact, and of its value, must await the discovery of an antiseptic, and a germicide, that shall fulfil necessary conditions. Doubtless the instinctive hostility of the profession to trade-marks, has been prejudicial to the instrument, but objections based on the ground that it is patented have no special application, while the policy that has governed its introduction and distribution has been such as fully to conserve the interests of both physician and patient.

Already, Pneumatic Differentiation has a considerable literature. Articles upon the subject have been

read before representative medical societies, and have been widely circulated through the columns of the medical press. Discussion has been free, and criticism on the whole favorable, though participants, in their desire to avoid the charge of enthusiasm, have been in danger of according the faint praise that damns. Still, medical journals, and medical societies, are not practitioners, and, until the interest of the individual is enlisted, the true place of this system among remedial agents cannot be established. The profession, having authoritatively consented to give its claims serious consideration, should hasten to define its sphere, its range, and its degree of usefulness as soon as may be. A review of papers containing reports of cases treated by this method, shows a most gratifying uniformity in the results obtained by different observers, making due allowance for the personal equation. Essentially the same experience has been common to them all. Whatever the potent factor in the operation of the cabinet may be, it is a constant one, and will invariably accomplish the same work; it is for the physician to determine the pathological conditions to which its application is best adapted.

Practice thus far has verified the original prediction that the greatest advantages would be derived from its employment in the very first stages of disease. In my own experience, the largest measure of success has been met with in cases where the morbid process had just begun. We are not to withhold our confidence because the number of recorded cures is not greater, especially in view of the declaration made by several investigators, that they purposed to deny credit whenever questionable, and to reserve the word "recovery," until sufficient time had elapsed after suspension of the treatment, to fully warrant its use. A majority of the cases treated have been improved. Some to a remarkable degree. A few have been cured. Opium derives its value largely from its ability to control distressing symptoms, and tracheotomy maintains its place because occasionally successful. This treatment, so far from being incompatible with the plan generally pursued, is distinctly adjuvant, and the rapid and decided gain in weight which has followed its systematic employment may be partially attributed to the attendant increase in functional activity through its influence upon the circulation.¹ An immediate gain in digestive and assimilative power has been noticed in every case of beginning phthisis that has come under my care. There is little difficulty in crowding nourishment upon these patients. They are directed to take food, usually milk, or bovine, every two hours between meals until bed-time, and, if they wake in the night, to drink the glass of milk placed by the bed-side when they retire — and I rarely write for pepsin. This over-feeding has been found practicable in some third-stage cases, and, that too, when digestion has been habitually poor, according to the history.

In favorable cases I am accustomed to look for improvement within a dozen treatments covering a period of three weeks, and relief of symptoms sometimes follows the first inhalation. Considering the pronounced effects, local and systemic, of which the cabinet is capable, contra-indications are few, and so far as demonstrated, do not regard the pathology that belongs to phthisis. With the exercise of ordinary care in diag-

¹ The Physiological Action of the Differential Process on the Circulation, by E. Tiegel, M.D. *Journal of the American Medical Association*, November 28, 1885.

nosis, its application can do no harm. This negative quality is not to be despised; measures which fail to do good, often do ill. They know it, whose stomachs are unfitted for the performance of their simplest offices by the orthodox exhibition of cod-liver oil; they know it too, whose fruitless pursuit of health from west to south, has left them, with scarcely vitality enough to permit them to meet the inevitable amid the comforts of home. Not that I disparage climatic change, it is often of the greatest value, but it should not be counselled unless very clearly indicated; if not advantageous, it is pernicious. The cases most likely to profit by a change of climate are those most likely to respond to treatment in the cabinet. It has seemed to me also, that a brief experience of this treatment, immediately preceding migration, is calculated to put patients in the best possible condition to appropriate the benefit sought. For a majority of consumptives, change of climate is out of the question, to them particularly, the cabinet holds out a substantial hope. In view of the reasonableness of the method, its accessibility, its accomplishment, we are warranted in giving it tentative recognition; a trial involves no risk in itself, and will not conflict with the use of other generally approved agents.

It is desirable that the instrument be kept in legitimate hands. Having received scientific endorsement, it must have professional support, otherwise we shall suffer the humiliation of having enlarged an unusual opportunity for the quack to enrich himself at the expense of everybody but the manufacturer. I will only suggest the probable usefulness of the method in preventive medicine, in view of the fact that phthisis usually begins in the unexpanding apices of the lungs. If these regions are aerated and rendered aseptic, important conditions favorable to the lodgment of tubercle will have been removed.

In February, 1886, my associate, Dr. Sidney Fox, and myself, in a paper read before the Kings County Medical Society, reported "Sixty-nine cases of lung disease treated with the Pneumatic Cabinet."² Of these thirty-four were cases of phthisis. Among those reported by us as "improved" was the case of Mr. C., to the clinical notes³ of which I desire to revert briefly. This man had a cavity in the right lung in a state of activity. His weight had dropped from one hundred and forty to one hundred and fifteen pounds during his illness. He was very weak, with troublesome cough, profuse expectoration, and night-sweats. Pulse, 120; temperature, 102° in the morning. He was discharged April 1, 1886, having had seventy-two treatments. His weight was then one hundred and thirty-two pounds. There were no subjective symptoms, and physical exploration detected no evidence of active disease in the lungs. With a view of ascertaining the permanency of this result I requested a statement of his condition from his friends in March of the current year. At that time his mother wrote that he was in good health. His weight was one hundred and forty-four pounds.

The present condition of another case of phthisis among those reported "improved" is equally gratifying. Here, also, the disease had gone on to the third stage. This patient, a lady resident in Brooklyn, suspended treatment nearly two years ago. Since

then she has remained well, given birth to a healthy child, performed all the offices of maternity, and assumed matronly proportions. Of the subsequent history of the other cases in this class I have no accurate knowledge. The case of fibroid phthisis reported, afterwards developed tuberculosis, and, by the advice of the attending physician, moved out of the city.

The following table includes all the cases of phthisis that have come under our care for special treatment from February, 1886, to August, 1887:—

Whole number of cases	38
Treatment followed by no improvement	11
Treatment followed by slight or temporary improvement	7
Treatment followed by improvement	13
Treatment followed by remarkable improvement	7
Deaths	6

It is, of course, impossible to express in a general statement, the impression gained by almost daily observation of cases under treatment, but the limits of a paper preclude the full reproduction of clinical notes, and I can only define broadly the meaning which the terms used are intended to convey: By "slight or temporary" improvement is meant the amelioration of more prominent symptoms, as cough, sense of thoracic oppression, night-sweats; under "improvement" are included cases in which the treatment has been followed also by a gain in weight, partial restoration of appetite and strength, in women frequently the return of the menstrual discharge; on auscultation, a diminution in the number, and occasionally the disappearance of râles for varying periods; "remarkable improvement" describes cases in which, in addition, there has been a decided gain in weight, and, in some instances, entire cessation of symptoms, with objective evidence of quiescence of the disease for considerable periods. Of the seven cases under the head of "remarkable improvement," two were diagnosticated as fibroid phthisis, three as phthisis in the first stage (beginning consolidation), two as phthisis in the third stage (*a*, softening, *b*, cavernous.) In one of these last cases there was complete abatement of symptoms, and a gain of thirteen pounds in weight, after thirty-three treatments, occupying three months. The other will be found reported in detail. In a succeeding paper I hope to present the further history of these seven cases. That some knowledge may be had of the data upon which judgment of the results of treatment has been based, the clinical history of two cases is appended.

Miss ———, age thirty. Family history, negative. Personal history: in good health up to the fall of 1883; dates illness from a cold contracted at that time; cough at first dry—no expectoration. In the spring of 1884 had four distinct hæmorrhages, each following a violent paroxysm of coughing; cough afterwards became looser; soon began to notice failure in appetite and strength. These symptoms increased during the summer. In the winter of 1884-1885 she went to Colorado; remained there nine months without much benefit. Soon after her return the cough became severe, and attended with considerable expectoration; she suffered from wandering pains in the chest, hoarseness, night-sweats, and increasing debility. The case came under my care in May, 1886. She was then extremely anæmic; had lost seventeen pounds in weight; had little appetite; feeble digestion; complained of thoracic oppression—"felt as though she were breathing through a pin-

² Proceedings of the Medical Society of the County of Kings, February and March 1886. New York Medical Journal, June 19 and 26, 1886.

³ Page 17 of pamphlet cited.

hole"; was short of breath; unable to lie on the right side; cough troublesome; sputa greenish in color; night-sweats; constipation; menses regular. Physical examination: chest flattened on the right side; marked dullness on the right side from apex to third intercostal space, and from the sternum to within two inches of the axillary line; dullness in corresponding region behind; high-pitched note over left upper thorax. Tubular breathing over right upper chest, with increased voice transmission; moist râles throughout the chest on both sides, distinctly audible for a distance of several feet; masked crackling over right upper chest; at left apex expiratory sound is harsh and prolonged. Chest expansion one inch and a half. Temperature 100.75° (10 A.M.); pulse 108; weight $95\frac{1}{2}$ pounds. Sputa contain *bacilli* in considerable number. [3 on a scale in which 5 represents the maximum.]

Treatment was begun on May 30, 1886, and administered daily until June 5th. The relief to symptoms was considerable: Cough decreased; "pin-hole" respiration disappeared; night-sweats ceased. During a visit to New Jersey the patient had a sharp hæmorrhage, and spat up a large quantity of "matter." Returned, June 11th, feeling very weak. Treatment was resumed and continued daily up to July 1st, when she started for the White Mountains. She expressed herself as feeling much better; rested well at night; was able to lie on either side; coughed and raised much less; had no night-sweats; ate pretty well, and was stronger. Internal treatment was confined to the exhibition of a bitter tonic, and the occasional use of pepsin. Trial was made of the hypophosphites of lime and soda, and of different preparations of iron, but they were not well borne. The diet was made as full as possible, milk and bovine being taken between meals. Physical examination, June 30th: moist râles have entirely disappeared in the left lung, and are very much lessened in the right; no appreciable change in other signs, but there is now evidence of a cavity on the right side. Expansion two inches. With one exception the recorded morning temperature did not go above 99.5° during June. Patient returned from the mountains in September. During her absence took tonic doses of arsenious acid three times a day. Came back with former symptoms renewed. Cough keeps her awake at night; chest very sore; appetite poor. In August passed a menstrual period for the first time. Temperature 100.4° ; pulse 135; weight 93 pounds. Resumption of treatment was promptly followed by improvement, though during September frequent use of the zinc and belladonna pill was made to control exhausting night-sweats. Weight, September 30th, $91\frac{3}{4}$ pounds. October 6th the case was seen by Dr. A. L. Loomis, of New York, who reported that he found a cavity in the right lung, and first stage phthisis in the left. He advised rest, a full diet, and persistence in the cabinet treatment. During the remainder of October treatments were given every other day. The recorded morning temperature did not go above 99° during the month, and was often below the normal point. She made no gain in weight, but experienced much relief of symptoms. During November the advance was marked; cough almost entirely disappeared; there was little expectoration, the sputa being white instead of a greenish yellow; rested well at night; menses returned (after an

absence of three months); prevailing morning temperature, 98.5° ; weight, November 30th, $96\frac{1}{4}$ pounds; *bacilli* absent. She began to take gradually increasing doses of pure cod-liver oil in October, and by the end of November was having half an ounce of it, an hour after each meal, and some form of nourishment every two hours, without digestive disturbance. This improved condition has lasted, with few interruptions, up to the present time (September). Regular treatment was suspended in March. In February no signs of progressive disease were discovered on physical examination. Signs denoting a cavity excluded, the abnormal respiratory sounds were limited to harsh breathing over both upper thoraces, with a crackle on the right side. Good reports have been received from the patient and friends during the summer. She now weighs one hundred pounds, coughs very little, and raises only in the morning. This case is classed under "remarkable improvement."

Mr. S., age 19 years. Dispensary case. A brother and a sister died of consumption; the father has lung disease: mother in good health; beyond this nothing known of family history. Personal history: first noticed a hard cough in September, 1886, which has persisted up to the present time (November 24, 1886), no expectoration. Early in November had a hæmorrhage, following violent exercise; then coughed up "three or four cupfuls of blood and froth"; has had frequent hæmorrhages since, all crimson in color; for some years has had stitch-pains in the left side. In October, first noticed failure in appetite, and loss of flesh and strength. In September, October and November, had repeated attacks of diarrhœa, lately has had profuse night-sweats two or three times a week. Physical examination: a tall youth, sallow, and narrow-chested. On percussion a high-pitched note is heard over the top of both lungs. In these situations the breathing is harsh, with a friction sound at the summit of the left chest. Weight, 129 pounds; pulse 130; temperature 101.75° (9 A.M.) The case was seen for the first time November 24, 1886. *No treatment was given.* The next day alarming hæmorrhages set in, which were not fully controlled, with the usual remedies, until December 5th. He came to the office for treatment December 9th, was then extremely pale, and seemed very weak. Temperature 97° , weight $122\frac{1}{2}$ pounds. Improvement dated from the first inhalation, and was remarkable in rapidity, and degree. On the 27th of February, 1887, with daily sittings, his weight was $134\frac{1}{2}$ pounds; he had had no night-sweats for two months; appetite was excellent; cough had entirely disappeared. His mother sent word that he seemed perfectly well, and suggested that he might be allowed to go to work again. Good resonance was found on both sides on percussion, and though the breathing was still somewhat harsh, no friction sound could be detected anywhere. Expansion four inches. Temperature 99° . Early in March he obtained light employment and continued the treatment bi-weekly. On the morning of March 16th, he coughed up some dark-colored blood mixed with mucus. On the 19th, had a slight hæmorrhage, and complained of chilly sensations. Hæmorrhages occurred also on the 20th and 21st, and on the 22d he had a night-sweat. The cough had returned. Daily treatments were advised. Weight was now $126\frac{1}{2}$ pounds. Unfavorable symptoms continued until the 8th of April, when he again began to gain. On the 27th his

weight was 131 pounds; the cough was about gone, and he expressed himself as feeling "first-rate." From April 27th to May 6th no treatments were given. On May 5th the hæmorrhage recurred, and the cough and expectoration began to increase. During the week following he frequently spat "chunks of blood," and the sputa were not free from blood until the 16th. On the 26th, his weight was 126½ pounds. A brief period of improvement succeeded, but during the summer he steadily lost ground. He now complains a good deal of stitch-pains in the left side; cough is quite troublesome; appetite variable; looks pale; feels weak; occasionally has a night-sweat. A considerable hæmorrhage occurred on the 20th of September. Physical examinations made in July and August, showed increasing disease in the left lung, which now involves the entire upper lobe. The respiratory murmurs over the lower lobe is very feeble. Weight, September 20th, 123 pounds; temperature 99.4°; pulse 108. Expansion two inches. This case is classed under "temporary improvement."

Medicaments for inhalation have been varied to suit individual cases, but iodine has been most generally employed.

A CASE OF POISONING WITH THE OIL OF GAULTHERIA.¹

BY J. G. PINKHAM, M.D., OF LYNN.

THE subject of this report was a young woman who had been married three weeks, and was three months advanced in pregnancy. On March 1st, at 9 P. M., she took, by advice of a friend, one ounce of the oil of gaultheria, for the purpose, as was supposed, of procuring an abortion. Soon after taking the drug, she complained of a bad feeling in the head and of other unpleasant symptoms. At 11 P. M., a neighboring physician was called in. At this time, the prominent symptoms were profuse perspiration, pain in the abdomen, frequent and painful micturition, and purging. Mustard was given as an emetic, with no result, except the vomiting of a little white froth. Towards morning a convulsion occurred, after which the feet remained fixed in a state of flexion. At 7 A. M., March 2d, Dr. C. A. Lovejoy, to whom I am indebted for the clinical history of the case, was summoned to take charge of it. He found the patient tossing about in the bed, and apparently suffering from severe pain. She was totally insensible to light, and nearly so to sounds. The body was bathed in perspiration, face flushed, respiration rapid, pulse extremely feeble. Shortly after the Doctor's arrival, a large amount of urine was passed involuntarily. The treatment was stimulating. At 10 A. M., the symptoms remained the same, except that the pulse was stronger. A short time before noon, she again passed a large quantity of urine in bed. Death occurred, without return of consciousness, at 12 M., fifteen hours after the ingestion of the poison.

Autopsy at 10 A. M., March 3d, twenty-two hours after death, Drs. Lovejoy and Sheldon assisting. There was no rigor mortis, except a slight degree of it in the jaw and left knee. The feet were drawn into the position of talipes equinus. The fingers and toes were flexed, and the thumbs drawn into the palms of the hands; when these members were

straightened, they resumed their flexed position at once after the extending force was removed. Corneæ hazy. Pupils half dilated. Buccal mucosa pale. The edge of the tongue appeared to have been bitten. Abdomen flat; recti relaxed. Breasts full; areolæ distinct; on pressure, a fluid like colostrum exuded. On section of the body, the blood was found to be very black, and, with the exception of a few small clots in the large veins, to be everywhere fluid. The liver, spleen, and the posterior portions of the lungs were engorged with black blood.

Externally, and on section, the kidneys appeared to be deeply congested, but otherwise healthy. The pericardial sac contained about two drachms of fluid. Heart healthy. The uterus was dark posteriorly near the fundus; it was enlarged to about the size attained at the end of the third month of gestation. The right ovary contained a corpus luteum of pregnancy. The mucous membrane of the stomach, and that of the duodenum for a distance of four inches from the pylorus, were intensely congested; below this point in the small intestines, the evidences of irritation gradually diminished. The contents of the stomach and intestines had a strong odor of checkerberry. The brain and all other organs examined were normal in structure.

To sum up the facts in this case, we have, as the result of taking one ounce of the oil of checkerberry, distress in the head, profuse perspiration, pain in the stomach and bowels, purging, diuresis, with frequent painful, and at the last, involuntary micturition, abolition of sight and hearing, general convulsions, tonic spasms of the flexors of hands and feet, great depression of the heart's action, rapid respiration, and death in fifteen hours. *Post-mortem*, we find persistent spasm of hands and feet, great irritation of the gastro-intestinal mucosa, a black, fluid state of the blood, and congested kidneys.

The oil of checkerberry (*gaultheria procumbens*) is said to be composed of methyl-salicylate nine parts, and a hydro-carbon called gaultherilene, one part. I am not aware that these substances have been separately studied, but it is highly probable that the active properties of the drug are due to the methyl-salicylate, which is one of the series of methylic ethers, and would seem entitled, from this fact alone, to be ranked among the poisons. It may be obtained artificially by distilling a mixture of two parts of crystallized salicylic acid, two parts of anhydrous wood spirit, and one part of oil of vitriol. When obtained in this way, it has the characteristic appearance and odor of the oil of checkerberry procured by distillation from the plant—a fact which would add still further to the probability that, in considering these cases of poisoning, methyl-salicylate is the substance with which we have to deal. Poisoning with the oil of checkerberry appears to have been rare. Beck² speaks of a fatal case that occurred in New York in 1832. Toxic effects have been known to follow large doses of an infusion prepared from the leaves of the plant. But, in the limited research which I have been able to make, I have found detailed reports of only three cases of poisoning with the oil.

The first case was reported by Dr. Gallaher³: A boy, aged nine, took a tablespoonful of the drug just

¹ Read before the Massachusetts Medico-Legal Society, February 2, 1887.

² Medical Jurisprudence, Vol. II, p. 942.

³ Philadelphia Medical Examiner, 1852, n. s. Vol. VIII, p. 347, et seq.

before supper. Symptoms: early and persistent vomiting, purging, pain and tenderness in epigastric and hypochondriac regions, a hot skin, rapid pulse (125), slow, laborious, and loud respiration, inordinate appetite for food, thirst, increased pulsation of carotids, great dulness of hearing, a parched and swollen mouth. There was no delirium or stupor. The eyes were red, but the pupils remained natural. Recovery took place after treatment with small doses of calomel, blood-letting, and blisters over stomach and bowels.

The next case was reported by Dr. Allan McLane Hamilton.⁴ The patient was an adult female, and the amount taken was one-half ounce. The symptoms, as described by the doctor, who saw her an hour after she had taken the poison, were dizziness, drowsiness, marked delirium, pain in the head, noises in the ears, like the buzzing of bees, disturbed vision, hallucinations, left hemiparesis, a hot head, strong pulsation of temporal arteries and veins, contracted, then dilated pupils, cold extremities, rapid and labored respiration, restlessness, salivation. There were no marked gastric or intestinal symptoms. The patient had a strong inclination to sleep, and could only be kept awake by slapping, the use of galvanism, etc. The case ended in recovery.

The third case was reported by Dr. Jewett.⁵ The patient was an intemperate man, aged fifty-five, who took by mistake, at 12 M., one-half ounce, as nearly as could be ascertained, of the oil. The symptoms, which began very soon, were severe pain in the stomach and bowels, burning heat, intolerable thirst, vomiting and purging, perspiration, labored respiration, gradually failing sight. The hearing remained unimpaired, and the mind clear until 4.45 P. M., when delirium set in, followed by complete unconsciousness at 5 P. M. As sight failed, things at first looked pale green, then dark green, then black. At 4 P. M. sight was lost. The case ended in death. This patient took, of his own accord, some infusion of tobacco to produce vomiting, a circumstance which doubtless modified the symptoms, and may have contributed to the fatal result.

These cases prove that the oil of gaultheria, when taken internally, is highly irritant to the gastro-intestinal mucous membrane, and that it exerts a powerful influence upon the nerve-centres. As a poison, it must, therefore, be classed among the narcotico-irritants. As a remedy, it has been prescribed in rheumatism. The "National Dispensary" and Wood's "Therapeutics" speak of the use of the plant as an emmenagogue. It is doubtless upon this theory of its action that its reputation as an abortifacient, like that of other aromatics, is based. It probably has no just claim to this distinction; but the oil certainly resembles the abortifacients in this, that when taken in decided doses, it is pretty sure to kill the mother. It is stated in the "United States Dispensary" that the oil of gaultheria is sometimes adulterated with chloroform. If this is so, it is possible that some of the neurotic symptoms ascribed to it in the cases which have been reported may have been due to this impurity.

— Two new books of popular nature are announced from Dr. S. Weir Mitchell: one, a volume of essays entitled "Doctor and Patient," and intended especially for women; the other a novel, "In the Far West."

FOUR CASES OF PENETRATING WOUNDS OF THE KNEE-JOINT TREATED AT THE BOSTON CITY HOSPITAL.

REPORTED BY OLIVER H. HOWL, M.D., *Formerly House Surgeon.*

CASE I. Delayed Antiseptic Treatment. Prolonged Suppuration. Recovery.

J. F. B., twenty-one years old and a carpenter, one day stuck a chisel two inches wide, into his left knee. He walked a short distance afterwards, but while going up stairs, felt something snap and almost fainted. Said that pus came from the knee the next day. No chills. General health excellent. Drank some beer. Was treated at home for three days with cold-water dressing and lam-splint.

Three days after the injury he was brought to the hospital and admitted to Dr. Gay's service. The left knee showed an incised wound about an inch and a half long just above the upper edge of the patella. Fluctuation about joint, with patella floating: also an area of diffused redness about the wound. On pressure, much thin purulent fluid exuded from the cut. The knee was very tender. Temperature, 102.3°; pulse 100.

Six leeches were applied to the knee and followed by a poultice. The joint was irrigated daily with 1 to 40 carbolic solution.

Third day. Suppuration rather less; dressing of iodoform gauze applied.

Ninth day. More suppuration; knee-joint distended. Temperature was rising gradually at night, tongue had heavy, whitish coat; appetite poor. Required a grain of opium every six hours. Temperature rose to 103.8°.

Twelfth day. Pus was burrowing up the thigh. Pressure six inches above the knee brought copious discharge from the tubes; redness extended half-way up the thigh. Pain increased until on the 17th day Dr. Gay enlarged the wound above the knee, under ether. The finger readily passed into the joint. Counter-openings at inner and outer sides of joint were made and a drainage-tube passed directly through the joint cavity.

Twentieth day. Pus which had been pocketing in the thigh was evacuated by pressure.

Twenty-first day. Temperature lower; felt better; less suppuration.

Twenty-second day. Incision under ether at inner side of knee, evacuating three or four ounces of pus.

Twenty-fourth day. Pus cavities seemed to be completely drained. Temperature had fallen to normal.

From this time the patient steadily improved. Three small pockets of pus were incised at different times; the tubes were shortened and finally dispensed with. Opiates became unnecessary. The tubes were wholly removed and splint omitted on the seventy-second day. After the latter time, the wounds soon became superficial and the swelling disappeared.

Eighty-eighth day. After having sat up for several days, patient walked with crutches. Could bear considerable weight on the foot without pain. Temperature since forty-fifth day had been practically normal.

Ninety-sixth day. Motion of 15° in knee-joint.

One-hundred-and-second day. Walked readily with a cane; could bend knee at an angle of about 30° without pain. Had gained much flesh and was in excellent physical condition. Discharged well from hospital.

⁴ New York Medical Journal, 1875, Vol. XXI, p. 602-605.

⁵ New York Medical Gazette, 1867 and 1868, Vol. I, p. 380.

CASE II. Treatment neglected for Eight Days. Extensive Suppuration. Pyæmia (?). Death.

R. J. M., a boy, twelve years of age, was brought to the hospital, January 7, 1887, and assigned to the service of Dr. Bradford. His story was as follows: Eight days before entrance, while using a draw-shave, it slipped from his hand, fell and struck his left knee, making a transverse cut just above the patella. His mother applied strips of adhesive plaster to the wound and he remained in bed for three days. At the end of this time, feeling no pain, he got up, dressed and walked about the house for a day. Having considerable pain in the knee that night, his mother, by advice of the neighbors, applied a flaxseed poultice. The pain gradually increased, until, on the eighth day, a physician was called in, who advised immediate removal to the hospital.

At the time of entrance, an incised wound an inch long was seen just above and to the outer side of the left patella. Pus was oozing from the wound and about it was an area of diffused redness rather larger than a silver dollar. The whole knee was swollen, painful and very tender. Temperature 103.2°; pulse 100.

A poultice was applied to the knee and quinine and brandy were given at intervals in moderate doses. The next day the patient was etherized, the knee examined and the wound was found to communicate with the knee-joint. Free incisions were then made to drain the joint cavity; two at the outer side and one at the inner; also one in front of, and below the patella. Several ounces of pus came away from the openings at the inner side. The joint was washed out by irrigation with corrosive-sublimate solution (1 to 5000) and drainage-tubes inserted. The wound was then dressed antiseptically with iodoform and gauze and an extension by weight (2 lbs.) applied to keep the limb steady.

The following day (the second after entrance) the boy was much more comfortable and the temperature rose only to 101.4°. The dressing soaked through with discharge and was renewed. The third day after entrance, much pus was found about the joint, the boy seemed weaker and his stimulant was increased.

On the evening of the fourth day the temperature rose to 104.8°, but with antipyrin (grs. xxx) it fell to 101°. On the sixth day, there was very little pus on the dressing, but pain and tenderness were found on the inner side of the left ankle and also in the right elbow. No fluctuation detected at either of these places.

On the eighth day the temperature was taken hourly. Between the hours of two and three p. m., it fell from 104° to 103.4°; at five p. m. it was 106°. At the dressing, no pocketing of pus was found and the granulations looked well. The patient's manner was peevish and fretful and growing constantly more so. The heart was carefully examined at the time of entrance and found negative; on the eighth day a systolic murmur was heard at the apex.

On the ninth day the temperature showed two slight remissions and at six p. m. was 105°. The patient was much weaker and had become delirious.

On the afternoon of the tenth day the temperature fell two degrees and regained its former elevation in six hours. The pulse was between 160 and 170. The patient gradually became weaker and died just before

midnight on the tenth day after entrance, and eighteen days after the receipt of the injury. No eruption on the skin was seen at any time and no signs in the lungs were detected. No autopsy could be obtained.

CASE III. Prompt Antiseptic Treatment. Union by First Intention.

W. H. O., forty years of age, an expressman, was lifting a stove out of a wagon. The stove, which was said to weigh about 600 lbs., suddenly slipped and its sharp lower edge struck heavily across his right thigh just above the knee, making a sort of incised wound.

The man was brought at once to the hospital and admitted to the service of Dr. Gay. The right thigh showed on its anterior and outer aspect, just above the knee-joint, an incised wound six inches long. Through this wound, the finger, introduced downward, readily entered the joint cavity.

The wound and cavity of the joint were irrigated with carbolic solution 1 to 40, and a drainage-tube inserted at the lower angle of the wound. The wound was then closed with silk sutures, a dressing of iodoform gauze applied and the limb placed on a ham-splint. No ether was given.

Three days later the wound was redressed for the first time and found to be in excellent condition; no redness or suppuration and only moderate swelling.

Sixth day. Wound had healed by first intention, except where drainage-tube was. Stitches removed.

Tenth day. A few small grayish shreds had come away through drainage-tube, but there was no sign of suppuration. No swelling or tenderness about the knee-joint.

The tube had been shortened several times and was removed on the seventeenth day. On the nineteenth day the antiseptic dressing was omitted. On the twenty-fourth day, all dressing was omitted over knee. Ham-splint remained on. The temperature had never risen above 100.5°.

Thirty-first day. Sat up in chair, but no bending of knee was allowed.

Thirty-fifth day. Union seemed perfect. Could move knee considerably without pain, but had not walked yet. All seemed firm and well. Went out from hospital without any splint and was to remain quiet at home a little longer.

CASE IV. Prompt Antiseptic Treatment. Union by First Intention.

R. M., a carpenter, fifty-four years of age, was hewing timber on July 27, 1886. His broad-axe suddenly glanced and struck the outer side of his left knee, causing a wound and profuse hæmorrhage. He at once bound his handkerchief tightly about the knee, using pieces of his coat-lining to reinforce it. Twenty minutes later, Dr. David E. Baker of Newton Lower Falls, who had been summoned, found him sitting on a pile of boards out-of-doors, supporting his knee with both hands. On removing the handkerchief, a wound about three inches long, close to and parallel with the outer edge of the patella, was seen. There was no external bleeding, but the joint was found to be full of blood and clots. While tying several small arteries, which were bleeding, Dr. Baker sent to the nearest house (about one-eighth of a mile away), for boiling water. Cooling the water until the patient could tolerate the heat, he washed out the joint cavity by means of a Davidson's syringe. While doing this, he found that a crescentic flap of cartilage three-

fourths of an inch long, had been turned up by the axe from the articular surface of the femur. Pushing this into place, he blew iodoform into the joint and the external wound, sutured the capsular ligament with fine, untwisted silk, and the external wound with coarser silk, applied pads of absorbent cotton and bandaged the joint snugly. Having thus treated the patient, he drove him in his buggy to the nearest railroad station, whence he was taken to the Boston City Hospital, where he arrived about four hours after the accident. He was assigned to the service of Dr. Bolles.

After reaching the hospital, a ham-splint was added to the dressing. The next day, on removal of the dressing, a little clear fluid was seen to ooze from between the edges of the wound, at one end. Pressure caused much more of this fluid to escape. The joint-cavity was then irrigated with carbolic-acid solution (1 to 40), the wound dressed with iodoform gauze and the splint re-applied.

The third day after entrance, the dressing was again removed and considerable colorless fluid pressed out. A little redness was seen about a part of the wound, but no signs of pus and there was no pain.

On the fifth day after entrance, the joint was irrigated with corrosive-sublimate solution (1 to 3000); this was repeated on the ninth, sixteenth and twenty-third days, respectively. No synovial fluid was seen after the fifth day and no pus was seen at any time. The patient had almost no pain and there was no swelling or redness, except that already mentioned, which quickly subsided.

The highest point reached by the temperature was 100.4°, on the day of entrance. After the eighth day it was normal. The pulse was never more rapid than 85.

On the twenty-ninth day, the wound was entirely healed; the dressing was then omitted, but the splint was kept on. On the thirtieth day, the patient was allowed to walk about with crutches and on the thirty-third day he left the hospital. At time of his discharge from the hospital, he could bend the knee slightly without pain and had no swelling about the joint. He wore home a ham-splint with a bandage and slight compression over the knee. One month after leaving the hospital (about two months after the injury), he was seen again and had completely recovered the use of the joint and resumed his occupation.

These four cases well illustrate the different results following the use of careless and inadequate measures (or no measures at all), and those obtained by the prompt use of thorough antiseptic treatment. This difference is especially well shown in case of a wound of a large lymph cavity, like the knee-joint. The far-reaching and destructive effect of absorption of infectious or unclean material is strikingly shown in Cases I and II.

The injury in all these cases, was almost identical. Three of the wounds were made with sharp, cutting instruments; the edge of the stove, although less sharp, produced in effect, an incised wound. The injuries in the two cases which rapidly got well under antiseptic treatment were the more severe of the four. Of the two cases which had union by first intention, one was able to leave the hospital in thirty-three days; the other in thirty-five days, while the one which recovered after suppuration, required one hundred and two days to reach the same result. The case which was neglected for eight days

died in eighteen days from the time of the injury. In the two cases which were antiseptic throughout, the highest point reached by the temperature in either case was 100.5°; the constitutional conditions were at a corresponding degree of comfort.

Much care was used to preserve immobility of the limb during the whole process of repair. In CASE III, the dressing was so arranged that the ham-splint was never disturbed when the wound was dressed.

These cases certainly show that early treatment is of the utmost importance; for no amount of later antiseptic treatment can wholly neutralize a bad beginning. Dr. Baker's treatment was unique and the promptness and skill, with which he carried it out, are worthy of imitation.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

HEPATIC CIRRHOSIS.

DURING the past year cirrhosis of the liver, as it occurs in children, has been made the subject of especial study by Dr. P. Laure, of Lyons, and by Dr. R. P. Howard, of Montreal. The former investigator has published the results of his personal observations on five cases which came under his care at the Charité, in the April number of the *Revue Mensuelle des Maladies de L'Enfance*. He speaks especially of the importance of prophylaxis in regard to the use of alcohol and also in the dissemination of the contagious diseases, for he believes that although the hepatic lesions accompanying these diseases are usually transitory, yet that in certain cases they may become the starting point of a real cirrhosis: he also considers that cirrhosis in children is of more frequent occurrence than is usually conceded, and that quite a number of cases are mistaken for tubercular peritonitis. The principal symptoms of the disease are icterus in the beginning, and later, ascites.

Dr. Howard has made a more extended study not only of his own cases but those of others and has presented his views on the subject and an analysis of sixty-three cases in the *American Journal of Medical Sciences* for October, 1887. He prefaces his remarks by stating that the disease is a rare one in children and that in speaking of cirrhosis he means to describe a diffuse development of the connective tissue of the liver without reference to the question of the inflammatory or the simple hypertrophic nature of that development, the word interstitial hepatitis being employed as synonymous with hepatic cirrhosis.

The following is an abstract of his article: The known conditions in the human subject under which interstitial hepatitis occurs, may be classified as follows:

(1) Tonic or irritating substances entering the blood (*a*) alcohol, (*b*) syphilitic virus, (*c*) malaria, (*d*) probably, but rarely lithic acid, (*e*) blood pigment in diabetes.

(2) Chronic congestion of the hepatic vein, as in valvular and pulmonary diseases and in those rare affections, obstruction or obliteration of the hepatic veins or of the inferior vena cava above the entrance of the hepatic vein.

(3) Adhesive inflammation of the portal vein especially the syphilitic variety.

(4) Extension of the inflammation to the interstitial tissue of the liver in chronic peritonitis and in perihepatitis.

(5) Obstruction of the bile ducts, whether from congenital defects (absence of common duct) or from acquired disease (tumors, gall-stones or experiment ligatures).

(6) In association with tubercular disease, especially of the lungs.

(7) As part of a general tendency to new formation or hypertrophy of connective tissue in the system, the so-called fibroid diathesis.

The author then compares with these known causes sixty-three cases of cirrhosis of the liver in children up to the age of puberty, excluding any cases of young adults and cases due to congenital defects of the bile ducts. His analysis resulted as follows: In the first place the above mentioned conditions were alleged to be present in but thirty out of the sixty-three cases, leaving over one-half of these to be accounted for in some other way.

(1) The ordinary cause of the disease in adults, the excessive use of alcohol, was found in only ten of these cases in children; its absence was noted forty-seven times and no mention was made of it in six cases. (2) An heredito-syphilitic origin was found in seven cases, the cirrhosis existing at birth in all but one; the absence of a syphilitic causation was affirmed in twenty-nine cases and no mention of it was made in thirty cases. In three of the syphilitic cases the virus set up an adhesive peripylephlebitis which terminated in a diffuse interstitial hepatitis, and these are the only instances in the whole number of cases of hepatic cirrhosis in children in which adhesive inflammation of the portal vein was the starting-point of the process. (3) Venous congestion of the liver a not infrequent factor in the production of cirrhosis in the adult, existed in but a solitary case. (4) The lithic-acid diathesis is not once mentioned as being present in these cases and the same is true of malaria; the absence of the latter, however, is only affirmed seven times; it may often have been overlooked. (5) In a single case the existence of a wide-spread false membrane in all parts of the abdomen and a complete envelope of it enclosing the liver, suggests that a peritonitis may have extended to the capsule of the liver and excited the interstitial hepatitis. In another case there were numerous adhesions between the liver and surrounding parts, but no general peritonitis. (6) The association of hepatic cirrhosis with tuberculous disease occurred in seven of these cases, about the same proportion as that in which cirrhosis and syphilis were co-existent.

In only six of the fifty-seven cases of non-syphilitic cirrhosis of the liver, omitting those in which the liver and spleen but no third organ had undergone cirrhotic changes, could it be shown that the hepatic cirrhosis was the outcome of a general tendency of the system to fibrosis, and in only one of them was found such a thickening of the walls of the blood-vessels, as would justify the theory that an arterio-capillary fibrosis was the source of the hepatic cirrhosis, at least in children. It is, however, to be borne in mind that the condition of the vascular system has probably not been investigated often in this affection in childhood.

In twenty-four of the fifty-seven cases of the non-syphilitic group, the spleen was abnormal.

The cause then having been determined in only

about half of the cases, Dr. Howard takes up the question of the etiology of the remaining half, and he first refers to the suggestions of previous writers on this subject, such as Budd, who supposed that there "might be other substances among the immense variety of matters taken into the stomach or among the products of faulty digestion, which on being absorbed into the portal blood, cause, like alcohol, adhesive inflammation of the liver." Botkin also advanced the hypothesis that the acute infectious diseases might originate chronic inflammatory processes in the parenchymatous organs, because he had found beginning interstitial inflammation of the liver, in persons dying of cholera and of typhoid fever, while Klein described an acute interstitial hepatitis as being present in eight cases of scarlet fever which he had examined. Again referring to the analysis of the thirty-eight cases of cirrhosis of the liver which could not be referred to any of the established causes of that affection the author finds that in ten instances the cirrhosis was preceded by the following acute infectious diseases, with a larger or shorter interval: that is, scarlet fever twice, measles and scarlet fever once, measles alone four times, measles and pertussis three times; of the remaining twenty-eight cases antecedent acute infectious diseases did not occur in three and are not mentioned as occurring in twenty-five. Even if it be granted that, in the nine cases in which acute infectious fevers did precede the hepatic cirrhosis, they really originated the interstitial lesion (a supposition which can hardly be accepted after we consider the great frequency of these infectious diseases in childhood without a resulting cirrhosis), there remain three in which those diseases had not occurred, and twenty-five in which they were not mentioned, and for such examples of hepatic cirrhosis, Howard considers Budd's explanation to be highly probable, indeed it is more especially in childhood, when alcohol as a cause of hepatic cirrhosis, can be, in a large proportion of cases, safely ignored, that we feel disposed to accept the view that the products of faulty digestion and certain stimulating kinds of food conveyed to the liver, set up interstitial hepatitis, although it is impossible to bring much evidence in favor of this mode of causation, owing to the absence of information as to the habits, diet, etc., of the cases which have so far been reported.

The age at which cirrhosis of the liver occurred in the 56 non-syphilitic cases (omitting two where the age was not stated) was as follows:

Under 3½ years.	5 to 8½ years.	9 to 13 years.	14 to 18 years.
Birth . . . 1	5 years . . . 4	9 years . . . 5	14 years . . . 1
3 months . . 1	5½ " . . . 1	10 " . . . 7	15 " . . . 1
17 " . . . 2	6 " . . . 2	11 " . . . 7	18 " . . . 1
20 " . . . 1	7 " . . . 3	12 " . . . 5	
2 years . . . 1	8 " . . . 2	13 " . . . 4	
3 " . . . 2	8½ " . . . 1		
3½ " . . . 2			
Total, 10	Total, 13	Total, 28	Total, 3

The above table shows that the greatest liability in childhood to hepatic cirrhosis is from the ninth to the twelfth year, inclusive. As regards sex, there were 35 males, 17 females, and in 4 cases the sex was not stated. Regarding the character of the cirrhosis in these 56 non-syphilitic cases, the atrophic form oc-

curred in 19, the hypertrophic in 13, in 6 the liver was of normal size, in 16 this point is not mentioned, and in 2 the patients were still living. The author finds that the symptoms of hepatic cirrhosis in children are identically those of the disease in the adult. In 10 out of 52 cases uncomplicated by other affections which might produce pyrexia, cirrhosis was associated with fever; that is, in 19.2 per cent. In the 56 non-syphilitic cases, ascites existed in 34; it was absent in 8, and not mentioned in 14. Icterus was present in 23 cases, absent in 12, and not mentioned in 21. It was present in the hypertrophic form in 70 per cent. of the cases, and in the atrophic form in 71.4 per cent. The fatal issue of hepatic cirrhosis in children is brought about in many different ways, but three are especially frequent: namely, by toxæmia or certain disturbances of the nervous system, by peritonitis, and by asthenia, in the production of which hæmorrhage plays an important rôle. The toxæmic symptoms in these children were, more especially, violent fits of crying, and frequently, of screaming, delirium, dilated pupils, stupor, tremor, twitchings, clonic or tetanic convulsions, rigidity, coma, and hæmorrhages from the stomach, nose, intestines, or kidneys.

The summary made by the author from his analysis of these 63 cases of hepatic cirrhosis in children is as follows:

(1) That most of the established causes of the disease in adults occur also in children, more especially the use of alcohol, which was present in 15.8 per cent. of the whole number; syphilis, chiefly hereditary, present in 11 per cent.; tuberculous disease of other organs than the liver in 11 per cent.; also, but much less frequently than these, venous congestion of the liver, peritonitis, and a general tendency to connective-tissue formation in the system. (2) That syphilis occasionally tends to a diffuse interstitial hepatitis or cirrhosis by first inducing an adhesive inflammation of the portal vein. (3) That a general arterio-capillary fibrosis is not proved by these cases to be the usual, and probably not even a frequent cause of hepatic cirrhosis in childhood. (4) That more than half of the cases of hepatic cirrhosis in children do not appear to be produced by the above-mentioned well-established causes of that affection. (5) That there is some evidence that cirrhosis of the liver may be very exceptionally induced by the acute infectious diseases, cholera, typhoid fever, measles, and scarlet fever, but that proof of this is wanting. (6) That the habitual use of a stimulating diet, or the absorption of the products of faulty digestion, are probably fruitful sources of hepatic cirrhosis in children. (7) That it is in harmony with what is known of the causes of hepatic cirrhosis to believe that the bodies known as ptomaines may be capable of exciting a cirrhotic condition, and that investigation of this subject deserves attention. (8) That the period of childhood most liable to the disease is from the ninth to the fifteenth year, inclusive, but that it may be congenital, and may occur at any age after birth. (9) That it is twice as frequent in male children as in female. (10) That its symptoms are essentially the same in childhood as in adult life. (11) That it is frequently accompanied by pyrexia. (12) That ascites or icterus, and frequently both together, are of common occurrence in both the atrophic and hypertrophic forms. (13) That the group of symptoms which have been referred to cholæmia, or to cholestæræmia or to acolia, and even,

sometimes, to uræmia, frequently ushers in the fatal issue of hepatic cirrhosis in children.

GLIOMATOUS HYPERTROPHY OF THE PONS.

Prof. Henry Hun, of Albany, has lately published such a valuable report of a case of glioma in a child, and the disease is so rare in the literature of pediatrics, that an account of the case, as given by him in his reprint from the *Medical News*, will add much to our knowledge of differential diagnosis in cerebral disease—knowledge which is of special importance to those who are liable to be confronted by the complex nervous symptoms, simulating, at times, serious lesions, where, in reality, no such lesions exist, but are merely reflex manifestations of the extremely hypersensitive nervous organization of infancy and childhood.

CASE. Steadily increasing incoördination of movements, bulbar paralysis, and general motor paresis. Gliosarcoma of the pons varolii.

April 17, 1886. C. L., female, aged six. The father of the patient died a little more than a year after she was born, with symptoms of melancholia and dementia. An autopsy was held, of which no account can be obtained, excepting that the mother states that there was found "water on the brain and tumor of the brain." There have been many cases of nervous disease in the family of the father, but none in that of the mother. The patient has had a number of attacks of spasmodic croup, and, three years ago, had measles. For a number of years, her left leg has become tired easily, and for some time she wore a rubber strap on her left foot, which showed a tendency to turn in. Otherwise, she has been in excellent health till two months ago, when she had an attack of croup, followed by a cough. Every time she coughed she felt a severe pain in the top of her head, but at no other time had any pain in her head. About three weeks ago she began to walk badly, and seemed to have trouble in balancing herself when standing. Her mind is clear, her memory is good, and she is not in any way nervous. She has an excessive appetite, and has vomited a little at times. She is a well-nourished, intelligent girl, but has a vacant expression. Her speech is drawing. She keeps her mouth open most of the time, drools when eating, and has some difficulty in swallowing. Her head is drawn toward the right shoulder most of the time, especially when she makes any exertion.

She stands with her feet wide apart, and is careful not to lose her balance. When she walks, her right leg seems more rigid than her left, so that she takes freer and longer steps with her left leg, and consequently, in walking, she tends to walk in a circle, turning always towards the right. Her walk resembles that of a drunken person, being very unsteady, swaying and pitching, as if, every moment, she were about to fall. Her legs and arms are rather weak, and the movements of her arms, especially of the right, are very awkward, but she holds them in no fixed position. There is no disturbance of sensibility in any part of the face, body, or extremities, and she recognizes objects placed in her hands when her eyes are shut. Plantar reflexes normal; no ankle clonus; knee-jerk exaggerated, especially on the right side. On ophthalmoscopic examination, well-marked optic neuritis is found in both eyes. Urine contains neither albumen nor sugar.

May 21st. She has slowly, but steadily failed, and her legs and arms are weak. Her legs bend under her, and she can neither walk nor stand. Tactile, painful, and thermic sensibility is normal in all parts of the body. She is dull, but her intelligence seems intact, and she shows little, if any, loss of memory. Her articulation is indistinct, deglutition is difficult, uvula is raised very sluggishly, though equally, on both sides, and the movements of the tongue are sluggish, though it is protruded without deviation. The pulse is small, varying from 120 to 140. At times, when she is asleep, her respiration is very rapid and panting, but it is rather slow when she is awake. When asleep, her eyelids are partly open, and the eyeballs are turned outward; but when she is awake, the eyeballs at times turn slightly inward, so that she squints, although no paralysis of any of the ocular muscles can be detected.

June 4th. She has been decidedly better lately, and her articulation and deglutition have improved slightly. She is brighter, and can sit up without assistance, but cannot walk. Two days ago, a well-marked ankle clonus could be obtained in both feet during the whole day, which has not been present either before or since.

June 13th. During the past week, she has steadily and rapidly failed. On some days, the left arm and leg have appeared completely paralyzed, while, on other days, she would move them a very little. She has been able to neither walk, stand, or even hold up her head, which falls backward, forward, or to either side, according to the position in which she is held. Her hearing and cutaneous sensibility have remained unaffected, and her sight is but slightly impaired. Lately, she has given indication of having pain in the occipital region, and there has been a decided increase in the size of her head during the past week or ten days. She has had no convulsions. Her pulse has been small and feeble. This morning, her respiration was stertorous for a few hours, and then became normal. Her intelligence seemed clear until the very moment of her death, which took place quietly and suddenly this evening.

Autopsy twenty-four hours after death: head only examined. Bones of skull rather thin. Dura mater adherent only slightly to skull-cap. Increased amount of subarachnoid fluid. Cerebral convolutions flattened, and cerebral substance very œdematous. Corpus callosum is pressed upward, and is very soft and thin, and almost broken through. Great and uniform dilatation of both lateral ventricles, which are filled with fluid of normal appearance. No dilatation of third and fourth ventricles. Cerebellum normal.

The pons varolii, as seen both from the base of the brain and from the fourth ventricle, is greatly enlarged, being three or four times the normal size. On section, the whole pons is found to be replaced by a tumor, apparently a glioma, which preserves wonderfully the normal appearance of the part, so that it looks like a great hypertrophied pons. A little posterior to the middle of the pons, on the right side, is a focus of softening, spherical in shape, and about three-quarters of an inch in diameter. When hardened, a section of the pons at its largest point measured two and a half inches in width, and one and three-quarters inches in depth. The tumor seems to be confined pretty accurately to the pons, the crura cerebri and the medulla oblongata being but slightly enlarged.

On microscopical examination, the nervous elements of the pons are found to be encroached upon, infiltrated, and, in some places, by a great accumulation of small cells. The prevailing character of these cells is spindle, although there is a considerable number of sphenoidal cells, both large and small. There is no considerable development of "spider-cells." Between the small, newly-formed cells there seems to be a delicate, newly-formed basement-membrane, independent of the neuroglia. There is also present a very great many newly-formed vessels full of blood. The proliferation of cells is not limited to the pons, nor is it circumscribed by any sharp line, but extends throughout the whole extent of the crura cerebri and the medulla oblongata, being less abundant the farther the section is removed from the pons. In the anterior part of the crura cerebri, the roof of the aqueductus Sylvii seems to be the especial seat of the glioma. The wall of the canal is remarkably firm and well defined, except at its extremity, where it terminates in the softened tissue on the under surface of the crura cerebri.

Professor Hun then remarks that, in regard to the exact nature of the tumor in this case, the diffuse, infiltrating, rather than displacing, character of the growth, makes it resemble a glioma; while the form of the cells, the presence of a basement-membrane, and the absence of any considerable new development of spider-cells, is in favor of its being a sarcoma. Such tumors are sometimes called *glio-sarcomata*; but, in consideration of the remarkable way in which the normal (though hypertrophied) appearance of the pons is preserved in these tumors, it seemed to him to be better to call them by the name proposed by Kuemmel, "*gliomatous hypertrophy of the pons.*"

ANTIFEBRIN IN THE FEBRILE DISEASES OF CHILDREN.¹

The treatment of a number of diseases in children with antifebrin, and comprising, in all, fifty-three cases, gave the following results: The temperature began to decline in from ten to twenty minutes after the medicine was given, and continued steadily until it reached its lowest mark; then, after remaining at this point for a short time, it began to rise again. The rapidity with which the temperature declined seemed to depend not so much upon the size of the dose as upon the peculiarity of the child and of the disease. The general condition of the children was noticed to be affected favorably, a previously restless and fretful condition being followed by quiet and sleep. In several instances, severe symptoms connected with collapse were quickly relieved. Scarlatina and erysipelas were more rebellious to the antipyretic action of the drug than any of the other diseases in which it was used, the temperature falling only a few tenths of a degree.

In pneumonia, occurring as a complication of measles, and in croupous and lobular pneumonia, the antipyretic action was prompt and energetic. The pulse became fuller, its frequency being diminished, though not always in proportion to the decline of the temperature. The respiration became deeper and more quiet. The drug was given in the form of powder, and in doses of ten centigrammes to children three or four years old. To older children, twenty, thirty, or even fifty centigrammes, were given. Small doses usually sufficed for poorly-nourished chil-

¹ Hidowitz Centralbl. f. K., July 9, 1887. Arch. of Pediatrics, October, 1887.

dren, the action of the drug being much more energetic in these cases than in more robust children. As much as two grammes were given in the course of a day. Antifebrin never produced any perceptible effect on the duration of the disease. In some cases of pneumonia, its use was accompanied by profuse perspiration, with cyanosis of the face and the ends of the fingers.

ANTIPYRINE FOR FEBRILE CONDITIONS DURING DENTITION.²

The usefulness of antipyrine in infantile therapeutics is daily becoming greater, and its value in bronchopulmonary diseases of a febrile character has been shown in a number of cases. Dr. Clemente-Ferreira has also found the drug to be used with advantage in the febrile conditions which accompany the evolution of the teeth. It appears to have a perceptible sedative effect upon the nervous system. If the stomach is sensitive, it is desirable to give the drug by the rectum.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

OCTOBER 8, 1887, the President, DR. WILLIAM L. RICHARDSON, in the chair.

DR. C. ELLERY STEDMAN reported the following case of

SERIOUS COLLAPSE FOLLOWING LABOR INDUCED IN THE NINTH MONTH ON ACCOUNT OF ANTE-PARTUM HÆMORRHAGE.

Mrs. N., aged thirty-six, pregnant with her third child, had always had good health; her last period was January 14th, and she expected to be confined October 21st. October 4th, up to which date she had been perfectly well, hæmorrhage set in, soaking through more than a dozen napkins, and several folded sheets, with clots as well as liquid blood: this continued till Dr. Stedman saw her at 4 P. M. of the 5th, in place of the physician engaged to attend her who was ill, having seen her about noon of the day before, but who made no examination. Dr. Stedman found the os thick and soft, dilated to the size of a half-dollar; there were no pains, but a feeling of downward pressure which she had learned to recognize as a premonition of labor: there was no active hæmorrhage, but a slight leakage going on. It was thought best to induce labor, though her pulse was little affected by the bleeding, yet it was unknown what a second flow might end in. The child lay L. O. A.: on account of the mother's stoutness, the examining finger could not reach inside the os to ascertain the presence of placenta, without etherizing the patient and introducing the hand within the vulva. In this case ether was considered objectionable. A catheter without stylet was supposed to be guided into the uterus; but it probably doubled up on itself, for it failed to excite pains, and time was unnecessarily lost until a second catheter was introduced with stylet, and pains began in a short time. There was now apparently little or no blood lost. After a few strong, expulsive pains, a fine boy

was born alive at 2 P. M. of the 6th, with not as much loss of blood as usual (twenty grains of chloral had been given at one o'clock). A drachm of ergot was administered: the placenta was expressed in fifteen minutes, and all seemed going well, only mischief was feared because the pulse grew rapid. Half an hour after the birth, the patient suddenly exclaimed that she was weak, and collapsed utterly, although there was no bleeding and the uterus was firmly contracted. The usual remedies were employed, but for a long time she seemed unlikely to rally. The patient's face was livid; there was dyspnoea; she tried to tear open her night-gown, cried for air; the pulse irregular and hardly to be felt, indeed was altogether lost at times: the intelligence was undiminished.

There was little chance for, and no attempt at, auscultation, all the attendant's efforts being directed towards keeping the patient breathing. The most effectual stimulant proved to be a hot, weakly carbolized, intrauterine injection which was given about eight o'clock with signal benefit, and the patient grew quiet, the pulse although about 125, was to be felt, and she fell asleep.

Improvement went on until the third day, when she had a violent chill; the temperature reached 102°, the pulse 120: on the fourth day it was 103°. The lochia was offensive, (though the vagina on the first appearance of odor had been douched antiseptically) and on the evening of the fourth day, after the vagina had been washed out, Dr. S. Crowell (whose efficient assistance in this trying case was invaluable) at my request administered a carbolized intrauterine douche as hot as could be borne: an offensive odor came from under the bed-clothes as the douche was given; but the smell of carbolic-acid overpowered it in the bed-pan. The temperature immediately fell from 103° to 100.5° and the pulse from 120 to 112, and improvement and recovery followed: on tenth day she sat up.

Dr. Stedman called the case one of partial placenta prævia; but the only mark on the placenta was a thin margin of coagulated blood on a sixth part of its circumference, and he was unable to touch any presenting part of the afterbirth before or during labor.

Did the chloral play any part in causing collapse? Was it entirely shock? Would ether have lessened or prevented the shock?

Were the symptoms of collapse due to a forming thrombus of pulmonary artery or veins, as in a case of recovery from embolism reported by Dr. Stedman to this society several years ago, when he quoted Playfair's three or four cases of recovery, with his remark that "it will be readily understood why, in the presence of so sudden and awful an attack, symptoms have not been recorded with the accuracy of ordinary clinical observation"? Playfair has the fullest and best account of this accident of any writer whom Dr. Stedman had read.

Again, what was the fever owing to? All antiseptic precautions were strictly observed by the physicians: the nurse was an old-fashioned one, but faithful and devoted: the patient's husband was sure that she followed all orders. The catheters were supposed to be new, and were washed in the sublimate solution.

DR. MIXOT thought that the collapse was hardly due to embolism, but rather to exhaustion from the previous hæmorrhage; as to ether in such cases, he had never regretted using it.

² Archiv. for Pediatrics, February, 1887,

DR. INGALLS also thought the collapse was probably due to exhaustion.

DR. REYNOLDS could see no objection to the use of chloral, and thought the symptoms were due to antecedent hæmorrhage; he agreed entirely with the reporter as to the importance of prompt delivery in such cases.

DR. ELLIOT inquired if there was any douching after labor, and if possibly air-embolism might not have been thus occasioned.

DR. STEDMAN said that a corrosive douche had been administered immediately after labor; but the idea of air-embolism had not occurred to him.

DR. STRONG had seen one case of death from embolism in a hospital patient. The symptoms were different, however, from those in the case reported: the patient was quiet, and complained only of lack of air; there was no violence, only sighing and tossing of the head.

DR. BLAKE agreed with the reporter regarding the advisability of prompt delivery when ante-partum hæmorrhage suggested the probability of placenta prævia. He also alluded to the case of partial placenta prævia complicating twin pregnancy in a primipara. As the hæmorrhage was considerable, he performed podalic version of the first baby, the second following soon after, and the patient making a good recovery.

THE PRESIDENT thought Dr. Blake's case one of great interest, especially on account of the success of version in a twin pregnancy. In Dr. Stedman's case he thought the collapse was due to shock and to the previous hæmorrhage.

INDUCTION OF PREMATURE LABOR.

DR. MINOT reported two cases. The first was that of a lady forty years old, primipara, six months pregnant. She had had swelling of the legs, albuminuria with casts and other threatening symptoms for ten days previously, and on May 25th had a convulsion, which was followed by several others. On the 27th she was somnolent; there was general cyanosis; lungs œdematous; pulse 132; respiration 48. The tongue was bitten. Under chloroform the os was dilated with the fingers, aided by a glove-stretcher, without much difficulty. The forceps were introduced by Dr. Gardner of Providence, and the patient was easily delivered. There was no hæmorrhage. The patient died the next day, but Dr. Minot could not learn the particulars of her death.

The other case was that of a primipara, twenty years old, seven months pregnant, under the care of Dr. Forsaith, of Weymouth. Throughout her pregnancy she had suffered much from vomiting, but had been up and about until within four or five days during which the vomiting had been incessant. Nutritive enemata had been given, but they could only be retained a short time. She had had but little sleep, and that only from morphia. She was greatly emaciated, much exhausted, and apparently in a condition of much danger. The pulse was at 128, and weak. The os was dilated by the fingers, aided by a placenta-forceps, and the child, which presented by the breech, was extracted without much difficulty by Dr. Forsaith. Although living before the operation it was dead when delivered. There was no hæmorrhage. The patient had a comfortable night, and did well. The vomiting ceased at once.

DR. STRONG asked the consideration of the Society

upon a question of both ethical and practical importance; the duty of the attendant in the first subsequent pregnancy in uniparæ who have passed through the precedent pregnancy and confinement with great danger to life, and who have endured years of invalidism in consequence. The query was suggested by a case in his practice which had given him much anxiety during the past two months. The patient, now thirty years old, was of an extremely neurasthenic type. She was confined five years ago. Although of previous good health the course of her whole pregnancy was marked by extreme nausea and vomiting and general prostration with reflex nervous symptoms of all kinds, so that twice the induction of premature labor was urged; but neither patient nor husband would consent. The symptoms persisted until the end of pregnancy. The first few hours of labor were fairly well endured and then the patient suddenly passed into a state of collapse so complete that immediate emptying of the uterus was demanded and accomplished. The statement of the attendant, given in his own words, is: "She was the sickest patient I ever saw recover. I expected her to die every moment; but she did eventually rally. It was a month before she was able to move herself at all, and many more before she was out of bed. There was no septic element in the case, but total lack of any rallying power. I do not believe it will be possible for her to go through another confinement and live." This attendant is a man of extremely good judgment, perfectly free from prejudice or timidity, and upon his opinion great reliance may be placed. The patient was referred to the speaker about three years ago as a case of neurasthenia dependent upon uterine disease. She then presented the whole class of reflex nervous symptoms in their fullest development. It was felt that until the lacerations of the cervix and perineum were repaired and the hypertrophied uterus reduced and pessaries done away with but little could be done for the amelioration of these symptoms. These operations were performed by another physician, and it was about nine months later she again came under the speaker's care, having during that time tried many and various doctors. Her condition at this time was worse than ever before,—in bed all the time, with the darkened room and all the surroundings of the most pronounced neurasthenic. She was at once put upon thorough treatment, which occupied the whole winter and spring, with the most gratifying results. During the summer she walked each day several miles, attended to all her household duties, reëntered society (from which she had been absent for five years), and was practically well. She still had occasional nervous symptoms, but had learned to pay no heed to them. Two months ago she became pregnant and everything was changed. Her appetite vanished, nausea was constantly present, and vomiting once or twice daily. Her weight decreased twenty pounds. Her nervous symptoms returned in all their force, and now she is in nearly as bad condition as last fall, and is losing ground daily. The speaker asked the advice of the society, first, as to the propriety, or rather the justifiableness, of interfering with the pregnancy, and second, if it be advisable, what time should be chosen. Should it be delayed until the patient's life is actually in danger and then add to her risks those of induced premature labor? Or should heed be paid to the warnings of probable trouble

already given, and the uterus be emptied now by curetting? The responsibility of the decision is grave; for if any prognosis is to be made upon the history of the former pregnancy and confinement, the chances of a fatal result of a labor completed at term are very great. Nor are they much more hopeful for induced labor at a viable age of the fœtus; while if the condition of the patient demands interference at an earlier period, perhaps at the fourth or fifth month, the prognosis is still more serious. Ought not, also, the probability of saving months or years of suffering to the patient should she survive labor induced before time, weigh a little in determining *immediate* interference?

The speaker asked that in considering the case the members would not lose sight of the fact that it was *not* upon the propriety of abortion for nausea and vomiting of pregnancy that advice was sought, for these were but two of a multitude of nervous symptoms, nor were they of extraordinary severity; but to consider how narrowly the patient escaped with her life in the former confinement, and in how much more precarious a condition she now was from her five years of sickness. Of course, the question of abortion except as the last resort, could be considered only in one pregnancy.

The questions asked by Dr. Strong were fully discussed by the Society, and the unanimous opinion expressed that the pregnancy should be allowed to proceed, certainly until symptoms of gravity presented themselves. It would not necessarily follow, because the patient had a long and trying, even critical, convalescence from her first pregnancy and labor, that the same condition would obtain in her second. The opinion was expressed that such patients will usually endure a good deal, much more than would naturally be expected. The patient would require careful watching, and should be treated as a neurasthenic throughout her pregnancy and convalescence.

DR. STRONG, replying to the question of Dr. Richardson, as to the results he would expect to attain by carrying out either in this case or a similar one the regular treatment for neurasthenia, stated that he would not expect very favorable results. Success in treating neurasthenia depends upon removal of the exciting cause, whether it be external surroundings or some physical disease; as long as the patient has an evident basis for her sufferings, just so long will it be found impossible to convince her that any of them are not real and compel her to disregard them.

DR. INGALLS reported the two following cases as probable instances of

HIGH TEMPERATURE FROM NERVOUS CAUSES.

January 11th. Woman, age 22, had had pain all day in frontal region, and she attributed it to a defective molar; pulse 80; temperature normal. In bed all next day with feeling of languor. Pulse and temperature normal. On the third day patient reported that she awoke at 3 or 4 o'clock in the morning, finding the bed-clothes had slipped from off her back, and that she was chilly for a while. The morning and evening pulse and temperature were: Pulse, 96, temperature, 106°. The following morning both were normal.

January 17th. A single lady, at about 30; at morning visit reported shiverings, or "creeps," all the night before, and that she feels poorly; the digestive

organs are a little disturbed; pulse and temperature normal. On the next morning the patient said she was languid and wished not to be disturbed. Pulse, 96; temperature, 106°. There was no flush, eyes bright, skin pleasant to the touch. She felt well on the following day.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

AUGUSTUS STABLER, M.D., SECRETARY.

ANNUAL MEETING, Lawrence, May 4, 1887.

The President, DR. E. P. HURD, introduced DR. GAGE, of Worcester, President of the Massachusetts Medical Society, who made a few well chosen remarks on the purposes and objects of the great Society he represents, and the implied duties of its members in aiding the public to distinguish that which is real, in the practice of medicine, from that which is unreal. He also thought we should feel bound to advance the public good in the great field of sanitary science and preventive medicine.

DR. ARTHUR SWEENEY, of Lawrence, read a paper on

PUERPERAL ECLAMPSIA.

DR. LOVEJOY, of Haverhill, said he had seen four cases during the past year, in all of which he bled to the extent of about three half pints, and all recovered. He used other measures when indicated. He had seen a case that was apparently dead suddenly restored by dashing a handful of ether in her face. He knew of nothing more unsatisfactory than to look for lesions after death from convulsions.

DR. GAGE made some remarks on the indications in the prodromal stage. He thought the most important point was the quantity of urine passed, without regard to whether it is albuminous or not. The prognosis is always favorable in albuminuria of pregnancy if the patient continue to pass an abundant quantity of water, whereas he thinks there is always great danger of convulsions if the quantity be greatly reduced. This idea was not original with himself, but was borne out by his experience.

DR. F. H. ALLEN, of Haverhill, had treated eleven cases of eclampsia without a death. His practice is to bleed the patient freely as soon as possible. He then gives two drops of croton oil, to be repeated in an hour if it does not operate in that time. He occasionally uses veratrum veride as an auxiliary to the above measures.

DR. MORRILL, of North Andover, reported eleven cases, with five deaths. He thought three of his cases would have been fatal under any treatment. He never bled, but relied chiefly upon ether anæsthesia and the rapid delivery of the child, if it be still in utero.

DR. HUSE, of Georgetown, would not employ bleeding unless positively indicated by the circulatory symptoms. He had seen marked benefit from pilocarpine, and is in the habit of reducing the activity of the reflexes by bromides and chloral in the rectum.

DR. J. F. CROSTON, of Haverhill, read a paper on

LOCAL BOARDS OF HEALTH.

This paper was discussed by DR. LOVEJOY, of Haverhill, DR. COGSWELL, of Haverhill, and DRs. ABBOTT and CHAMBERLAIN, of Lawrence. The concurrent opinion of the essayist and those who followed

him seemed to be that the present difficulty does not lie in the lack of sanitary laws, in this Commonwealth at least, but in the ignorance of the public, and the election of improper or inefficient health officers. The duty of health officers and practitioners alike should be to educate public opinion up to the point of desiring the enforcement of sanitary laws and the observance of sanitary rules.

On invitation of Dr. F. H. ALLEN the Society adjourned to meet at his house in Haverhill next October.

QUARTERLY MEETING, held at Haverhill, October 12, 1887, at the house of Dr. F. H. ALLEN. The meeting was called to order by Dr. E. P. HURD.

Resolutions, reported by committees, were adopted on the deaths of Dr. E. S. Yates and Dr. A. B. Magee, of Lawrence.

Dr. R. B. ROOT, of Georgetown, read a paper on

THE ANALGESIC EFFECTS OF ANTIPYRINE.

He said that the results of clinical experience have demonstrated that its analgesic effects are as pronounced as those of morphia. In the cases in which he has used it he is more and more convinced that it is destined to supersede, in a great degree, opium and its salts, as he finds that it answers most of the indications of morphia without its unpleasant effects. He then gave an account of its chemistry and its physiological action, ending with its hypodermic use in France for the relief of pain. It was used in this manner in acute rheumatism, gout, neuralgia, angina pectoris, and asthmatic paroxysms. Also in hepatic and renal colic, and in these it is peculiarly applicable, since morphia locks up the secretions and probably retards the efforts of nature to bring about a cure. Antipyrine, M. Germain Sée insists, is entirely free from the above objections, and meets equally well all requirements for the relief of pain. Ungar, of Bonn, was led to try antipyrine in hemicrania, from the similarity of its action to salicylate of sodium.

The following cases fully corroborated the above remarks:

CASE I. Mrs. M., aged forty-five, a long sufferer from periodical attacks of ordinary "sick headaches" of great severity. The reader had employed bromides, chloral, tr. gelsemium, ergot, etc., with absolutely no benefit. Hypodermics of morphia relieved the pain, but were followed as usual by nausea, and lassitude. Antipyrine in ten-grain doses was completely successful. Half an hour after the first dose the pain was greatly relieved, and two or three powders, given an hour apart, permitted the patient to resume her household work, whereas, prior to the antipyrine treatment, two days and sometimes a week elapsed before she was able to leave her bed. The trouble recurs with its usual frequency, but antipyrine, given in the prodromal stage, wards off an attack.

CASE II. Miss F. Dysmenorrhœa pain was relieved by two powders of ten grains each.

CASE III. Mrs. P., aged forty, has been for years a sufferer from acute attacks of asthma of great severity. She has found indifferent relief from iodide of potash, tr. of lobelia, morphia, etc. During one of her recent attacks she complained of severe pain extending through her left side, including arm and leg, together, with a want of sensation in the affected side. Antipyrine, in ten-grain doses, relieved the

pain, and with the subsidence of pain the asthmatic spasm passed away. She begged for more powders, and has since then warded off several attacks, and is very sure that the powders are of great benefit.

CASE IV. Mrs. W. fell on the sidewalk in Malden last March, sustaining a severe concussion of the hip, but no fracture could be detected by her attending physicians. Four months later she came under reader's care. Still using crutches, and complained of severe grinding nocturnal pain, extending from hip down the leg to below the knee. She had used liniments, massage, galvanism, etc., with no benefit. The reader ordered ten grains of antipyrine one hour before retiring, and she thought the next day that she had slept better than for a month previously.

CASE V. Mrs. C., aged seventy-five, suffering with membranous enteritis, complained of severe pain through the bowels. No tenderness on pressure was found, the pain being probably of neuralgic nature. As she did not tolerate morphia eight grains of antipyrine were given, with directions to repeat in two hours. The next day she expressed surprise that relief had come with but one powder.

CASE VI. Mr. C., September 6th, had acute rheumatism, affecting wrist and shoulder. Wrist swollen and red. Pulse 120; temperature 103°. Prescribed salicylate of sodium. Next day no improvement. Had passed a restless night; complained of pain in cardiac region. No valvular lesion. Antipyrine, ten grains every three hours, was ordered. Next day (8th), relieved of pain, though the joints still remained swollen. On the 9th, temperature 99°; pulse 90; swelling and redness nearly gone, and from that time convalescence was fully established.

Fränkel speaks very highly of the value of antipyrine in thirty-four cases of rheumatism, but acknowledges that in certain cases it cannot replace the salicylate. The reader would be inclined in another case to place the patient on the salicylates, and give antipyrine as an analgesic in addition. In every case of hemicrania the effect has been the same, though not in the same degree in every case. Some have had the pain entirely relieved, while with others the effect has been less marked. In one case of paralysis agitans, accompanied with dull pain in the forearm, there was no effect from the drug. No bad effects were noted from the remedy.

Dr. M. A. JEWETT, of Danvers Lunatic Hospital, read a paper on

ILLUSIONS, HALLUCINATIONS, AND DELUSIONS.

A vote of thanks was passed to Dr. Jewett, and his paper requested for publication. In the discussion which followed, Dr. LOVEJOY, of Haverhill, related two cases of melancholia. The President asked Dr. Jewett what proportion of insanity was due to modern spiritualism. Dr. JEWETT replied that he had compiled no statistics on that point, but that there are always a number of such cases in the Danvers Asylum.

The President made some general remarks on the use of liquid vaseline as an excipient for hypodermic injections. He also related a case where sulphur ointment having failed to cure scabies he ordered naphthaline in linseed oil, ten per cent. Three inunctions were sufficient to effect a complete cure.

Dr. CHENEY had used agnive on a burn with brilliant result.

The Society adjourned to meet in Haverhill the first Wednesday in January.

After adjournment Dr. F. H. ALLEN entertained the members most hospitably at dinner.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

SPECIAL meeting held at the Pavilion Hotel, Staten Island, November 15, 1887.

DR. ALFRED L. CARROLL, of New Brighton, made an address on

THE CLINICAL SIGNIFICANCE OF SPHYGMOGRAPHIC TRACINGS,

which was illustrated by a large number of examples.

He said that while the sphygmograph had not fulfilled all the sanguine promises which heralded its introduction, it was often of unquestionable clinical value. In cardiac disorders, it could never supersede the trained ear of the auscultator, but it might guide his examination, and, perhaps, modify his prognosis; while, in some instances, it might serve to localize an internal aneurism with a precision unattainable by any other means. It was well known that the intensity of a murmur at one of the valvular orifices was not invariably proportionate to the gravity of the lesion which induced it, and, except where the attending circumstances of aggravated cases aided our judgment, we were often uncertain in opinion. Here the sphygmograph might come to our relief with a mechanical measurement more accurate than our unassisted senses. Variations of vascular tension inappreciable by the most delicate and practised touch, degrees of obstruction or regurgitation unascertainable otherwise, were graphically recorded.

Too much, however, ought not to be expected from it; its tracings in a given form of disease were not identical and diacritic: they were only generically similar. It was not to be considered as a *means* of diagnosis, but, like other so-called "instruments of precision," as a frequently useful *aid* to diagnosis. Some years ago, in a paper published in the *New York Medical Journal*, he had endeavored to point out the extent and limitations of its utility; his present purpose was chiefly to call attention to a hitherto unnoticed source of misconception in regard to its registrations.

One of the principal drawbacks to the general recognition of the sphygmograph was the very ingenuity expended in its improvement, which had resulted in the invention and adoption of several different patterns of mechanism, each of which gave a tracing differing somewhat from those of the others with the same pulse. Hence, since the significance of every part of the hieroglyph depended on its conformity with or departure from a known normal standard, it was necessary for the more recondite indications of any sphygmogram to be told by what instrument it had been taken; and without this information and knowledge of the normal performance of the particular pattern of instrument employed, it was impossible to compare the results of different observations, and to profit by published records. To state an extreme example, the tracing of a healthy pulse by Pond's water sphygmograph would rouse a suspicion of cardiac hypertrophy, if supposed to have been made by

Marey's or Mahomed's instrument, for the reason that in the former apparatus the needle-bearing lever, being detached from the motor-rod, was thrown loose by each pulsation, exaggerating the height of the systolic up-stroke, and of the repercussion and post-aortic waves; while, in the latter machines, the attached lever was withdrawn with the subsidence of the ventricular impulse, reducing the relative importance of these traits. An even greater exaggeration appeared to characterize the working of an exceedingly sensitive device invented by Mr. Edwards, of Buffalo, with which Dr. Carroll said he had had no personal experience, but which had been effectively employed by Dr. H. R. Hopkins, of that city, who has published numerous tracings taken with it. Dudgeon's sphygmograph, which, on account of its convenient portability, he had most used of late, gave a quite dissimilar normal tracing.

Less conspicuous, but still possibly misleading, variations existed between the tracings made by almost any two of the eight or nine patterns of sphygmographs in use by different observers, and although physical examination of the patient might correct misapprehensions in actual clinical work, the illustrations in many books and papers were thus robbed of much of their instructiveness. The rate of speed at which the slip was made to move would also materially modify the sphygmogram.

In view of these facts, and to establish sphygmography in the professional estimation which it merited, it was desirable, since it was not likely that any standard would be universally adopted, that all who published records of their work should not only mention the instrument which they employed, but give, in addition, for comparison, its tracing of a normal pulse.

Two of the tracings which Dr. Carroll exhibited were from patients suffering with exophthalmic goitre, and he said that he was not aware that any had ever been taken before in cases of this kind.

DR. J. W. S. GOULEY, of New York, said that Dr. Carroll had made a very strong plea for the clinical use of instruments of precision. He thought that the sphygmograph should be more generally employed, and should be in the hands of all practitioners.

DR. TRUAX, of New York, said that, on account of the uncertainty of the diagnosis indicated by the sphygmograph, he had given up the use of the instrument. Dr. Van Santvoord, who was attending physician to the institutions on Randall's Island, where there were hundreds of patients, and ample opportunity for testing it in all sorts of cases, had also found that, as a means of diagnosis, it was not to be relied upon.

DR. C. A. LEALE, of New York, said that after employing both Pond's and the French sphygmograph for a year, he gave up the use of the instrument, for the reason that the tracings compared so irregularly.

DR. GOULEY said that he thought the trouble was that physicians did not become sufficiently familiar with the use of such instruments, and, because they did not take the pains to do this, the results achieved were often unsatisfactory.

DR. W. C. WALSER, of Port Richmond, Staten Island, said that he had had the opportunity of seeing many of the cases, the sphygmographic tracings from which Dr. Carroll had exhibited, and that in all the instances in which autopsies had been made, the conditions noted corresponded with the results ob-

tained with the sphygmograph during life. The instrument, he thought, was also of much service in correcting our prognosis.

In closing the discussion, DR. CARROLL said that nearly all that had been said went to show that there was really some need of the remarks which he had made. In general, the sphygmograph was of service in correcting the diagnosis derived from other sources, as well as the prognosis. On account of the differences of various instruments, however, great care was necessary in its use. In the first place, it was of the utmost importance to study the tracings made by the normal pulse. In any departure from the normal, the difference in the sphygmographic tracing observed might be due either to central, medial, or peripheral modifications of the circulation. Hence, after the tracing had been made, it had to be interpreted, for the instrument did not make an absolute diagnosis. It did not make much difference which of the recognized instruments was used. Poud's water sphygmograph was exceedingly delicate, but was subject to some inconveniences. For general use, Dudgeon's was no doubt to be recommended as highly as any, on account of its portability and cheapness.

DR. WALSER read a paper on

CHRONIC PROGRESSIVE CARIES OF THE BONES OF THE FOOT, WITH CASES AND PRESENTATION OF A PATIENT.

In one of the two cases referred to, a female, the trouble had commenced at the age of ten months, and in the other, the patient presented, who was a male, at the age of twenty-two years. In both instances the origin of the trouble was very obscure, there being no syphilitic or other diathetic history, and the cases seemed to be of an almost unique character. The disease was apparently painless; in the case of the woman, in which it did not extend beyond the feet, completely so. In the man, who was presented, it also involved the tibia, and the only pain that he complained of was referred to this region.

DR. GOULEY said that the case presented appeared to be one of osteitis, with a certain amount of necrotic process, which had ended in metaplasia of the phalanges, the bone being changed to fibrous tissue. Some part of the metatarsus was still left.

DR. CARROLL said he would like to ask if there could be osteitis without pain. In the present case there was some pain, but in the other none. He wanted to know, also, what pathological condition preceded the metaplasia. The affection in these cases was one unknown to him.

DR. GOULEY said that, in his experience, he had not always found inflammation of the bone necessarily painful. In some instances which we had to recognize as inflammatory, all the usual phenomena belonging to the process of inflammation, as described in the books, were absent. While he had seen osteitis without pain, he had never known periostitis to be painless.

DR. S. H. BENTON, of Brooklyn, read a paper on
ANTITHERMICS IN NEURALGIC PAINS.

He said that his attention was first drawn to the analgesic properties of antipyrine in November, 1886, when he found that this agent, given in a temporary febrile condition, relieved headache in a case of two years' standing, in which a very large number of remedies had been tried in vain. After three months of treatment by antipyrine, given when indicated for

pain, the headache, which was located in the right mastoid region, permanently disappeared. Soon afterwards, Dr. Benton tried antipyrine with excellent results in the case of his own wife. She was suffering from an attack of hemicrania, accompanied with a severe brachial neuralgia, from which she had frequently suffered for three or four years. Often, the pain in the arm and shoulder was so severe that hypodermic injections of morphia had to be used, which, at the best, gave only temporary relief, while the after-effects of the drug were so disagreeable that they were much dreaded. Since then, Dr. Benton had several times repeated the antipyrine in similar attacks, and always with gratifying results. While he could not say that she had been permanently relieved, it was true that the interval between the attacks had been much longer since he had begun the use of this agent, and she had not complained of the pain in the brachial plexus for two months. The dose of antipyrine employed in this case was twenty grains by the mouth.

The next case related was one of locomotor ataxia, in which eight grains of antifebrine were given every four hours, which gave more relief from pain than any other remedy which the patient, who was a lady forty-one years of age, had taken. Unfortunately, she did not live long enough to fairly test the utility of this class of remedies in her disease, and Dr. Benton said he was not sure that one would be justified in continuing the administration of such agents for an indefinite time, as would doubtless be necessary in the pains of locomotor ataxia. It was said, he continued, that the action of antifebrine and its analogues had a destructive action on the blood-corpuscles, as well as a tendency to produce fatty degeneration of the heart, and, if this were true, the continued use of these remedies would be pernicious medication. This theory, however, was new, and might be without foundation in fact. It was supposed that all these new antipyretics caused a reduction of temperature by their action on the thermic centres of the spinal cord; and, if this were true, their analgesic properties could doubtless also be ascribed to the same action. In the case of a lady otherwise in good health, who was subject to hysterical attacks, which were always followed by great precordial distress, intercostal neuralgia, palpitation of the heart, and insomnia, antipyrine proved very satisfactory. The attacks were brought on by any kind of excitement, and were sure to recur, at least, once in every fortnight. For the last two months, she had been taking a teaspoonful of a mixture containing twenty grains of antipyrine to the fluid drachm every two or four hours, as required, whenever she began to feel nervous; and, during that time, she had not a single attack of hysteria or any of her old pains, and had been entirely relieved of insomnia. The use of the drug did not seem to give rise to any disagreeable symptoms.

His experience with antipyrine and antifebrine as analgesics, he said, had not been extensive, but he had used them enough to be convinced that they were of service in many cases; and he thought that if other observers obtained the good results from their use in this capacity as Dr. Lloyd had reported at the last meeting of the Kings County Medical Association, we had added to our armamentarium a class of remedies of inestimable worth. The disagreeable effects from the administration of these medicines in his own cases had been so infinitesimal, that they were not worth

noting. He said he gave them by the mouth most often, but had also given them hypodermically with satisfaction. Some writers had stated that the subcutaneous method of administration gave great distress at the point of insertion, but he had not observed this. It seemed to him that if the needle were inserted deeply, and the parts rolled freely under the thumb immediately after the withdrawal of the syringe, little or no pain would be experienced.

While in some cases, however, the administration of antipyretics as analgesics had seemed to have a desirable effect, and their superiority over other remedies used was demonstrated, he had given antipyrine and antifebrine in many more cases of painful troubles where he got no observable effect whatever. He thought it was only fair to give both sides of a question, as there must be rendered an unfavorable, as well as a favorable, report in regard to the action of all remedies. In three cases of sciatica of long standing, the patients derived no benefit whatever from antipyrine or antifebrine. In one other case, the pain seemed to be modified. In six cases of hemicrania at the menstrual period, very little, if any, effect was observed. In two cases of facial neuralgia no benefit was derived, and in one case of dysmenorrhœa in a young lady, there was the same negative result. In two cases of tabes dorsalis, some comfort was thought to be derived from their use. While, therefore, there was no doubt in his mind that, from his limited experience, antipyretics used as analgesics were of great service, and would grow in favor in the estimation of the profession, he thought that we must not expect too much from them. In many instances, they would disappoint us; but the same was true of quinine and many other of our standard drugs.

DR. P. BRYNBERG PORTER, of New York, said that he was of the same opinion as the writer of the paper, that while the class of agents referred to were no doubt useful in many instances of painful affections, many others would be found in which they were totally inefficient, and that we could not as yet dispense altogether with opium. In a case of neuralgic dysmenorrhœa in which he had used antipyrine hypodermically, no effect whatever was produced upon the pain, and he had been obliged to resort to morphia, as usual. The patient had complained of considerable more pain at the seat of insertion than when morphia was used, but this was of only temporary duration.

DR. JOHN P. GARRISH, of New York, said that he should consider it dangerous to give twenty grains of antipyrine every two hours, as Dr. Benton had reported doing in one of his cases.

DR. WALSER said that, being subject to migraine himself, he had tried ten grains of antipyrine every half-hour for the relief of an attack, but found that it had not the slightest remedial effect.

DR. T. W. ROCHESTER, of Brooklyn, said that he had observed that the same effects were not now reported from the use of antipyrine as at first, such as excessive sweating; and, as it was a patented article, he thought that possibly morphia might of late have been introduced into its composition, and the fact kept secret. There was another point that he had noticed in the reports of painful affections relieved by the use of antipyretics, and that was that the cases were nearly all in females, which he regarded as a somewhat significant fact.

The President, DR. EDWIN BARNES, of Dutchess County, said that in one typical case of migraine of exceptional severity under his charge, a single dose of twenty grains of antipyrine completely arrested the attack, if taken when the headache was just coming on.

DR. E. R. SQUIBB, of Brooklyn, said that no one knew the exact composition of these patented antipyretics. All these agents had been discovered in searching for substitutes for quinine, and they were all somewhat similar in composition, being built up on a radical of quinine.

DR. WILLIAM MCCOLLOM, of Brooklyn, thought it strange that the earlier writers on antipyrine and antifebrine said nothing about their hypnotic and analgesic properties. In his opinion, their position as remedies of this class could not as yet be positively determined.

DR. TRUAX said that in one case of dysmenorrhœa under his care, fifteen grains of antipyrine, given three times a day, seemed to have a very good effect; but, in several other similar cases in which he had tried it, it was of no use whatever.

DR. CARROLL gave a demonstration of a

DRESSING FOR GREENSTICK FRACTURE OF THE CLAVICLE.

The pressure over the fragment necessary for the successful treatment of this variety of fracture, was secured by Dr. Carroll by a compress held in position by the simple turns of an ordinary roller bandage passed in a figure-of-eight under the axillæ and over the shoulder near the seat of fracture.

DR. LEALE said he thought the dressing of Dr. Carroll a decided advance, since many good surgeons recommended converting a greenstick fracture of the clavicle into a complete one, in order to treat it more advantageously. It was all the more admirable on account of its extreme simplicity.

DR. ROCHESTER said that he had been in the habit of resorting to the plan just mentioned by Dr. Leale, but that in the future he would certainly use Dr. Carroll's dressing instead.

THE PRESIDENT presented a paper on

THE INDIVIDUALITY OF DISEASE,

which, on account of the lateness of the hour, was read simply by title. The concluding portion of the meeting was devoted to

MEMORIAL EXERCISES

in honor of three distinguished deceased Fellows, Drs. Alonzo Clark, James C. Hutchinson, and Jared Linsly, and biographical and eulogistic papers were read by Drs. John Shrady, S. T. Hubbard, Ellsworth Eliot, and J. W. S. Gouley.

— Dr. Zaldivar, formerly president of one of the South American republics, and also a practising ophthalmic surgeon, recently, while on a visit to Spain, performed several operations in the clinic of Dr. Osio, before many of the leading medical men of Madrid.

— A congress of physicians and veterinaries having for its object the scientific study of tuberculosis in man and in the other animals, will meet at Paris in July, 1888, under the presidency of Professor Chauveau.

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THE PARASITIC ORIGIN OF CANCER.

THE success which has attended the investigation of the bacterial origin of tuberculosis, leprosy, glanders, and other diseases, and the progress made in the same direction both in hydrophobia and syphilis, has greatly strengthened the hope that light might also be shed upon the almost impenetrable darkness which still surrounds our knowledge of the etiology of cancer. A disease which affects so large a number of individuals, and for which no remedy beyond the uncertain resort to the knife has been found, and in face of which preventive medicine seems to be powerless, is one which the public may well demand that the medical profession should not fail to investigate anew in the light of modern science.

The attitude of so prominent a member of the profession as Sir James Paget towards this question has for many years directed the attention of English observers to the etiology of this disease; and many interesting facts have been elucidated, such as the predilection for certain localities, the greater frequency of the disease in certain countries, and the possibility of contagion in exceptional cases. In a recent address, he dwells upon the many points of resemblance between the class of diseases to which we have alluded and cancer. A tuberculous mass or a syphilitic gumma has, he thinks, more of the general character of a tumor than has a rodent ulcer or a cancer of the lip or tongue. The tendency of these to affect distant parts of the body bears a more striking resemblance still to the life-history of cancer.

It is probable therefore, that, as in these diseases there is a specific morbid material in the blood, a similar one exists in cancerous diseases. Sir James takes the ground, which, however, would hardly be accepted by the majority to-day, that the virus of cancer is diffused throughout the economy, but localizes itself at certain points of irritation, or in certain tissues predestined to afford it a favorable soil.

The report on cultivation-experiments with malignant new growths by Messrs. Ballance and Shattock to the Scientific Grants Committee of the British Medical

Association is of special interest, as giving the impression left upon the minds of observers who have subjected cancer to the most approved scientific tests. They say: "Although we have established the fact by these experiments that no micro-organisms admit of being cultivated from malignant new growths on any of the chief media at present in general use, we hold, nevertheless, that the parasitic theory, in some form or other, is the most probable of any of those yet advanced." It should be remembered that in those diseases in which the micro-parasite has been discovered, the new formations are inflammatory in nature. They belong to the class of affections designated by Virchow as *granulomata*. On the other hand, in cancer the epithelial cell is evidently the seat of the microbe, if such exist. We have here an entirely different soil, and it seems probable that essentially different methods of culture will have to be devised to develop the organism.

Possibly the secret of the failure of Messrs. Ballance and Shattock may be found in the recent telegraphic reports from Berlin, in which it is stated that Dr. Scheurlen has succeeded in isolating a bacillus which he had "cultivated according to the usual methods." His investigations were however said to be much impeded by the long period of incubation, many months being necessary to cultivate the parasite. The English observers did, indeed, find micrococci and bacilli, but such growths were also found in the cultures of normal tissues. The general verdict of the physicians of Berlin upon Dr. Scheurlen's observations appears to have been unfavorable. A report, however, states that "in twenty cases of bacillus found between cancer-cells, specimens were cultivated in the serum taken from human cases of pleurisy, and were injected into six dogs. The injection yielded, in two cases, tumors which proved to contain the same bacillus."

An announcement of this nature coming from Berlin at the present time, when the public are greatly interested in the question of cure of cancer, is, of course, to be received with great reserve.

It seems, at least, highly probable that the solution of this question is to be sought for by some new method of culture or inoculation differing materially from those introduced by Koch and Pasteur, and now in general use.

Even supposing a specific microbe to have been discovered for cancer, the problem of a cure, or even of prevention, may be still as difficult as in the case of tuberculosis. The hope of Sir James Paget that we may find a medicine as efficient against cancer as mercury and quinine are against syphilis and malaria, implies a belief in a more close relationship of these diseases than we are, perhaps, prepared to admit. The frequently expressed opinion of so high an authority, and the lesson which many recent discoveries teach, leads us to feel that there is ground for hope in the future, and that some clew may, at least, be found by which knowledge may be gained to enable us to mitigate the terrors of so formidable a disease.

WORD-BLINDNESS.

In his "Treatise on Practical Medicine" published in 1833, Gendrin speaks of patients "who find it impossible to read, but who can write by a sort of memory of the movements of the fingers necessary to trace the words; when once the letter is written, the patient is no longer able to recognize it." An almost identical description is given by Trousseau, in a clinical lecture, of a form of aphasia first described and named as a distinct species by Kussmaul in 1877, and called by him *word-blindness* (Wortblindheit).

Charcot, in his last volume on "Diseases of the Nervous System,"¹ sums up the details of sixteen observations, of which one had been carefully studied by himself; these cases have all appeared in the medical journals the past few years. The following, in substance, are Charcot's conclusions: In general, the onset of this form of aphasia has been sudden, and attended, at first, with a certain degree of right hemiplegia, which has soon disappeared. During the first few days there is almost always a little motor-aphasia, which vanishes later, the word-blindness alone remaining. There are, however, exceptions to this, and, in a remarkable case, originally reported by Gueneau de Mussy in Galezowski's *Journal Ophthalmologique*, the word-blindness made its appearance isolated from all other complications of a paralytic kind. It is true, however, that a right-sided hemiplegia soon followed.²

Visual troubles have been somewhat vaguely mentioned in connection with a certain number of cases. The patient whose case was reported by Westphal (*Zeitschrift für Ethnologie*, 1874), and the patient who was the subject of Charcot's description,³ had well-marked hemianopsia. So, also, with Gueneau de Mussy's patient.

A peculiarity of typical cases is that when the subjects of word-blindness make efforts to read a book or manuscript, they are obliged to trace out the letters and words with their fingers before they can obtain any understanding of what they are endeavoring to read. The ideas imparted by these movements of the fingers appear to be indispensable to give value and precision to the vague motions furnished by the visual images; in other words, the patient can only read by writing. In Charcot's patient, these digital movements, which were so necessary to supplement the sight in obtaining the recognition of words, were instinctive; in no other way, in fact, could the visual memories be recovered.

Charcot gives the results of three autopsies: one pertaining to a patient of M. Déjerine, another to a patient of M. Chauffard, the third to a patient of MM. Heilly and Chantémesse. These three observations perfectly agree in one point: the predominant lesion was found to be in the inferior parietal lobule, with or without participation of the angular gyrus and the first temporal convolution. In cases in which there was lesion of the latter convolution, the verbal

blindness was found complicated with word-deafness. Charcot finds reason to conclude that the lesion on which verbal blindness depends has for its seat the inferior parietal lobule, with or without participation of the angular gyrus. The existence of the lesion in those parts of the cortex which cerebral physiologists have, with very general unanimity, fixed upon as the visual perceptive centre, easily explains the hemianopsia which characterized several of the cases. As for the precise alteration by which verbal blindness is determined, we are still dependent on conjecture, although there is reason to believe that the primary vascular lesion is generally a plugging (thrombosis or embolism) of the Sylvian artery, which furnishes branches to Broca's convolution, the seat of motor aphasia, and to the regions where verbal blindness and hemianopsia seem to have their location. The lesion of these arterial branches is the primary fact, and the atrophy or softening of the cerebral tissue the consequence.

Gueneau de Mussy, who had an opportunity of studying a remarkable case, which is treated in his usual thorough and philosophical manner in the last volume which he published, proposed to substitute for the name *word-blindness* (*cécité verbale*), and the appellation *aphasic amblyopia*, which Galezowski had bestowed on this affection, the term *asémiognosie optique* (optical asemiognosia); that is, absence of the knowledge of signs. This term seemed to De Mussy more exact than that of *word-blindness*, for there is really no *blindness* present in the ordinary acceptance of the word, and the patient has lost the comprehension not only of words, but of letters. "In adding to the word *asemiognosia* the adjectives of visual or optic, acoustic or tactile, we may," says this writer, "express the different varieties of this intellectual trouble, or their combination." The term is a good one, though too cumbersome, and is not likely to supplant that originally proposed by Kussmaul.

To conclude, all studies thus far made in this department of cerebral physiology testify in favor of the division of the memory into several forms, which correspond to the impressions furnished by the different senses; "and it seems very probable that each of these forms is in relation with a distinct department of the cerebral substance which is the material condition of the formation of these sensorial memories, of their conservation, and of their transmission without."

MEDICAL NOTES.

—The daily papers report that a passenger by the *Alesia*, after being dismissed from quarantine in New York, went to his destination in New Bedford, Pa., where his wife washed and "disinfected" his clothing. She soon sickened and died, of a peculiar disease not diagnosticated. The undertaker who buried her was taken sick soon after. The husband, himself, died in course of a day or two, and his son and daughter, to-

¹ *Leçons sur les Maladies du Système Nerveux*, T. III, 1887.

² Gueneau de Mussy. *Clinique Médicale*, T. IV, p. 660.

³ Loc. cit. pp. 162, 175.

gether with some other inhabitants of the place, are now sick in a singular way. The nature of the symptoms is not reported, and the physicians are said to be in doubt as to the character of the affection.

— Prof. Celli has been made Professor Extraordinary of Experimental Hygiene at Rome.

— The *Medical Record* says that the total annual expenses of the twenty-eight hospitals in New York city are \$740,722. The total income from invested funds is \$142,142; from pay patients, \$163,808.69; from the city, \$56,355. This leaves a deficit of about \$300,000, to be made up by private subscriptions and by the hospital collections. There are annually treated 13,926 patients, of whom only 25 per cent. pay. In out-patient departments there were treated 119,124 patients. These figures do not include the city hospitals, Bellevue and Charity, or the large independent dispensaries. The addition of these easily doubles the number of medical paupers of the city, bringing the total up to over a quarter of a million.

BOSTON.

— A case came up in the superior criminal court, December 6th, before Judge Bacon, on the interpretation of the Sunday law passed at the last session of the Legislature, as to the meaning of the word "drug," and what it includes. An apothecary was tried for a violation of the law. It appeared in the evidence that the violation consisted in selling a cigar. Counsel for the defendant claimed that a cigar was a drug, and came within the section of the law relating to drugs and medicines. In support of his view of the case, he cited various authorities, and quoted freely from Worcester and Webster as to the definition of tobacco. In his instructions to the jury, the judge said if they found that tobacco was a drug or medicine, then they must acquit; but if they found that it was not a drug, then the defendant would be guilty. The jury, after being out a short time, returned a verdict of not guilty.

— The Boston Medical Library Association has authorized its Executive Committee to purchase land on St. Botolph St., on which at some time in the future to erect a library building. In order to secure the new lot it has been necessary to place a mortgage upon the newly purchased land, and also upon the present library building.

— A slight exacerbation in the number of cases of scarlet fever took place last week, coincidently with the warm weather of the last days of November. The serious prevalence of the disease noted a few weeks before was not, however, by any means reproduced. The cases reported for the week were 72, with 15 deaths, as against 64, with 17 deaths, the previous week.

NEW YORK.

— The beautiful building of the New York Cancer Hospital, on Eighth Avenue, between 105th and 106th Streets, was formally opened on December 6th, when

addresses were made by John E. Parsons, Esq., President of the Board of Trustees, the Rev. John Hall, D.D., Drs. Fordyce Barber, and William H. Draper; and the music was furnished by the choir of St. Thomas Church.

— Dr. Charles H. Bradley, formerly of Chicago, where he was for a time under treatment in an insane asylum, who is a victim of the cocaine habit, has been arrested for petty thefts from physicians, and committed to the charge of the Commissioners of Charities and Correction.

— The hospital-ship *Washington*, which has been stationed in Gravesend Bay, has been brought up to the city, and it is said that the New York Quarantine is now entirely free from all contagious diseases.

— A man died of hydrophobia at the Brooklyn Hospital on November 29th, having been bitten by a rabid dog in September last. In this case the convulsions were controlled to a considerable extent by curare, given by hydrophic injection.

— Dr. William T. Lusk has recently performed another successful Cæsarian section, by the modified Sänger method, at Bellevue Hospital, the second since the beginning of the autumn. The infant unfortunately died of tetanus, but at last accounts the mother was doing admirably.

Miscellany.

POISONING FROM ANTIFEBRIN.

A CORRESPONDENT of the *Therapeutic Gazette*, Dr. F. M. Bauer, reports that he has several times witnessed cyanosis produced in female patients by 3 or 4½ grain doses of antifebrin. He has not seen it act so in men. The same journal quotes from the *Deutsche Medicinal Zeitung*, a case reported by Dr. Goll as the only one to his knowledge before the profession of antifebrin poisoning. Unfortunately in the latter case the amount of the drug used is not clearly indicated.

"Mrs. D., who suffered from nervous headache, advised by an article in the *Berliner Lokalanzeiger* purchased twenty-five pfennigs' (about six cents) worth of antifebrin, and put the entire quantity in two portions, which she drank in close succession.

"In about three hours vomiting began, and a cold sweat broke out all over the body, and the patient sank into a deep faint.

"Several hours subsequently I was called in, and found the face, ears, chest, hands, and feet as cold as ice, and covered with a cold sweat; the abdomen was warm but moist; the face deathly pale; eyelids closed, but when spoken to she would open her eyes; pupils moderately dilated, and showing but little sensitiveness to the light; heart beating violently; respiration rapid; pain in abdomen; nausea with occasional retching, but no vomiting.

"The nervous system was in a most strange condition, for, although the woman lay perfectly unconscious of her surroundings, yet she was able to answer to all my questions promptly and sensibly, although in a weak voice.

"She said she felt as though she were continually falling and that she felt perfectly numb.

"In the morning, after the continued use of strong excitants during the night, consciousness returned, accompanied by a most profuse perspiration. At nine o'clock the temperature was normal; the pulse was still up to 108. The whole abdomen was painful and sore. Strange to say, the patient remembered nothing of her condition the night before, and did not even recall the presence of the doctor. This seems to show that antifebrin produces an effect on the nerves similar to an hypnotic state, in which the patient can be made to answer questions and obey commands without having any self-consciousness.

"The next day the patient showed a marked loss of appetite; the face was flushed, and she complained of a severe headache. The symptoms of the poisoning had disappeared."

SIR ANDREW CLARK ON THE CAUSES OF CHLOROSIS.

SIR ANDREW CLARK recently read a paper before the Medical Society of London, published in the *Lancet* of November 19th, in which he contends that the anæmia or chlorosis of girls, arising in nervous constitutions with imperfectly developed sexual organs, is caused for the most part, and in the first instance, by feculent retention and its consequences, and that the right as well as speedily successful treatment lies in the enforcement of a sound hygiene, the administration of ferruginous cathartics, and in the provision after cure for a daily and, as far as possible, a natural relief to the bowels.

Fæcal anæmia, is the name he gives to this condition, and he claims that disorders of the generative system have received much more attention than they are entitled to as causes of the disease. He says: "In the period between the advent of menstruation and the consummation of womanhood there arise physical, mental and moral changes which greatly influence the girl's habits of life and thought. She becomes self-conscious, and enters into new relations with those whom she meets. She thinks of her appearance and tightens her waist. Afraid of getting fat, she stints herself in food, and eats of only dainty things. With her sense of modesty deepened, she is shy of being seen about the closet. Unprompted by nature, and perhaps disdainful of such affairs, she omits the daily solicitations of the bowels. And so at last it happens, through the compressed waist, the insufficient food, and the disregarded desire or the neglected trouble, that the bowels become either obstructed, confined or inadequately relieved. In either case the fæces accumulate, are retained, and not only undergo changes in themselves, but provoke changes in the mucous membrane with which they are in contact. As one of the results of those changes, both chemical and biological, there are produced new substances, ptomaines and leucomaines, which are injurious to the organism, and which, absorbed into the blood, originate in girls of a nervous type of organization those alterations of the constitution of the blood which constitute the true pathogeny of this anæmia of girls.

"Now, it is necessary to ask if this alleged cause of the malady is adequate to the explanation of it? Well, it has been shown by Bouchard, in his lectures on Self-intoxication in Disease, that the poisonous activ-

ity of human fæces, even in healthy men is very great. And he concludes that there are formed throughout the intestines of an adult in twenty-four hours a quantity of alkaloids, which, if excretion were stopped and all were absorbed, would be sufficient to destroy life. It is, then, impossible to doubt that poisonous alkaloids are formed in the alimentary canal; that when excretion is seriously diminished they must be in some degree absorbed; and that, mixing with the blood and entering the tissues, they must produce some sort of injurious effects determined by the rate of absorption and the amount absorbed."

ACTINOMYCOSIS IN A WOMAN.

THE *British Medical Journal*, for November 19th, contains the report of a case of this affliction originally published by Dr. Hoeffner in the *Gazette Medicale de Strasbourg*. The patient was a woman, aged sixty, who suffered in November, 1884, and January, 1885, with pains in the right loins resembling renal-colic. Each attack was followed by urticaria and diabetes insipidus. In April, 1885, the attacks grew longer and more frequent; much muco-pus was passed with the urine, and there was great pain and tenderness in the region of the right kidney. In November, the attacks recurred, but this time resembled gall-stone colic; the pain radiated from the liver to the right shoulder. In January, 1886, a swelling resembling an abscess, formed in the right hypochondrium, and was opened by Professor Boeckel in February. Instead of pus, serum with fungous tissue came away; it was sprinkled with grass-green bodies, the size of a grain of wheat. No communication could be found between the incised structure and the abdominal cavity. The wound was scraped, disinfected, and dressed with iodoform gauze. The green bodies were examined and found to be actinomycetes. The wound slowly became cleaner; its edges remained red and indurated, and not very tender. The scanty pus which exuded was mixed with the bright green bodies. There were indurated tracts in the neighborhood; no antiseptics produced any effect. At this stage the general condition was good; the urine contained muco-pus, but the fungus could not be found in it. The wound at length became a fistulous track. In June, 1886, pleuritic effusion set in in the right side of the thorax inferiorly, with rise of temperature. On June 27th, fits of coughing brought up fætid muco-pus. In August, the patient became very ill with ascites, anasarca, jaundice, and a bed sore, yet she got stronger again till spring, 1887. An abscess then formed in the inner side of the right scapula. On incision, thick pus and actinomycetes escaped in quantities; a fistulous track was left which, alternately with the track in the right hypochondrium, discharged the parasite. The former track on one occasion communicated with the pulmonary fistula, then the green bodies were found in the sputa; they were not so green as those escaping from the other cavities. The patient died of exhaustion on July 30, 1887. The disease thus lasted for two years and a half. A large abscess was found in the right lobe of the liver, involving adjacent viscera. It was full of the fungus; it communicated with the lumbar fistula, which was itself in communication, under a wide area of upheaved subcutaneous and

muscular tissue, with the fistula in the thorax. The right suprarenal capsule adherent to the liver was infected with the fungus, but the kidney, including its capsule, was free from infection, though congested. The diaphragm and other organs were healthy. The fungus appeared to have begun its ravages from the right transverse colon, where it touches the liver. The fungus had migrated towards the surface, through the thoracic parietes, forming the first abscess; then it had made its way between the skin and the muscles towards the scapula, perforated an intercostal space, and finally entered the lung. The green coloration of the fungus appears to be peculiar to cases where the abscess is hepatic; in other cases the masses were white or yellow, and even in this patient those which were coughed up from the lung were much less green than those in the hepatic abscess.

THE PUERPERAL INVOLUTION OF THE UTERUS.

THE *American Journal of Obstetrics*, November, 1887, contains a review of an elaborate paper by Th. B. Hausen, (*Ztschrift. für Geb. u. Gyn. XIII*, 1). After an analysis of the results obtained by others from external and internal measurements undertaken during the puerperium, the author describes in detail his own experiments and the method after which they were undertaken. These measurements were one thousand and forty-eight in number, performed on two hundred puerperæ, on the tenth day post partum, on the fifteenth day, then every week up to the end of two months, and every two weeks to the expiration of twelve weeks after labor. The results are tabulated under the respective headings, Primiparæ; Multiparæ; Miscarriages; Premature Labors; Non-nursing Women; Complicated Labors; Complicated Puerperium. The conclusions may be summarized as follows: (1) In twenty-five instances (twelve primiparæ, thirteen multiparæ) after normal labor at term, the progress of involution was noted beyond eight weeks, and in one-half involution was then complete, whilst in the remainder this did not occur till the third month. No special difference was found to obtain as regards the progress of involution in primiparæ and in multiparæ after the tenth day. Involution seemed to progress less rapidly after premature labor than after labor at term. In the normal puerperium, after normal labor at term, the uterine cavity remained larger and the process of involution was more protracted in women who did not nurse than in those who did. In the normal puerperium after twin births, or after those complicated by much hæmorrhage, involution was somewhat slower than after uncomplicated labor; the difference was especially marked on the tenth and fifteenth day. Retention of the secundines seems to be a cause of protracted involution.

Hausen also made a number of measurements for the purpose of determining whether any deductions of value from a medico-legal standpoint could be drawn. In one hundred and sixty-three puerparæ, fifteen days after delivery near term, in two only was the measurement less than nine centimetres; three weeks after delivery, of one hundred and thirty-five cases, in two only was the measurement less than eight centimetres. The conclusion is thence drawn that, if on careful measurement the uterine cavity measures

much below eight centimetres, the chances are very slight that a child has been born within three weeks; and if the measurement is not at least nine centimetres, then the chances are exceptionally slight that delivery has occurred within two weeks. Generally then, measurement by the sound two weeks after delivery at term, or within six weeks of term, will give us positive indication as to delivery having occurred; after the third week, the data obtainable are lacking in value as positive evidence.

The last question considered, is the form and position of the uterus during involution. The results of examinations were: On the tenth day, he found antelexion, 95 per cent.; pure anteversion, one case; retrodeviation, no case; on the fifteenth day, antelexion, 85 per cent.; normal position, 11 per cent.; retrodeviation, 3.4 per cent.; six weeks after delivery, antelexion, 75.6 per cent.; retrodeviation, 5.5 per cent.; normal position, 50.9 per cent.

Correspondence.

THE "DOCTOR'S WIFE." A BACHELOR'S WAIL.

MR. EDITOR,—Your remarks in the last issue of your valuable JOURNAL upon the Doctor's Wife, call forth from my heart certain personal reminiscences not unminged with pain. "Pins," says the infant prodigy "save a great many people's lives because they don't swallow them." So, doctor's wives ruin the prospects of hundreds of us young fellows, because we don't have them. Shall I tell you my sad fate?

Two years ago on the death of old Doctor Gamboge, two of us, as is the custom, moved into town to take his place. My friend and classmate, Dr. Benedick (alas, no longer my friend!) and I, each arrived on the ground about half an hour after the old doctor had breathed his last. We were pretty well-matched in what is properly but erroneously supposed to be the preparation for practice, and we entered the race neck and neck. We were, as Virgil says, or might have said, *Et secare pares, et exercere parati*.

Well, we took lodgings on opposite sides of the main street, and the fight began. As fast as I scored a point Benedick scored another, and somehow his points always seemed to count for a little more than mine. I went to the brick church, which was larger, and he went to the wooden meeting-house, which had the most old families. My chimney blew down and I got it in for a five-liner in the local paper, but the next week one corner of his house took fire and he got it in for ten lines. I put on my door an old-fashioned knocker and he put in an electric bell. The country people knew all about knockers, but the electric bell was something they couldn't quite grasp (figuratively I mean; they grasped it often enough literally).

Finally I fell into the common pit, and bought a horse long before I needed it or could afford it. The first time I passed Benedick on the street, he smiled in an unpleasant way and said, "Oho, I've got onto a racket worth two of that," and the next thing I knew he was married.

His wife distanced my horse in no time. She went to the sewing-circle and every good patient he ever had was brought into the conversation in some way. Even if he was only called into a house to see the cook, the women all learned that he had been there, though they didn't know (for I "mustn't talk about my husband's affairs,") who the patient was.

Then, when the wedding-calls were returned, into every house went some mysterious hint, not too definite, of Benedick's wonderful success. Were there children in the family: "The Doctor is so fond of children, and they all

take to him so quickly!" Had any of the household met with an accident: "The Doctor is very fond of surgery." Were any little dresses in making: "My husband is such a good baby-doctor. Whatever should I do if it weren't for him!"

She always found out who the family physician was, and this information, of course, was the first and most important step towards ousting him. If a new-comer moved into town, the grocer and butcher were hardly more prompt in leaving their cards at the back door, than Madame in presenting her business-card at the front door. If little Susy Simmons swallowed a pin, and the horrified mother was running amuck for the nearest doctor she could find, she was beguiled in by Mrs. Benedick to wait for her doctor, whom she "expected in every minute." No emergency cases ever would wait for me to come home, and whenever a patient eager for immediate healing turned away from my door, he was invariably gathered in by the siren across the way, who either entertained him till her partner's return, or else got his name booked for a visit.

They were two, or more than two, to my one. It takes two men to run the Punch and Judy show—one to work the figures, the other to do the talking, get in the crowd, and take up the collection. I had to run my show alone, and didn't take up much money.

I wonder if King Lemuel's mother did not have such a doctor's wife in mind when she told him the memorable story of the virtuous woman. There are certain internal evidences that she did. "She perceiveth that her merchandise is good. Her candle goeth not out by night. . . . Her husband is known in the gates, where he sitteth among the elders of the land." By the way, Mrs. Benedick has already got her husband onto the School-Com-

mittee, and, I hear, is thinking of sending him to the Legislature next year.

There is nothing left for me but to move on, and try it somewhere else. *Vae victis*. I fondly thought when I spent my money for a horse and carriage that I held the "right bower"; but I have found that Benedick has the "joker." And now, before trying my fortune in a new field, I must have, cost what it may, a wife. Bitter experience, as well as the tenor of your editorial, convince me of it.

I am, sir, yours in search of a wife, CŒLEBS, M.D.

SKIN GRAFTING AND SEVERED DIGITS.

NAVY YARD, CHARLESTOWN, November 29, 1887.

MR. EDITOR,—I beg leave to submit the following (from Corneil and Ranvier's "Histologie Pathologique") concerning skin-grafting. "The presence of epidermic cells, transplanted to the middle of a granulating sore of the skin, determines an active reproduction of epithelium all about the graft. The epidermic cells seem to act not by multiplying themselves but by a kind of *action de présence* which leads, as it were, the evolution of the surrounding embryonic cells in a definite direction; for the graft itself gives no evidence of activity, and is soon destroyed in midst of the new epithelial tissue the appearance of which it has determined."

This may be of interest, also, to those who believe that bits of fingers, phalanges, etc., after complete removal, wholly severed from nervo-vascular connection, may continue or resume vital action. Very respectfully,

F. B. STEPHENSON, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	625	226	19.04	19.84	1.44	10.05	2.88
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	319	108	21.70	15.19	3.41	14.95	.93
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	143	51	16.80	9.80	3.50	5.60	.70
Boston	400,000	189	56	18.02	15.37	1.59	4.24	9.01
New Orleans	242,750	115	29	13.05	8.69	.87	5.22	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	68	18	10.29	8.82	4.41	1.47	1.47
Pittsburgh	210,000	76	31	19.80	18.48	6.60	9.24	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	56	31	14.32	5.37	3.58	1.79	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	14	3	14.28	21.52	—	7.14	—
Charleston	60,145	31	10	3.23	3.23	—	3.23	—
Portland	40,000	18	5	22.22	5.55	—	11.11	5.55
Worcester	68,383	20	8	5.00	30.00	—	—	—
Lowell	64,051	23	7	13.05	17.40	—	—	—
Cambridge	59,660	28	9	20.85	10.71	10.74	16.11	—
Fall River	56,863	26	9	11.55	—	3.85	—	—
Lynn	45,861	23	1	18.40	13.05	—	13.05	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	3	37.50	25.00	—	25.00	12.50
Somerville	29,992	11	3	36.36	36.36	—	—	36.36
Salem	28,084	12	5	16.66	25.00	—	16.66	—
Holyoke	27,894	7	4	—	14.28	—	—	—
Chelsea	25,709	10	2	20.00	—	—	—	10.00
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	15	6	46.62	20.00	20.00	13.33	—
Gloucester	21,713	10	3	10.00	20.00	—	10.00	—
Brockton	20,783	5	0	—	—	—	—	—
Newton	19,759	7	3	—	14.28	—	—	—
Malden	16,407	9	4	11.11	22.22	11.11	—	—
Fitchburg	15,375	8	2	—	12.50	—	—	—
Waltham	14,609	6	2	33.33	16.66	—	33.33	—
Newburyport	13,716	6	1	33.33	—	16.66	16.66	—
Northampton	12,896	1	0	—	—	—	—	—

Deaths reported 1,889: under five years of age 640; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 341, acute lung diseases 290, consumption 268, diphtheria and croup, 165, scarlet fever 47, typhoid fever 47, diarrhoeal diseases 30, malarial fever 14, measles nine, cerebro-spinal meningitis nine, whooping-cough seven, erysipelas seven, puerperal fever six. From diarrhoeal diseases, New York eight, Boston five, New Orleans four, Baltimore three, Brooklyn, Pittsburgh, Lowell, and Haverhill two each, Milwaukee and Fall River one each. From malarial fever, Brooklyn six, New York and New Orleans three each, Baltimore two. From measles, New York six, Baltimore three. From cerebro-spinal meningitis, New York four, Baltimore, Milwaukee, Worcester, Lowell, and Fall River one each. From whooping-cough, Milwaukee three, Brooklyn two, New York and Boston one each. From erysipelas, New York three, Brooklyn, Baltimore, District of Columbia, and Nashville one each. From puerperal fever, Portland, New Orleans, Pittsburg, District of Columbia, Lynn, and Chelsea one each. Cases reported in Milwaukee, scarlet fever 31, diphtheria nine.

In 23 cities and towns of Massachusetts with an estimated population of 1,078,330, the total death-rate for the week was 21.41 against 21.90 and 20.85 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 12th, the death-rate was 20.0. Deaths reported 3,548: infants under one year of age 768; acute diseases of the respiratory organs (London) 438, scarlet fever 111, measles 82, whooping-cough 58, fever 53, diphtheria 43, diarrhoea 37, small-pox (Sheffield 17, London 1) 18.

The death-rates ranged from 9.3 in Brighton to Oldham 29.6; Birmingham 21.8; Bradford 21.6; Hull 14.8; Leeds 19.4; Leicester 18.2; Liverpool 21.0; London 19.4; Manchester 28.3; Newcastle-on-Tyne 22.9; Nottingham 15.4; Sheffield 21.4; Sunderland 14.5.

In Edinburgh 16.5; Glasgow 22.2; Dublin 32.1.

The meteorological record for the week ending November 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Nov. 26, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 20	29.55	41.0	54.7	34.8	92.0	79.0	91.0	87.3	S. W.	S. W.	W.	9	14	12	O.	O.	C.		
Monday, ... 21	25.92	32.0	38.6	25.4	76.0	87.0	90.0	84.3	W.	W.	W.	12	12	12	F.	O.	C.		
Tuesday, ... 22	30.25	37.7	45.2	29.0	79.0	82.0	75.0	78.7	W.	S. E.	S. W.	8	3	4	C.	C.	C.		
Wednes., ... 23	30.23	45.0	52.6	34.9	75.0	62.0	65.0	74.0	S. W.	S. W.	W.	7	10	8	O.	O.	O.		
Thursday, 24	30.42	39.7	45.0	37.3	84.0	92.0	88.0	88.0	N.	N. E.	E.	12	12	18	O.	O.	O.		
Friday, ... 25	30.36	37.7	44.0	39.0	92.0	100.0	100.0	97.3	S. E.	N.	N. W.	12	6	5	R.	G.	G.		
Saturday, 26	30.32	47.3	60.1	34.3	39.0	50.0	46.0	91.7	W.	S. W.	S. W.	3	5	2	G.	F.	C.		
Mean, the Week.	30.15		48.6	33.5				85.9											

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 26, 1887, TO DECEMBER 2, 1887.

So much of S. O. 235, A. G. O., October 8, 1887, as relieves LT. COL. CHAS. T. ALEXANDER, surgeon, from duty at St. Louis, Mo., and directs him to report for duty at Fort Meade, Dak., is amended so as take effect January 1, 1888. S. O. 274 A. G. O., November 25, 1887.

BIRMINGHAM, II. P., captain and assistant surgeon. Leave of absence granted by order No. 52, Fort Myer, Va, November 24, is extended twenty-three days. S. O. 255, Division Atlantic, November 28, 1887.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. —The Section for Clinical Medicine, Pathology, and Hygiene will meet at 19 Boylston Place, on Wednesday, December 14, at 7.45 o'clock. Business: Final Report of the Committee on Metropolitan Milk-Supply. Dr. J. W. Farlow will read a paper on "Hypertrophy at the Base of the Tongue, with Report of Cases." Dr. F. I. Knight will open the discussion. Dr. W. D. Hodges will read a paper on "An Epidemic of Measles." Dr. S. H. Durgin will open the discussion. Dr. J. B. Jerould, of North Attleboro, will exhibit a patient presenting the unusual phenomenon of Objective Tinnitus Aurium.

A. L. MASON, M.D., *Chairman*.

ALBERT N. BLODGETT, M.D., *Secretary*.

GYNÆCOLOGICAL SOCIETY OF BOSTON. —A regular meeting of the Society will be held at No. 19 Boylston Place, on Thursday, December 15th, at 4 o'clock p. m. Papers: Dr. Helen L. Betts, "Woman's Dress—its Relation to the Etiology and Treatment of Pelvic Disease." Dr. C. W. Stevens, "A Case of Puerperal Septicæmia."

H. J. HARRIMAN, M.D., *Secretary*.

APPOINTMENT.

CHARLES W. TOWNSEND, M.D., has been appointed Assistant in Obstetrics in the Harvard Medical School.

TYPHOID FEVER IN CINCINNATI.

Typhoid fever is, at present, epidemic in Cincinnati. The visitation is chiefly attributable to the state of the Ohio River, which, we learn from the *Medical News*, has never been so low since 1881, when this disease was unusually prevalent. The death-reports for the week average about six per day; the number of cases is variously estimated at six hundred to one thousand. The various hospitals of the city contain about one hundred and fifty cases. The disease prevails in all parts of the city, in the most remote suburbs, as well as the city proper. Upon the advice of physicians, most families take the precaution of boiling all the drinking-water and milk. It is a common sight to see children on their way to school with bottles of boiled water slung across their backs with their satchels. There is general testimony at the medical societies that the disease is mild, though the mortality report is much larger than at any time in the history of the city. One prominent physician says that he has seen, in private practice, more cases of severe hæmorrhage than in any previous experience with the disease.

Drs. Rushford and Cameron, of the Bacteriological Laboratory of the Medical College of Ohio, have succeeded, by Brouardel's method, in discovering by culture-experiments, and demonstrating before the Cincinnati Academy of Medicine, the bacillus of typhoid fever in the waters of the Ohio River.

BOOKS AND PAMPHLETS RECEIVED.

The True Nature and Definition of Insanity. By C. H. Hughes, M.D., former Surgeon, United States Army, late Superintendent and Physician-in-Chief, Missouri State Lunatic Asylum, etc. St. Louis, Mo. Reprint. 1887.

The Present State of our Knowledge regarding Localization in the Cortex Cerebri. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic. Reprint. 1887.

Syphilis of the Nervous System and its Treatment. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic. Reprint. 1887.

A Case of Poisoning from Arsenical Wall-Paper. By W. Everett Smith, M.D., Boston, Mass. Reprint. 1887.

Original Articles.

HINTS TO PHYSICIANS SENDING THEIR CONSUMPTIVE PATIENTS TO COLORADO.¹

BY EDWARD O. OTIS, M.D.

Of the advantages of the Colorado climate for either the arrest or cure of many cases of phthisis I do not propose here to speak. That matter, I shall assume, has been already settled by the physicians to whom I address this paper. I will, however, say in passing, for the benefit of those who may desire to investigate the subject, that it has been very carefully considered, with abundant and reliable data, as to temperature, humidity, cloudiness, winds, etc., by Dennison, Fisk, Solly, Eskridge, Wagner, and many others. Especially to be recommended are the papers of Dr. Fisk, of Denver, in various periodicals, giving careful and honest deductions from climatic tables and observations of indisputable authority. I will only stop to add to the large mass of meteorological evidence already adduced in favor of the climate the results of some private observations, made, and recently communicated to me by Dr. Hazelhurst, of Colorado Springs. These observations are for the last three winters, and I have arranged them in tabular form, so that one can see at a glance the number of clear, fair, cloudy, and stormy days. For comparison's sake I have also a table of the weather here in Boston during that time, kindly furnished me by the signal officer at this station. I add also a third table, giving a synopsis of the two previous ones.

TABLE I. BOSTON.

Synopsis of Weather Observations for the winter months. December, January, February, March, for the three years, 1884-85; 1885-86; 1886-87; made at the United States Signal Station at Boston.

	1884-5	1885-6	1886-7		1884-5	1885-6	1886-7
	Dec.	Dec.	Dec.		Feb.	Feb.	Feb.
Clear	6	8	6	Clear	12	10	6
Fair	12	11	12	Fair	10	10	11
Cloudy	13	12	13	Cloudy	6	8	11
Stormy	*13	*14	*12	Stormy	*10	*10	*14
	Jan.	Jan.	Jan.		Mar.	Mar.	Mar.
Clear	9	9	7	Clear	8	7	8
Fair	12	11	11	Fair	16	15	10
Cloudy	10	11	13	Cloudy	7	9	18
Stormy	*9	*18	*12	Stormy	*9	*17	*11

* Including days on which .01 inch of rain or snow fell only.

As a further bit of experimental evidence I will say that in a conversation with one of the physicians of Colorado Springs last summer he told me that he had that very season, after a residence and practice of fifteen years in Colorado, met with the first case of phthisis that seemed to have originated in that climate.

It is unfortunate that up to the present time more physicians treating large numbers of phthisical cases in Colorado have not published the results of their experience; but outside of the two hundred and sixty cases by Dennison, I know of none. It is likely, however, that there will soon be given to the public the results of a large number of cases, carefully noted and observed during many years of practice at Colorado Springs.

¹Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Society, November 9, 1887.

TABLE II. COLORADO SPRINGS.

Synopsis of Weather Observations for the four winter months. December, January, February, March, 1884 to 1887 inclusive; made by Dr. Hazelhurst, of Colorado Springs.

	1884-5	1885-6	1886-7		1884-5	1885-6	1886-7
	Dec.	Dec.	Dec.		Feb.	Feb.	Feb.
Clear	15	23		Clear	10	23	21
Fair	7	4		Fair	14	4	5
Cloudy			Not given.	Cloudy			
or over-cast	8	2		or over-cast	2	0	2
Stormy	1	2		Stormy	2	1	2
	Jan.	Jan.	Jan.		Mar.	Mar.	Mar.
Clear	25	22	5	Clear	7	20	
Fair	6	3	24	Fair	14	2	
Cloudy				Cloudy			Not given.
or over-cast	0	3	2	or over-cast	2	4	
Stormy	0	2	0	Stormy	1	3	

TABLE III. BOSTON AND COLORADO SPRINGS.

Synopsis for Weather Observations for December, January, February, and March, from 1884 to 1887 inclusive (three years), with the exception of December, 1886, and March 1887, at Colorado Springs.

	Boston.				Colorado Springs.			
	1884-5	1885-6	1886-7	Total	1884-5	1885-6	1886-7	Total
Clear	35	34	27	96	57	88	26	171
Fair	50	47	44	141	41	13	29	83
Cloudy or } overcast	36	30	50	116	8	8	4	20
Stormy	41	59	49	149	4	8	2	12

For the two years, 1884-85, 1885-86, during December, January, February, March, there were:

In Boston, 69 clear, 66 cloudy, and 100 stormy days.

In Colorado Springs, 149 clear, 16 cloudy or overcast, and 8 stormy days.

For the three years, 1884 to 1887, inclusive, during January and February, there were:

In Boston, 53 clear, 59 cloudy, and 73 stormy days.

In Colorado Springs, 106 clear, 3 cloudy, and 7 stormy days.

From a somewhat careful consideration given to the numerous health resorts throughout the world, and a personal acquaintance with some of them, I am prepared to say that I know of none possessing so nearly a perfect climate for many cases of phthisis, taking it all in all, as that of Colorado; or so nearly fulfilling the conditions necessary for the most successful climatic treatment. "Climatic treatment," says Lindsay,² "aims at removing the patient from a climate which induces an indoor and sedentary life to one where an outdoor life of healthful activity may be continuously enjoyed, without hindrance from meteorological conditions. Climatic treatment aims at removing the patient from a comparatively sunless and depressing climate, which impairs vitality and lowers nutrition, to a sunny and tonic climate where appetite, digestion, and sanguification undergo such augmentation as may enable the patient to shake off or hold at bay the tendency to consumptive disease." All this, I believe, does the Colorado climate, and with this opinion, I am confident that very many physicians who have considered the subject, or who have had personal experience in the climate under consideration, will agree. Health resorts there may be which excel in this or that regard, but none, I believe, which possess such an all around favorable climate for phthisis as that of Colorado. One may urge as an objection to it

²The Climatic Treatment of Consumption, a Contribution to Medical Climatology. By James Alexander Lindsay. Macmillan & Co., 1887.

that it is like a mouse-trap, when you are once in it you are obliged to stay there; but is not this true to a great extent of any health resort worthy of the name? Fortunate is the consumptive who can live comfortably and indefinitely, with a chance of getting well, anywhere, particularly among the beauties and attractions of Colorado.

My object, in the present paper, is to aid the physician of the same opinion as myself regarding the Colorado climate, to give his patient, whom he is sending hither, such hints and advice as will enable him to settle and live in the new climate with greater ease, comfort, and safety, than he might otherwise do if left to pick up the knowledge requisite for this by his own experience.

Having spent the last summer in Colorado, I was there long enough, perhaps, to appreciate the many bits of knowledge necessary and useful for the new-comer, and not too long to forget or overlook them. When the physician says "go to Colorado," he may not realize that the State is nearly as large as New England and the State of New York together, or larger than England, Scotland, and Wales; and he must, therefore, give his patient more specific directions than these. How often, alas, is one sent to a new climate in just this vague way, or even left to make the selection of a proper climate for himself!³ Generally, however, the physician means Colorado Springs, for there the larger number of invalids or "lungers," as they facetiously call themselves there, go; and undoubtedly this town is better prepared to care for the consumptives than most others in Colorado, for it is not an inconsiderable source of revenue to the inhabitants. Scattering cases go to Cañon City, Denver, Salida, Boulder, and other places, but, with the exception of Denver, the accommodations are probably far better in Colorado Springs, if one is able to pay for them. Some, mostly young men, go out on a ranch, if they are strong enough to endure the hardships and privations consequent upon such a life; but they must be prepared for poor food, and much of it canned. Wherever the patient goes, the physician under whose care he comes — and he should be under the observation of some medical man — should be informed by the home physician, of the history and condition of the patient. Better is it if the new physician is personally known by the one at home. Moreover, the former will render great assistance to the recently-arrived invalid by advising him as to boarding places of good repute, and in wholesome localities, and, indeed, in a thousand other ways.

The majority, then, of consumptives, as I have said, go to Colorado Springs, a town of seven thousand, or more, inhabitants, with the purest of drinking water from the melting snows of Pike's Peak. Its streets are traversed by irrigating ditches, from which the lawns and yards are frequently flooded in summer, which has been considered by some persons productive of too much dampness. On one side of the town are the foot-hills and mountains, and on the other the limitless plains, thus offering an endless variety of rides and drives. Almost all the conveniences, and luxuries even, that one has been used to at home, can be obtained here. There are good shops of all kinds, and the markets are well supplied. Fruit comes from California, beef from Kansas City, and game from

Colorado itself. There is an opera-house for passing shows, a club-house, a free postal-delivery, and a horse-railroad. The town is most orderly, and there is not, or cannot be, from the conditions under which all building lots are sold, a drinking saloon in it. The physicians, nearly all of whom are there per force, on account of pulmonary trouble, are men of ability and skill. There is no system of sewerage as yet, but one is in contemplation, and, I should say, was much needed. The boarding houses are many, and, for the most part, seem to offer good accommodations, the average price of board and lodging being from twelve to fifteen dollars a week. What the physicians there advise, and which obviously is the best plan, is house-keeping, if the invalid is strong enough, and is with friends; but rents are high. There is a good hotel, the "Antlers," where the new comer will spend his first few days until he has selected his permanent quarters. The character of the society is much like that of a summer resort, quite cosmopolitan, as one would naturally expect from the coming together of people from so many different parts of the country.

There are many — too many — social entertainments, teas, balls and the like, where consumptives are crowded together in a small space, and strength which ought to be husbanded is wasted in this way. The physicians see and fight against these excesses, but there, as elsewhere, it is hard to stem the tide of fashion and society. The daily life of the invalid is essentially an outdoor one, which is very possible when one considers that there are only about thirty-five to forty-six cloudy days in the whole year, and from "October 1st to April 1st there is an average of less than one-half a day of each week when the patient will be deprived of sunshine."⁴ During the winter there is practically no rain, and one can sit on the veranda or be in the saddle every day; the day of sunshine during this season being about eight hours.

For some time after coming to this altitude (Colorado Springs being 6080 feet high), comparative rest and inactivity is enjoined, and probably with wisdom; but sometimes it seemed to me that this injunction was carried to an extreme, and that moderate exercise would have hastened the improvement, or recovery. Horseback riding is the exercise par excellence at Colorado Springs, as elsewhere in the State, and horses are good, and comparatively cheap. The rides are innumerable. Out on the plains; to the various Cañons; to Manitou; the Garden of the Gods, etc. Could anything be more exhilarating than a gallop out on the limitless plain in a Colorado saddle, on an easy-riding broncho, the prairie dogs barking at the doors of their little mounds, the rabbits hopping through the sage bush, and in the distance a long line of cattle going for water or salt!

It seemed to me that there was no very great opportunity for one to find remunerative employment in Colorado Springs, for it is not commercially active. Probably some of the other and more busy towns would serve better for this purpose. My impression of Colorado in general, however, is that a man of sufficient strength, with energy and adaptability, who desires self-supporting work, will not be long in finding it. As an illustration of this, I know a young clerk, from this city, who went to Colorado Springs for pulmonary trouble, but who was strong enough to be about and around after a little. At the Springs he

³ Vide *Some Observations on Health Resorts*, by the author. Reprint from the *Boston Medical and Surgical Journal* of March 11, 1886.

⁴ Wagner, in a recent issue of the *N. Y. Medical Record*.

found a cattle-man, who took him into his employ and sent him up into Estes Park to look after his cattle. He got the use of a good horse, and was paid a fair monthly salary, together with his board. Possessing Yankee shrewdness he found an opportunity to preempt a quarter-section of grazing land at the same time, and now he bids fair to regain his health, and have some dollars in his pocket at the end.

In summer, Colorado Springs, judging from my experience, is likely to have many uncomfortably hot days, and it seems to be well for the invalid to seek the coolness of the mountains somewhere, and, moreover, it makes a pleasant and agreeable change, after a winter spent in civilization, with its consequent and inevitable evils, to have something of the wild and free life of the mountains. There are many of the so-called mountain parks near or more distant, and ranging in altitude from 7,000 to 10,000 feet high, which offer both a cool temperature and all the attractions of grand mountain scenery. One finds hotels in some, in others boarding ranches, and in the more remote places he must go prepared to camp out. In all the food will be found to be more or less bad, depending upon the distance from any source of supplies, but, unless very delicate, the invalid will soon learn to put up with it, and will have such an appetite from the life and invigorating air that he can sit down and eat a piece of raw ham. If one enjoys, and is strong enough for, long trips on horseback, he can start on his horse from Colorado Springs, or Denver, and ride to the mountains, and have his horse there for use. I met a company of young men in Estes Park, two of whom were "lungers," though they looked the picture of health, who had ridden from Colorado Springs, and were en-route for North or Middle Park, with their camping paraphernalia, in search of trout and deer. For those who are delicate, and need moderately comfortable quarters and care, there is Manitou Park, Idaho Springs, Salida, and Poncha Springs, near by. Georgetown, a typical mountain village, most picturesquely situated in a deep, narrow gulch, on Clear Creek cañon, and Estes Park, one of the most charming spots in all Colorado, and of which I shall speak a little more at length. It is one of the smallest of the Colorado parks, and is about ten miles square, and seventy-five hundred feet, about, above sea-level. It is reached, from Denver, by railroad to Lyons or Loveland, and from thence by a stage road of twenty odd miles. The journey is made in a day from Denver. There are but few buildings and settlements in the park, the most of it being owned by the so-called English company. Some years ago the Earl of Dunraven visited the place and was so much impressed with its beauty that he got possession of it. There is a small hotel there of moderate price, and three or four boarding ranches. Ferguson's and James's are the best, at which room and board can be obtained for about twelve dollars a week. Each of these ranches consists of a number of small cabins of two or three rooms, some of logs and others of rough boards, but one is very comfortable in them, and he is, or should be, only in them to sleep. The food is fair for the mountains, about the same quality as in the Adirondacks. It seems paradoxical that the beef should be of poor quality, when all around are herds of cattle preparing for the Chicago market. One has, however, every day, an abundance of the most delicious brook trout.

One of the great charms of the park is the nearness of the mountains. On two sides are the great snowy ranges terminating in Long's Peak, 14,272 feet high, the "Matterhorn of the Rockies." The air is of the purest, and almost every day is a sunny one. Very rarely is it uncomfortably hot, and the nights are always cool. Generally a fire is comfortable. But once during a stay of six weeks there did I notice any dew, and one can sleep under the open sky without danger from dampness. Many spend the summer in tents, which dot the park over, but most of the cabins have chinks and cracks enough in them to let in sufficient air. The flora is large and luxurious, and the botanist will find continual surprises and delights in it. Indeed, I do not see how it is possible to find a clearer or more invigorating air, sunnier or bluer skies, grander or more beautiful scenery in the whole Rocky Mountains than here in Estes Park. I have known of a consumptive getting up from her bed in Colorado Springs to go to the park, and in a short time after her arrival there riding horseback. The winter is not uncomfortable there, I am told, or very cold, and, so far as the climate is concerned, one could well live the entire year there if he could endure the loneliness. Indeed it would be to me infinitely preferable to a winter among the snows and ice of the Adirondacks; and if a mountain health resort of such perfect climate existed anywhere in Europe, Davos would be deserted. If one has passed the winter at Colorado Springs I would advise them to go to Estes Park about the middle of June, when occasional hot days come at the former place, and remain until the first of October. If one rides horseback—and half the pleasure in the park is gone if he does not—it is the cheapest way to take your saddle with you, and buy a pony there, which one can do for forty dollars and upwards. There is a mail once a day, but no telegraph. Comparing my experience of the climate of Estes Park with that of the Adirondacks, I should say that it was rather warmer in the former place, far dryer, and much more sunny. One feels the same invigorating influence in both places. The night temperature is about the same, I should think, in both places.

In winter and spring, either at Colorado Springs or elsewhere in the State, there are occasional high winds—"wind storms" they call them—accompanied with clouds of dust, which may produce an irritating and injurious effect upon those whose pulmonary trouble is accompanied with much secretion, and who have sensitive throats. It may be a question whether it is best for them to remain in consequence of this. The damper, but more quiet and soothing, atmosphere of Southern California, or the South, may serve them better, which is again an illustration of the fact that no one climate suits every case of phthisis.

The best time to go to Colorado is probably in September or October—most delightful months there. The best time to come East for a visit, I should think, would be either in May, June, or October. The best way to go from Boston is, in my opinion, by the New York Central and Lake Shore Railroads to Chicago, and from the latter city to Denver by the Chicago, Burlington and Quincy Railroad. By this route there is but one change from Boston to Denver.

One or two general hints in closing, and then I desire to present a rather remarkable series of photographs of Colorado Springs and surroundings, and of

Estes Park, which I am enabled to do through the kindness of Mr. F. H. Chapin, of Hartford, Conn., who took them.

Clothing.—One should have as thick winter clothing in Colorado as in this climate, for the mornings and nights are often very cold. In the sleeping room, moreover, one must make sure that the floor is tight and covered with a warm carpet. A fire should be made in the morning before the invalid arises.

Expense.—It is expensive both going to and living in Colorado. The cost of the journey there is from seventy-five to one hundred dollars; and board in Colorado Springs, as I have said, is from twelve to fifteen dollars a week. Rent of cottages is from fifty dollars upwards. About the only thing that is cheap is horse-hire.

Effect from the Altitude.—Some patients think it wise to make the ascent from the Missouri River to Denver gradually, so as to become accustomed to the altitude. The majority, however, I think, go at once to the altitude at which they are to live, and generally, so far as I can learn, experience no especial discomfort or harm from doing so. For about ten weeks I lived at an altitude of from six to seven thousand five hundred feet or more, and climbed mountains, three of which were over fourteen thousand feet high, without experiencing the slightest discomfort. Nor, indeed, was I in any way unusually affected, except, perhaps, on three occasions. Twice when on high mountains I had a slight headache, and the third time when at Leadville, which is over ten thousand feet high, nearly to timberline, it seemed to me that in walking I got out of breath more quickly than usual. I have climbed high mountains with one of affected lungs, who seemed to endure the exertion and altitude about as well as I. A curious effect of the altitude was noticed by a physician in his own case. When about ten thousand feet high, at which altitude he generally lived, the fever which accompanied his pulmonary trouble was kept in abeyance. When, however, he descended to a lower level it recurred, or increased in severity.

Length of Residence.—In whatever climate one finds his lung trouble improving steadily, there he should remain, not only until all signs of mischief disappear, but, in many cases at least, as long as he lives. I feel convinced that this is the safest and wisest plan, and I think that physicians of experience are gradually growing to this opinion. This is especially true of the Colorado climate, which is such a radical change from the one the patient is likely to come from. I believe the slow improvement, or lack of any improvement, in many cases is due, partly at least, to the worry over the enforced exile, and eager watching for the time when they think they will be able to return to their homes. It is often noticeable how quickly and permanently those improve and recover who take up their residence in Colorado, and settle down to permanent living there, with their friends and family about them. The contrary is also observed with those who make it a mere health resort, and are separated from their family and friends; as, for instance, a wife from her husband, or a daughter from the rest of her family.

—The *Ecole Pratique*, of Paris, was lately damaged to the extent of \$20,000 by fire.

LOCAL MASSAGE FOR LOCAL NEURASTHENIA.¹

BY DOUGLAS GRAHAM, M.D., OF BOSTON, MASS.

NEURASTHENIA, as I understand it, may be either general or local, affecting the nerves or nerve-cells of all, or any part of the cerebro-spinal or sympathetic system. Its manifestations are those of exhaustion or too easy exhaustibility of nerve-force; and its pathology, malnutrition of the nerve-cells involved, with concomitant instability of their circulation in the form of anæmia or hyperæmia, or alternations of these. It predisposes to, it accompanies, it results from disease; the nervous shock and the tedious recovery from injuries point to other sources, and it may be caused by overwork, worry, or sheer laziness. The agreeable fatigue after a satisfactory day's work that insures sound sleep may be regarded as a healthy form of neurasthenia, if the Hibernianism may be pardoned.

It is a matter of common observation that those who are compelled to hard manual labor seldom suffer from nervous prostration; and amongst the more fortunate who may be predisposed to neurasthenia, those who are deeply interested in some hobby or occupation that keeps mind and body active, have found the best means of prophylaxis. The same means that serves for its prevention also supplies us with a clue to one of the most valuable agents that can be employed for its relief or recovery. Exercise keeps the circulation active, but requires effort of brain, spinal cord and nerves, as well as muscles, at a time when our object may be to afford rest to one or all of these parts of an over-taxed nervous system. Massage supplies this want, and will keep the circulation going with a minimum or no expenditure of nerve-force from the patient, and deep massage without friction will lessen the beats of the heart, and afford it rest also. Nay more, for it is getting to be the fashion not only amongst the laity, but also with some physicians, to say that massage imparts energy to the patient, though I confess I do not exactly understand what this means. Certainly, many who submit to massage feel much more vigorous, light, and supple after even the first application than they did before it. But may not this rather be owing to the rousing of their latent energies, and restoring the equilibrium of their forces, by facilitating the circulation of blood and lymph, and the transmission of nerve-force?

I have previously stated elsewhere that in cerebral exhaustion the relative value of massage was almost *nil*, and that out-of-door exercise was of paramount importance; but I have since found reason to modify this in favor of more massage and less exercise. In such cases, massage of the head alone daily, or every other day, is better than applying it all over the patient, unless there be a rare idiosyncrasy that will not allow the head to be manipulated.

There are people, not a few, who, when using their brains, suffer from uneasy sensations in the lumbar or dorsal region, and these discomforts continue after the cessation of study, causing wakefulness. Generally, there is also some spinal irritation in the region affected. In such cases, massage of the back alone will often induce sound sleep, and, next day, the patient feels inspired with faith, hope, and courage, in place of doubt, dread, and fear of meeting appoint-

¹ Read before the Section of Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Suffolk District, November 9, 1887.

ments. With these cases, a much more marked effect is produced by local than by general massage, except when the tenderness of the muscles and spinal irritation is extreme, unfitting them for every kind of work, and then the massage should be general, omitting the back at the first *séances*, but gradually approaching it at subsequent ones.

In other cases of what may be called local neurasthenia, if the term can be allowed for this purpose, such as writer's cramp, or the cold, small, and feeble muscles resulting from injury, disease, or disuse, massage and exercise, carefully adapted, have given excellent results. To these have recently been added another affection; namely, laryngeal cramp of musicians and speakers, for the local treatment of which electricity and massage are considered the most effectual measures.

It is not the purpose of this paper to go into the details of applying massage, nor to consider its minute effects; but I think it will be a revelation to many to experience either in their own heads, or to observe in those of their patients, the light, comfortable, delightful feelings that are produced by the resistance of a skilled manipulator to forward, backward, and lateral movements of the head. The impression is that the interior of the head has been benefited, and the effect is hardly secondary to massage, which rather gives the impression that the exterior has been improved.

The following cases seem to me sufficiently worthy of notice as examples of the conditions mentioned:

CASE I. A. J., twenty-three years of age. Three years prior to my being called to him, he had been winning races at college at the same time that the functions of his brain flagged, and study had become so irksome, producing headache and insomnia, that he gave it up for a year. At the end of that time he returned to college for a year, and, to use his own words, "patched up and graduated," and for the year before I saw him he had been trying to recuperate by resting at home. At this time, even walking sometimes produced discomfort in his head. At my first visit he had been suffering from headache, with tolerably acute pains in the external branches of the fifth pair of nerves, and had had but little sleep for four nights. The immediate cause of this had been too much conversation with friends on the evening of a holiday. Massage of twenty minutes to the head alone, in the evening, almost completely relieved the headache and neuralgic pains, and was followed by an excellent night's sleep. After this massage, of the head, with resistive movements to the muscles of the neck, was repeated seventeen times in twenty-four days, and the improvement in sleep, in comfort of the head, and in the power of using his mental faculties was so great, that it became a serious question whether he should not abandon a six months' sea-voyage that he had engaged. Marks of improvement that may be mentioned were: that when he had an occasional wakeful night, he felt no worse on the following day; he had none of his former anxiety in taking charge of his class in Sunday School; he attended a large party late one night without any after-effects, and he walked about freely, and all while he was preparing for an absence from home of six months or a year. Medicine had been laid aside before massage was tried in this case.

CASE II. Rev. D. L., aged sixty-six years, has a good appetite and is well nourished, weighing about one hundred and eighty pounds. For twelve years, he had

suffered much from wakefulness. He required from eight to nine hours of sleep, but seldom got more than five or six hours of broken, unrefreshing slumber. At times he would fall asleep soon after retiring, to wake up in a short time; at others, he would lie awake for hours before getting to sleep. Besides discomfort about the head, he had still more distressing dull aches and uneasy sensations in the lumbar region, aggravated by study or wakefulness.

He found some relief from giving up his ministerial duties ten years before I saw him. He came to me on the 25th of January of this year, and, after thirty-five minutes of massage on his head and back at noon-time, he passed the remainder of the day in comfort, and that night and the following had seven hours of sleep each, so that when he came to me on the second day after massage he was hopeful and radiant. Massage was repeated at 11 A. M. on head and back, with increase of comfort to the patient. He did not sleep so well the following night as he did the two preceding nights, but he realized that he was quiet and serene, and felt that he was resting, and next day was refreshed. This day he had a refreshing sleep of an hour and a half in the afternoon, which he never could obtain before when well, and that night slept steadily for seven or eight hours. This patient had massage three times weekly, at or near noon, for seven or eight weeks, and the result of the first week is a fair average of the succeeding weeks: five good nights of sleep out of six, with a nap of an hour or two in the afternoon; and, when wakeful, he felt that he was resting, and, the following day, was not miserable from loss of sleep, as before massage; vigor of body and mind gradually increased, and he could take part in lectures, sociables, and other evening entertainments without loss of sleep, as formerly. Mild tonics and stimulants always made this patient worse. An epiphora that had troubled him for many years disappeared under massage of the eyelids.

CASE III. Mr. E. B., thirty-five years of age, had been in good health for several years, and attended to his business, which involved great detail, from 9 A. M. to 6 P. M., with an hour off at noon for lunch. He had remained in the city all the previous summer, and felt very well when he went away for a vacation of several weeks to Colorado, returning on the 20th of November. From the time of his return he began to suffer from headache, which caused him to be out of his office several hours daily; and, by the end of three weeks, this became suddenly so much worse that he was obliged to leave his office altogether. There was a slight elevation of temperature, but still he had a good appetite, and slept well. I gave him massage of the head on three successive days, and the headache was relieved only while the head was being manipulated, and for a short time afterwards. When massage was being done on the right side of the head, the ache would disappear and increase on the left side; and, on doing both sides they were relieved, and the ache increased in the back of the head; and, on *massé*ing the back of the head, the discomfort would disappear from there and increase in the forehead, and, on manipulating this region, it would disappear altogether for a time. In other cases, I have chased pain in this way all over the patients without being able to dislodge it completely, only temporary relief being afforded at the place of application.

CASE IV will serve to show still farther that it is

not always well for those who are inclined to nervous exhaustion to give up their employment when working easily, and go away on a vacation. Miss M. P., thirty-four years of age, teacher in a High School, had been subject to headaches all her life. Her parents had highly nervous temperaments. One year before I first saw her, the headache had been so severe that she was confined to bed for seven days with pains all over her and elevated temperature, and since then the headaches have been more frequent and more severe than before, and usually accompanied with nausea and vomiting. Evidently, the case was one of migraine. The ache was on the left side of the head, in the left eye and more especially over the left temporo-parietal region, accompanied with a crawling sensation at the back of the head, and soreness of the muscles of the back of the neck. The left side of the face was smaller than the right. She had great weariness and weakness in her arms, so that it tired her even to raise them. In the cervical and upper dorsal region, there was much tenderness on pressure over the spinous processes. Her appetite was good, bowels regular, and she slept well. Notwithstanding the increase in frequency and severity of headaches for a year, she had gained in weight, mainly adipose, so that she weighed one hundred and sixty pounds, her ordinary weight being one hundred and twenty-three pounds. She continued her duties as a teacher, and found that she felt better when occupied in this way than when not feeling compelled to do anything. Saturdays and Sundays were her poorest days, and a vacation of two months in the South ten months before she came to me was of no apparent benefit to her, but, she thought, made it all the harder for her to begin her professional duties again. Correcting examination-papers fatigued her more than anything else. She could walk three or four miles with ease.

The first massage of thirty minutes on the head alone left this region "perfectly comfortable," until the second massage was repeated, two days later, when this comfort was extended to the manipulated regions—head, neck, arms, and shoulders—and a burning sensation between the shoulders was also relieved. In four weeks, a continual wooden, numb sensation of the left side of the head was not only relieved temporarily, but did not return; and, corresponding objectively to this, her tough, indurated scalp had become soft and supple. Sixteen days after she came to me she could not stand and read on account of weak and uneasy sensations in the back of her neck, as if her head would drop backwards when she attempted to hold the book, but she could sit and read with ease. This was at the catamenial period, when she was generally worse in every way. But, two days later, she was much surprised to find that she had recuperated more quickly, and to a greater extent, than ever before. This patient had massage twenty-five times in ten weeks, with increasing improvement, and this continued after treatment was omitted, so that she was practically well—sufficiently well to enjoy her summer vacation, which helped to confirm the benefit previously received. Six months later, she reported that she had continued quite well. The following spring her troubles returned in the same way, but less severely than formerly. They were speedily removed by massage, and staid away for a year, when, again, there was a slight relapse, and more speedy recovery under massage. At times, she had

found *nux vomica* more beneficial than any other internal remedy, but even this had lost its effect before massage was tried.

CASE V. Mr. J. B., aged thirty-three years, has always been a nervous man. He often felt fatigue in the lumbar region, but this he regarded as a matter of course, and he was always capable at business until six years before I first saw him. At that time he was in an elevator which was being tested against sudden falling by means of some "sure patent preventive." The experiment failed, and the elevator fell eighty feet with six men in it. While descending, our patient sat as tailors do, hoping thereby to diminish the shock of stopping. He got out apparently none the worse, walked four squares to his newspaper office, for he was then an editor, and dictated an account of the accident. He staid at home for five or six weeks, but was not confined to bed. After this he resumed his duties, but it was eight months before he could walk a mile. For a long time, in the evening, the region of the spine was painful, but relief was often found by pouring cold water upon it; at other times, from very warm water. During vacation he was perfectly well, and played lawn tennis. For three weeks before I saw him he had suffered from pain in his back and legs, and could walk but a very short distance at a time. Conversation and reading quickly tired him, and part of either would escape his attention. A few hours at business would cause nausea and headache, and make him feel generally used up. Appetite, bowels, and sleep were in a normal condition.

At my first interview there was much tenderness on pressure over the spinous processes and muscles of the back; but, after three massages in nine days, they could be manipulated quite vigorously. After six massages in eighteen days, he was practically as well as ever. Manipulation was exceedingly agreeable to this patient, and, while it was being done on either leg or hip, the agreeable sensation was felt in the back and in the other leg and hip, as well as at the seat of application. About once a year, usually in fall, after his vacation, this patient finds himself used up, as just described, and he has learnt by experience to rely on the prompt relief afforded by massage. He has also found wine of *coca* of some use. I have frequently made similar cases worse by using massage too vigorously to begin with.

CASE VI. When Mrs. M. W. came to me in October, 1884, she was fifty-eight years of age, and weighed 213½ pounds. Her adipose tissue was supple, and of good consistency. She had then been suffering for three years from a continual, distressing feeling of weakness in the right leg and thigh, which first made its appearance when there was some enlargement of the internal saphenous vein, but this had long ago disappeared. On examination, the whole limb seemed normal in every respect. The patient was not at all of a nervous, hysterical, or imaginative temperament, having been at the bombardment of Fort Sumter, once in a steamboat explosion, and once made a long voyage in a vessel with the cargo shifted, so that there was imminent danger of the vessel upsetting, besides having travelled twice round the world, on one of these occasions taking command of a vessel for four weeks amidst shoals and breakers in the China Sea.

A walk of a square was as far as the patient could go with comfort, and a walk of one-fourth of a mile caused great fatigue, and increased the feeling of

weakness. She had tried absolute rest for one, two, and three months at a time, during which she lost flesh, but the limb did not improve. At my request, she omitted potatoes, sugar, and butter from her diet, and began walking for two minutes every hour during the day, which was increased daily one minute every hour. Massage was given to the leg, thigh, and hip three times weekly. The first time it comforted and rested the limb, and after this passive and resistive movements were also given, which at first tired the limb, but this was at once counteracted by manipulation. At the end of two weeks she could walk half a mile without fatigue — twice as far as she could before with great fatigue — and a distressing pain that previously came after slight exertion at the exit of the sciatic nerve had not been felt for a week. At the expiration of four weeks the patient walked a mile and a half with ease, feeling but slight general fatigue thereafter, and the limb that had been weak was not so tired as the other. It was by her own wish that massage was repeated occasionally for a few weeks longer, and she has continued well ever since. Under the restricted diet she lost seven and a half pounds, and no doubt but this aided her recovery.

CASE VII. Miss E. H. was thirty-nine years of age when I attended her in the winter of 1883-84. She is irregularly astigmatic, and suffers from headache, and this is worse at the menstrual period, which recurs every three weeks and a half, accompanied with pain. She suffers much at times from indigestion. She is a lady with a strong mind, a clear intellect, an unwearied conversationalist, and, in the language of her physician, who sent her to me, "she is a preëminently hyperæsthetic subject, and would be hysterical, did not the brain govern the *cerebrum abdominale*." For five years she had suffered with pain in her right knee, impairing locomotion, and, the latter part of this time, there was pain also in the outer and posterior aspects of the thigh, where the muscles were considerably atrophied — so much so that her other discomforts seemed small in comparison with those of the limb. The trouble in the limb came when she was run down from nursing a sick relative, and, coincident with this, a severe cough that had been increasing every winter disappeared, and did not return. During these five years under rest, with and without fixed dressings, changes to country and seashore, the use of tonics and sedatives internally, and blisters externally, there would be sometimes a little improvement in the knee, but always followed by speedy relapse on slight or no provocation, such as accidentally hitting it against something, or being obliged to use it a little more than usual. At times, the pain was relieved by walking; at others, made worse. It was aggravated by cold weather and by riding in a carriage.

Examination showed that the affected limb was much smaller than the other, the skin cold and dry, the muscles atrophied, but there was nothing especially noticeable about the knee, save slight puffiness and great tenderness on pressure upon the internal condyle, not in the skin. Owing to pain and weakness, which were aggravated by walking, she could take but a few steps when massage was begun, and the only symptom then in her favor was steady sleep. Massage was applied three times a week for eleven weeks and a half, being omitted for a few days at one time, on account of unusual pain in back, stomach,

and intestines. For the first four weeks, massage, with gradually increasing exercises, was confined to the affected limb, with the result that she was, at the end of this time, taking four walks daily, of ten minutes each, besides exercises of standing on tip-toe, stepping up two steps at once, holding the limb out extended, and elevating it sideways when lying down. From the first, the skin became warmer, softer, and suppler, and the muscles fuller, as shown by an increase of one-half inch around the calf; one-fourth inch at the knee; one-eighth inch three inches above the patella; and one-fourth inch seven inches above the patella. When treatment was discontinued, these gains were one-half inch, five-eighths, three-eighths, and seven-sixteenths, respectively. But at the end of four weeks the pain was still about the same, notwithstanding the improvement in locomotion, nor had it entirely disappeared when massage was given up.

As soon as she made known the head and abdominal troubles, massage was applied for ten minutes to each of these regions also, which was during the last seven weeks of treatment. Headache was improved, sleep became more refreshing, digestion easier. During the last eight or ten days of treatment, it became evident that, though the patient was much better, and could go about much more freely on foot and in a carriage, she had come to a stand-still, and consequently the treatment was terminated rather sooner than she wished. A year later I saw her and she was the picture of health. Her appetite was enormous and digestion good. She had gained many pounds in weight and could walk freely, but still suffered from headache. She considered, and I think rightly, that massage had given her a start, and improvement had continued since it was omitted, for no other treatment had been used.

Amongst people who may be considered perfectly well, there are few, if any, who have not some weak points. When fatigued or worried I suffer from tension and dull ache throughout my whole right side. In September, 1884, when in Paris, I had one man give me half-an-hour's massage on my right side only, at 2 P. M., and another half-an-hour's massage on the same side at 5 P. M. The manipulation was slight, superficial and rapid and at the time of its being done seemed very ineffectual. But that night I never slept so sound in a railroad-train in all my life, as I did from Paris to Calais, and while crossing the channel I was not even sick. Two days later I played deck quoits all one afternoon when the thermometer was 80° in the shade and the ship rolling. Next morning my playmates could scarcely get out of their berths, they were so stiff and tired, and so was I, but the fatigue was all confined to my left side and not to the right as formerly.

It may be said that these were not very sick people, but they are cases that prove troublesome to physicians, and they were certainly in conditions which any one of us would gladly be freed from. It is not necessary that I should dwell upon extreme cases of nervous prostration that have been treated by absolute rest, forced feeding, massage and electricity. I could give further details of the above mentioned cases and also of similar ones which would seem to justify the following conclusions:

- (1) That massage induces sleep.
- (2) That even when massage is applied in the forenoon its soporific effects may not disappear before bed-

time; though in general the later in the day massage is used for promoting sleep the better.

(3) Disagreeable feelings of drowsiness and languor do not necessarily intervene between massage in the forenoon and sound sleep at bed-time. Aptitude for rest or work generally follows massage.

(4) When people are wakeful after massage they may not be restless nor feel the loss of sleep on the following day.

(5) Spinal irritation is relieved or disappears under massage.

(6) For local neurasthenia there is no need of general massage, unless the whole system be secondarily influenced.

(7) When affections have come to a stand-still under massage, improvement may yet go on after massage has been discontinued.

(8) For improving the nutrition of nerves and muscles, restoring natural sensation and motion, massage may succeed when other means have failed.

(9) Deep massage without friction has proved of more value in my hands than all other forms of massage put together, in the cases herein considered.

(10) Massage can be overdone, producing opposite effects from a moderate application.

(11) Besides massage, carefully-graduated exercises at regular times, are valuable accessories in the restoration of motion.

(12) Massage is not the only means of treatment for neurasthenia. Its selection is usually decided upon after the failure or exhaustion of every other means: in the same manner that the shrewd old divine decided that it was not wise to let the devil have all the good times to himself.

A CASE OF CHRONIC PANCREATITIS, WITH SYMPTOMS RESEMBLING MALIGNANT DISEASE.

BY E. L. CALL, M.D., BOSTON.

Mrs. B., age sixty-two, widow, was first seen February 24, 1886. She was of medium height and weight, her skin was sallow, and her countenance haggard and anxious. Her habits of life were regular and her hygienic surroundings good. She said she had been well till within the past three or four months, but more searching inquiry showed that her appetite had been very capricious for a number of years and that during the last year she had lost strength and a moderate amount of flesh. Her diet had been mostly of the saccharine and starchy foods, as she had always disliked meat. For the past few months physical exertion of any kind had tired her out of due proportion, and during the last few weeks even moderate exercise had been followed by breathlessness and beating in the arteries of the neck. There was complete anorexia, and the bowels were very constipated.

The physical examination was as follows: Skin, a muddy yellow; tongue, rough, slightly coated; lungs, normal; heart, normal in size and position, moderate blowing murmur throughout the cardiac area, most marked over the base; abdomen, normally resonant; liver dulness, normal; no increased spleen dulness; pelvic organs, normal; urine, normal.

In consequence of the negative result of the examination, the case was regarded as one of profound anæmia, and the treatment was directed toward regulating the bowels, and assisting nutrition easily by digestible food and some of the most assimilable forms of iron.

The gravity of the symptoms increased rapidly; the simple act of rising from her chair caused dyspnoea, food of all kinds was very repugnant, the skin grew more sallow and the feet oedematous. She vomited occasionally, especially after any unusual movement. Temperature 100°; pulse weak, 90 to 100. This rapid change for the worse made me feel that the case must be either one of pernicious anæmia or some concealed organic disease, and I therefore asked for a consultation.

Dr. R. T. Edes saw the patient with me, March 16th. He did not think the anæmia profound enough to warrant a diagnosis of pernicious anæmia, but as he could find no proof of organic disease, he advised full doses of liq. pot. arsen., and gave a very guarded prognosis. A microscopical examination of the blood showed the red corpuscles notably diminished. No increase of white corpuscles and none of those irregular forms of red corpuscles characteristic of pernicious anæmia. The patient was kept in bed and fed per rectum as well as by mouth.

She improved for a time under this regimen, the dyspnoea becoming less troublesome so that during part of April and May she was able to go down stairs and to ride out occasionally. In fact the dyspnoea did not trouble her again to any amount till just before her death. I never felt, however, that the improvement was permanent, for her color remained bad, and she did not gain flesh nor appetite.

Early in July she complained of fluttering in the epigastrium and her distaste for food was so great that only the force of a strong will enabled her to eat or drink. The abdomen was again examined, slight increase in liver dulness was noted.

On August 16th, she had a sharp attack of hepatic colic followed by intense jaundice and so much nausea that she was fed entirely by rectum for five days. She rallied very slowly and now began to lose flesh quite rapidly.

On the fourteenth of October she had another attack of hepatic colic, and passed a gall-stone the size of a pea. After this the signs of digestive disturbance were more marked. She complained constantly of a burning pain under the lower end of the sternum coming on about two hours after eating. She also complained of a feeling of weight in the bowels when she sat up as if some heavy body were dragging from the spine. As she was certainly the least nervous or imaginative person that I ever met, these symptoms deserve more attention than they would in ordinary cases.

The bowels were either constipated or relaxed. The stools varied, being sometimes perfectly normal in appearance, sometimes sticky and putty like, sometimes gray in color, often they contained undigested food. Throughout her illness every stool was examined by her daughter, an unusually intelligent lady, and I saw many of them myself, but never could see or hear of any of the fatty stools considered to be characteristic of pancreatic disease.

Early in February, she began to vomit irregularly and complained constantly of distress after eating. She never had another paroxysm of hepatic colic, but

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, November 9, 1887.

she grew deeply jaundiced, vomited constantly for five days, the feet and limbs became œdematous, the pulse rose to 120, and death seemed imminent.

During all this time no tumor of any kind could be felt in the abdomen, nor was there any tenderness nor tympanites except just after the attacks of colic. It seemed to me, however, that there must be some disease, probably malignant, in the region of the duodenum, liver or head of the pancreas, but wishing to get all the light that greater experience could give, I asked Dr. M. Wyman to see her with me. Dr. Wyman thought the case was either one of pernicious anæmia or malignant disease, probably the latter.

The vomiting gradually ceased and she rallied slightly again, and from this time January 4th, till her death February 14th, it did not recur to any extent. She now began to suffer from what she called "nervous twitches." She insisted that she had no pain, but she lay as if prostrated, moaning with every breath, her features pinched and deathly pale. In fact, her appearance was exactly as when she was suffering from hepatic colic, except that there was constant twitching of the feet and legs, and occasionally of the arms. These movements were to a certain extent, but not entirely, under the control of the will. The attacks came on at first only occasionally, but they grew more and more frequent, until during the last two weeks of her life, it was necessary to keep her constantly under the influence of sedatives to give her any rest from them. She grew gradually weaker, and died February 14th.

AUTOPSY, twenty-six hours after death. Rigor mortis well marked. Skin a dirty yellow. Body and limbs much emaciated. Owing to circumstances which so often hamper the performance of autopsies in private families, I was only able to examine the abdominal cavity.

The muscular layer of the abdomen was very thin. The abdominal cavity contained a small amount of clear serum. The intestines looked very anæmic. The small intestines were contracted, the large intestines unusually long and somewhat distended, the walls in some places so thin as to be almost transparent. No trace of peritoneal adhesions or inflammation.

Liver slightly enlarged, rather pale, yellowish, surface perfectly smooth but rather firm in texture.

Gall-bladder the size of a large pear containing three large, and many small gall-stones. Bile very dark and viscid.

Stomach empty, walls very thin; not the slightest appearance of malignant disease in the stomach or duodenum. Upon raising the stomach the pancreas was seen, larger than normal, dark gray in color and so firmly adherent to the vertebræ and posterior abdominal walls that it was detached with great difficulty. The attachment to the duodenum was also over a larger surface than usual; the gastro-splenic omentum much thickened. Upon removing the pancreas, it looked so large and firm that I felt assured that there must be a deposit of cancer in the head and that the diagnosis of malignant disease was correct. The specimen was placed in alcohol for further examination, but it was, found impossible to harden it; in fact it grew softer, and large quantities of fat seemed to have been dissolved out by the alcohol and floated upon the surface. A microscopical examination, in which I was kindly assisted by Dr. Blodgett, showed a large increase of connective tissue, an abundant deposit of

pigment, with very little trace of acini or glandular epithelium, a considerable amount of fatty degeneration. The specimen, as I show it to-day, gives a very poor idea of its appearance when removed from the body. Its size has diminished at least one-half, by its seven months' immersion in alcohol, while the texture is softer and more friable. The portion of duodenum attached shows the opening of the ductus communis and the canal of Wirsung. The gall ducts are dilated very much. The opening of the portal vein is seen toward the head, while the superior mesenteric artery runs along its posterior surface and the splenic along its upper border.

I bring the case before the society as one of pancreatic disease, although I am quite aware that it may be an open question how far the condition of the pancreas was answerable for the symptoms. There is so little known of the pathology of this organ, that it seems right that every case in which an abnormal condition is found, should be recorded. Almost all reported cases are those of carcinoma, in which it is very difficult to separate the symptoms common to many carcinomatous growths, from those due to injury of the gland. Moreover, in most of these cases the disease has extended before death to neighboring organs.

Experiments of removing or destroying the pancreas in animals, show diverse results. While in some, rapid emaciation, fatty diarrhœa, and death from inanition, rapidly follows, in others the pancreatic secretion seems to be replaced by some other digestive fluid, so that the nutrition of the animal suffers very little. This is notably the case in the experiments lately published by Senn in his articles on "Surgery of the Pancreas."

The chief symptoms supposed to indicate pancreatic disease are rapid: emaciation, jaundice, diarrhœa and constipation, fatty stools and cœliac neuralgia; but no one of these symptoms seems to be invariably present, and only one, the fatty stools, pathognomonic. In about twenty-five cases which I have been able to collect of disease of the pancreas, mostly malignant, in only two were the fatty stools prominent, though doubtless in many, search for them was not made, as the disease was not diagnosed before death.

A symptom mentioned by Friedreich, in "Ziemssen's Handbook," and by Starr in "Pepper's System of Medicine," is a feeling of weight in the epigastrium, particularly on assuming the erect position, as if a heavy body were pulling from the spine. This symptom was constantly complained of by my patient, so long as she was able to sit up. I cannot help thinking that the paroxysms of nervous distress which were the cause of so much suffering to her were some form of nervous disturbance produced by pressure on the nerve structures surrounding the pancreas, and were analogous to the attacks of cœliac neuralgia mentioned by many authors.

Although all writers on pancreatic disease describe a chronic hyperplasia of the connective tissue of the pancreas as one of its diseases, I can find the record of only one case which seems somewhat similar to the one I have here described. This was reported by Dr. Tyson in the *Philadelphia Medical Times* in 1882. The case was that of a lady sixty-eight years old who had always been well until an attack of pneumonia in February, 1880. From this time she had more or less disturbance of the bowels. In July, 1881, she was seized

with severe diarrhœa and clay-colored stools. This was quite persistent, and accompanied by irregular distention of the abdomen apparently from areas of flatus. Later, a small indistinct lump was discovered below the umbilicus and to the left. The diarrhœa continued, and the stools were distinctly fatty. She emaciated rapidly, and died March, 1882.

At the autopsy, the lump had disappeared behind the stomach, but was found to be the head of the pancreas, which was unusually resisting but not much enlarged. Upon examination the secreting structure of the pancreas was found to be nearly all atrophied, and its place occupied by a fibrous tissue. In this case, also, the organ was so much shrunken and altered by the preserving fluid as to present a far less striking appearance than when removed from the body.

But in addition to the condition of the pancreas itself, I wish to call your attention to the parts surrounding it, as it seems to me that we may find there an explanation of some of the symptoms not otherwise accounted for. The adhesions between the head of the pancreas and the vertebral column were so firm, that I was obliged literally to dig the gland out of its bed. The connective tissue seemed almost leathery in its toughness and resistance.

You will remember that the celiac axis gives off its branches just at the upper border of the pancreas, the semilunar ganglia of the solar plexus lie partially behind the gland, while the superior mesenteric is given off from the aorta just at its lower border. In this case, as will be seen by the specimen, the superior mesenteric is given off above the pancreas, and runs across its whole posterior surface, and therefore could hardly fail to be compressed between it and the spine, where the adhesions were so firm as in this case. Even a moderate amount of compression on the artery supplying the whole of the small intestines, would probably modify their nutrition, and render their digestive fluid unable to supply the want of pancreatic secretion, as it probably does in some cases. The semilunar ganglia would be even more easily compressed than the arteries. Since they are the sympathetic nerve-centres which modify the nutrition of all the organs of digestion, any injury to them would probably affect the proper performance of the function of those organs.

There is no doubt that the attacks of hepatic colic were instrumental in hastening the fatal termination of the case.

I suppose it may be asked whether this was not really a case of pernicious anæmia, and the condition of the pancreas, etc., only a secondary result of the anæmia, instead of being its cause. Against this, speaks the age of the patient, her comfortable circumstances and regular life, the high degree of emaciation, the absence of fever, and the fact that at the autopsy, the organs though anæmic, had not that absolutely blanched appearance, described as characteristic of pernicious anæmia.

I hope, however, that those who have had more experience than I have in this disease, will give the Society the benefit of their opinion on the question.

— The following epitaph is "said to" have recently been placed on the grave of a dentist in London :

"View this gravestone with all gravity
J — is filling his last cavity."

Clinical Memorandum.

A CASE OF CALCIFICATION OF THE AORTA.

BY FREDERICK W. TAYLOR, M.D., OF CAMBRIDGE, MASS.

Mrs. B., aged sixty-three years. Had enjoyed fair health, and had always lived in comfortable circumstances. Her father died suddenly, the cause said to have been apoplexy. Two uncles died while suffering from gangrene of the toes. One sister died in an insane asylum; another sister is living, but is said to be "fussy and nervous"; a third, much younger than Mrs. B., is in good health; one brother has hemiplegia.

September 18, 1887, Mrs. B. was in a small boat, fishing, between three and four hours. After returning home she ate a hearty dinner, but felt no discomfort from it during the evening. She passed a rather restless night, and the next forenoon had pain in the epigastrium and vomited, throwing up the food she had taken the day before. Abdominal distress and retching continued severe, and were relieved during the afternoon only by large and repeated doses of morphine.

September 20th. Patient comfortable, sleeping most of the time. The pulse remained high as compared with the temperature, not falling below 120, and at times being 140.

September 21st. Objected strongly to taking nourishment. In the evening, temperature, 98.5° F.; pulse small, 120; face pale; epigastrium tender. During the next two days she took nourishment, was comfortable, and gained strength.

September 24th. In the forenoon she walked from the bed across the room and urinated, as she had done several times before, thinking to defecate also, she remained upon the chair straining, when her feet began to prickle and be painful; she was assisted to bed; the unpleasant sensations extended to the thighs; the limbs were at once rubbed, when it was discovered that they had lost all tactile sensation; they soon became cyanosed, and circulation in them entirely ceased. Both lower extremities were equally affected. Great general distress followed, which was only relieved by large doses of morphine and brandy.

September 26th, A.M. Temperature 95°, pulse 120; mind clear; skin cold and moist; lower extremities very rigid, as if in extreme rigor mortis, and cyanotic except a small portion outside of the thighs. At the junction of the living and dead flesh there was great sensitiveness to touch and motion. Progressive failure till death, which took place at 12 o'clock the night of September 29th–30th.

AUTOPSY. October 1st, 40 hours after death. Body fairly nonrushed. Portions of skin of legs and thighs bright red, but no advanced decomposition; limit of redness at upper part of thighs very distinctly defined.

Heart. Dependent portion very dark red; right side filled with dark, soft clots; small atheromatous spot in rim of left auriculo-ventricular orifice, but no ulceration over it; curtains of all valves normal; no indication of endocarditis or cardiac thrombosis.

Aorta. Very firm calcification of anterior wall from the bifurcation into the common iliacs upward two and a half inches. At this place was a completely obstructing adherent clot, with prolongations into the iliacs. The upper portion of this clot (about an inch in length) was firm and light colored; the lower

portions and the prolongations into the iliacs were darker and less firm; between these portions was a third, measuring one-half to three-quarters of an inch in length, and occupying the entire calibre of the aorta, which was very soft and dark red.

Other organs were normal as far as examined.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOL- OGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

REGULAR meeting, at 19 Boylston Place, Wednesday, November 9, 1887.

Meeting called to order by the Secretary, DR. ALBERT N. BLODGETT, at 3.00, P.M.

A ballot for President of the Section for the coming year resulted in the choice of DR. A. L. MASON.

Dr. Mason not being present, DR. V. Y. BOWDITCH was chosen chairman *pro tem*.

On motion of DR. F. H. HOOPER, a vote of thanks to DR. F. I. KNIGHT, the retiring chairman, was passed.

Under the head of incidental business, DR. BLODGETT read a note which had been sent him by a member of the Society, in which was a complaint that due notice of the meeting of the Section had not been received. In explanation of the fact, Dr. Blodgett said that the delay had been caused by an unexplained delinquency of the mail service, whereby the proofs were several days on the way from the mail-box to the printer. Every effort had been made to get the notices out in season by having a large corps at work directing them, and in the haste some names may have been inadvertently overlooked. Dr. Blodgett was very glad that attention had been called to this matter, as it showed the interest which was felt in the meetings.

The SECRETARY then read a personal communication from Prof. F. W. Putnam, of Cambridge, to Dr. Bowditch, giving an invitation to the members of the Medical Society to inspect the relics which have been collected in Cambridge relating to the subject of American Archæology, and to listen to a talk upon the subject of the recent explorations.

DR. KNIGHT said: It certainly is not necessary to say a word to any one who has ever heard Professor Putnam, in regard to the interest of his communication, in whatever line he may choose to make it. It will be certainly a very interesting thing for every medical man, and I propose, sir, that the Secretary be authorized to make arrangements for a meeting in the Museum in Cambridge on some Wednesday evening when there is no Section meeting. I would suggest that the invitation be extended to all the Suffolk District Medical Society. The motion prevailed.

The SECRETARY then asked when the report of the committee which had been instructed to look up the matter of the milk-supply of Boston, would be ready.

DR. CUSHING replied that the report had been made out and signed, and would be submitted at the next meeting of the society.

Dr. F. O. OTIS read a paper entitled:

HINTS TO PHYSICIANS SENDING THEIR PATIENTS TO COLORADO.¹

DR. F. I. KNIGHT said: I certainly agree with all that Dr. Otis has said about the climate of Colorado, as far as I know it. I think we ought to be very much obliged to him for the details he has given us in regard to the points which many physicians certainly do not understand. There is another point which ought properly to come up, although Dr. Otis did not feel necessitated to notice it in his paper. I think a warning ought to be given, whenever the subject comes up for consideration, at any rate when it is presented to those who are not familiar with the subject, in regard to the cases which are to be excluded from that climate.

It is too much the fashion, when a climate becomes popular for the relief of any disease, for all patients with that disease to be hustled off there. And this is just as much a mistake as it is for every case of pneumonia to be treated with the same drug. It is very much like the treatment of disease with a little book of symptoms.

There are certain kinds of consumption that will die very much quicker in Colorado than they would if they stayed at home, and it is certainly very much wiser for a physician, unless he has considered his case for a long time, and perhaps has counsel upon it, to keep at home cases of very advanced disease; also, to keep out of that climate cases attended with a good deal of fever, and very possibly, also, those cases of a highly wrought nervous temperament. To be sure some of these latter cases do well in Colorado, and some even of the advanced cases.

One case I have in mind, which was taken out there without my consent, not exactly against my remonstrance, which after a long time did do well, although it was a case of very advanced phthisis. As a rule, it is very much safer not to be in haste, at any rate, to send these cases to a high altitude. It certainly has been my experience, and I have had cases of pulmonary disease treated in almost every climate in the world, that the cases of lung disease which are free from fever, and where there is tolerable strength and constitution to start on, do far better in a climate of that kind, a high mountain climate, than in any other; and I think that all climatologists are fast coming to that opinion.

In the cases of very advanced disease, in those cases particularly where there is a good deal of febrile disturbance, it is possible that after a time, after the activity of the disease has been mitigated at home, that patients may be removed there with safety; and this is a thing for consideration.

There is another point which we must also bear in mind, which must be urged upon the minds of men, that in regard to it they may not act hastily, and that is in sending poor patients off there with the idea that the climate is going to do everything for them. As a rule, if a man has extensive disease of the lungs, and is going to work for a living, he had better be advised to save his money and stay at home. He had better do as well as he can among his friends, and not waste the little that he has accumulated in a change of climate, for his money will go in a very short time out there, and he will be left stranded and unable to

¹ See page 569 of the Journal.

work. It is a great pity, it seems to me, to send off, as some physicians seem to be in the habit of doing, every case of pulmonary disease, without regard to their circumstances. Almost every day cases come to me who have been urged to go to Colorado or California, or New Mexico, patients who have perhaps accumulated a few hundred dollars, which is all they have in the world, and they are advised to make a change of climate on account of lung disease. They would be left stranded. I should say that unless the patient had very little disease, and it was perfectly clear that he was able to work, and certainly it is not so with the most of these cases, they would better be advised to stay at home, unless they have means of living a considerable time without any active work.

DR. ALBERT N. BLODGETT said: Mr. Chairman, I had an opportunity, some years ago, of investigating the climate of Colorado, although not so extensively as Dr. Otis has done, and I was struck by one or two things that have been mentioned, and some that have not been alluded to. In the first place, the distance is so great that many patients who start in fairly good condition are very greatly fatigued by the journey. Under any circumstances it is extremely taxing for an invalid. The journey is a long one, and I think that, with ordinary expedition, a week would be thus consumed. I have seen patients who, from fatigue, have seemed to die sooner there than they would have done if they had remained at home.

I have supposed that cases in an acute stage of pulmonary phthisis should not be sent to that climate. I think the abruptness with which the change would be made, and the high altitude reached, for persons whose pulmonary structures have been invaded by phthisical disease, is a question which should have more consideration than is usually given it. I have seen healthy persons suffer from shortness of breath on arriving in Colorado to such a degree as to make any sort of exercise burdensome for some days. I have seen others, in Switzerland, who have had a rush of blood to the head, in an altitude as high as Colorado Springs, which was relieved by frequent nose-bleeds. I have seen the same thing in Colorado.

Perhaps it would be better to break the journey for the sake of lessening the fatigue, and also in the hope of accustoming the pulmonary structures which are already diseased, to the rarer air, rather than to make a hasty journey, and perhaps put a feeble patient in a less favorable condition for improvement than he would be in with a little more attention to this precaution. I can certainly verify everything that has been said, so far as my experience will go, in regard to the wonderful climate which is found in this part of our country. I had an opportunity of seeing a part of Colorado, although it was a very small part, located in the vicinity of Denver and Colorado Springs, and the parts between, and I never saw anything like the clearness of the air in this region. The exhilaration is something remarkable — certainly in a healthy person — and I have no doubt it would be the same, to a certain degree, in a sick person.

I cannot help thinking that the climate of Colorado is the nearest to a typical climate for consumptives which we know anything about; but I believe that far greater care is requisite in the selection of cases, and far more caution in changing to that climate than has heretofore been observed.

DR. H. O. MARCY said: Unfortunately I did not hear the first part of the paper, and possibly it may furnish a little wider range to the discussion if I should diverge to other sections of our country. I have had certain experiences in Montana, although Colorado I have not myself visited. The experiences of certain patients that have been sent from time to time to western ranches would correspond to what has been said. I think we are under obligations for the paper. It does teach us a good deal in reference to the classification of patients. If there be anything which my own experience would emphasize, it is in regard to the objection to sending patients into the wilderness away from home. There is a good deal of emphasis to be laid, too, upon the distance and the expense.

Two years ago I made a pretty careful study of the Appalachian range in Georgia. I believe there are certain of the Alleghany ranges which ought to be taken into consideration in sending patients from our own vicinity. There is the change in life, the distance in reference to diminished expense, and the expense of living after one is there. In the western sections there are a great many places where one may live profitably by making it home for investment. So far as elevation is concerned, there are valleys in certain sections up two or three thousand feet. This is inconsiderable in comparison with Colorado, but very considerable in comparison with other elevations. Eight-tenths is still primeval forest, which equalizes temperature.

It is not as dry a climate as Colorado. The rain fall is probably not less than in New England, though it is placed on the maps as being dryer than any other section — than the Colorado ranges. I saw a number of invalids who felt sure that they could not live on our sea-coast border, men who had cavities and had had hæmorrhages, and who were in pretty fair health. I have myself sent forty or fifty patients to this section, and, although they have different results, in the main it is as satisfactory as double that number of cases who have gone to Colorado. Ample board can be obtained with half the money. The expense of going is less than half, and sometimes a distinct advantage is gained in the fact of the invalid being much nearer home.

The air there is as pure as can be found in any part of the world. The mountain tops are covered with snow three or four months, the valleys only three or four days at a time. The locomotion is, on horseback, *par excellence*. Every other way is uncomfortable in the extreme.

DR. OTIS asked what special towns were recommended.

DR. MARCY: Ashfield is the centre. Its population has doubled within two years. There are several hotels there. Notably the Battery Park (?) Hotel. That is an expensive hotel; four dollars per day. But Ashfield furnishes very good accommodation at ten to fifteen dollars per week. Certain other places are extremely cheap. I spent a week in one of the little hotels. When I asked for my bill, I was told that a dollar a day was the regular price, but as I had been there a week four dollars would be enough. In Waynesville, hotels are springing up everywhere in answer apparently, to a legitimate demand which is being made as the country is becoming better known.

DR. R. W. GREENLEAF said: It was my good for-

tune to visit Colorado some summers ago, and while I should like very much to speak on the very great beauties of the place I think those have already been spoken of; but there are one or two medical questions relating to it in which I differ from what Dr. Otis has said. First, in regard to whether the patients who are sent there ought to go right about their exercise or not. It seems to me that it would be far wiser for them to remain at rest for some days. A well person is quite fatigued by the altitude, even in such a place as Colorado City. I was perfectly well all the time I was there, but even a half-mile fatigued me for some days; after that I could walk indefinitely as at home.

Instead of remaining in Colorado City or in the towns, where there are all the drawbacks of dust and residence in cities, why is it not wiser to advise the patients, if they can afford it, to go into the mountain regions and be in camp all the time? To be sure, some things are hard, but they can be lightened in many ways. Changes of heat and cold are very noticeable. It was very warm at midday, and the water was almost frozen at night. It seems to me that it is far wiser for the patients to go into the mountains as soon as they are strong enough to undergo such extremes, so that they could be out of doors all the time. I was very glad to hear what was said about the selection of cases, for I met many cases who were coming back simply to die. It seems to me that it is a mistake to send other than select cases.

DR. OTIS said: I would like to say a word or two in answer to Dr. Greenleaf. I did say that comparative rest is enjoined, and probably is essential. I did not mean to say that I believe in activity as soon as the patient arrives in Colorado Springs. It seemed to me that some of the patients, after they had been there a year, were sitting about on the veranda when it did seem as if they would do better if they moved.

In regard to the patient going at once into the mountains, the practical difficulty is that you cannot get good food. Unless he is pretty well and strong, the patient could not endure it.

I don't quite agree with what Dr. Knight said about poor people going out there. It seems to me it makes a difference what sort of a person it is. I remember one poor young man with no money, a clerk in a store. His employer gave him a present of fifty dollars, and he went out there. He had serious trouble with his lungs, and was told to keep still. He got a horse and rode about, and soon made friends with a cattle-man who employed him and paid him a fair monthly salary, and he seems getting on well. I remember another instance of a young man who had money enough to stay awhile, and found employment. He finally bought his employer out. I think it depends on the kind of man who goes.

DR. E. L. CALL then read a paper on

A CASE OF CHRONIC PANCREATITIS, WITH SYMPTOMS RESEMBLING MALIGNANT DISEASE.²

DR. C. P. PUTNAM said: It seems to me that this case has been laid before us in a very interesting way, and that anything which adds to our very meagre information upon the pathology of the pancreas is most welcome. I suppose that in most instances where the pancreas is at fault other organs are at fault too, as in this case. In one case which is very prominent in my mind, where the pancreas was affected by malignant

disease, the same disease was found in other organs of the body, notably in the liver. There, too, there were no fatty stools, and Dr. Call has mentioned that the fatty stools were prominent symptoms in only two out of ten cases. So that certainly the pathology of the pancreas seems to be more obscure, the more it is looked into. This case was seen by several physicians, and the disease was not suggested by any of them. The patient had a great deal of pain in the abdomen, but there was no reason to suppose that it came from the pancreas any more than from any of the other organs where the malignant disease was situated.

DR. KNAPP asked if any sugar had been found in the urine.

DR. CALL replied that repeated examination had failed in finding any.

DR. KNAPP asked whether any microscopical examination had been made to show whether the wasting of the intestinal and gastric walls was due to atrophy of the muscular coat simply, or whether it was an atrophy of the glandular tissue of the stomach and intestine.

DR. CALL: No examination was made, I am sorry to say.

DR. MARCY: I have a case under care now that is, perhaps, worth reporting. It was at first supposed to be malignant disease of the abdomen. It has been under my observation for six months. He was a stout, robust sailor, never sick until six months ago, when he began to have slow wasting with vomiting and a whole series of symptoms, until last summer he had wasted so much that it was supposed to be a case of malignant disease. He was anæmic, pulse running up to one hundred by walking across the room. It was supposed to be a pretty clear case of obscure malignant disease.

About six weeks ago he began slowly to develop a cystic tumor in the region of the gall-bladder. Six days ago I made a laparotomy, stitched the gall-bladder into the wound, washing out about half a teacupful of pus and mucus. The hope was, although he had never been jaundiced, that something could be found. But, at about the head of the pancreas was a distinct bunch, about the size of the end of the thumb, hard and resisting. It remains to be seen just what it is. The inference is that it is malignant disease of the head of the pancreas. During these six days the patient has had relief. Discomfort of almost every type has departed. The temperature remains pretty nearly normal. I have no doubt it will go on to death, and perhaps in an autopsy we shall know more about it.

DR. DOUGLAS GRAHAM then read a paper on

LOCAL MASSAGE FOR LOCAL NEURASTHENIA.³

DR. KNAPP said: These cases of Dr. Graham read almost like fairy stories. I would like to ask if he has any less favorable ones to report, or if they all terminate in this happy way.

DR. GRAHAM: I think we all see cases that are foregone conclusions from the first, and it is only a question of filling in time with them. They are bound to be treated any way, and I give simply cases that can be benefited.

DR. KNAPP: The same treatment seems to have been applied to the different cases. What cases are not suitable for this treatment?

² See page 576 of the Journal.

³ See page 572 of the Journal.

DR. GRAHAM: I should regard extreme weakness as a contra-indication.

DR. PUTNAM said: On one occasion the suppleness of the scalp which was acquired by the massage was spoken of as one of the good results which affected the recovery of the patient, I should like to ask if the condition of the scalp was supposed to be a cause of, or intimately connected with, the disease of any organ.

DR. GRAHAM: The hardness might be the starting point for almost any reflex disturbance.

DR. PUTNAM: Do you think it was a prominent symptom?

DR. GRAHAM: It was one of the cases that are born neurasthenic.

DR. PUTNAM: It is very certain that manipulations upon the body do have great effects. Exactly what effects they have seems to be hardly determined.

DR. H. J. BARNES said: Dr. Graham speaks of one of his patients having extreme pain over one of the condyles. Not intimating the cause of that pain, have you any idea what caused it? Was it of a rheumatic nature?

DR. GRAHAM: I think it is of nervous nature. I suppose it might be called a hysterical knee-joint. The symptoms would not show sufficient disturbance there to account for the pain. I suppose you would call it nervous pain, if any one knows what that means.

DR. BARNES: I would like to know if massage will stop women from complaining of pain in the side when recovering from uterine trouble.

DR. GRAHAM: It might be relieved, but quite likely it would appear somewhere else.

DR. PUTNAM: Are these effects somewhat analogous to hypnotism, or are they to be considered purely mechanical?

DR. GRAHAM: I think the change comes from the improved circulation, the improved nutrition, and in some cases from the setting free of the nerve filaments so that the tissues may glide freely over each other.

DR. PUTNAM: I suppose some of the cases are connected with trouble in the cerebral tissues themselves. Do you think the massage has a reflex action upon the cerebral tissue?

DR. GRAHAM: Quite likely. Another instance where relief can be afforded is in cases of constipation from deficient innervation. Here massage should be applied to the back and abdomen. Sometimes, too, when the heart is irregular and there is shortness of breath. In one of these cases that was quite marked, I have seen temporary relief given while massage was being used. Of course he could not have it done frequently and I referred him back to a physician for a tonic which he could have oftener than the massage.

Also, there is muscular asthenopia, where great benefit was received from massage of the temples, eyelids and head. The resistant movements were quite a revelation to him the first time I tried them. No doubt it sends blood through the brain much more lively, and promotes absorption of lymph and effete matter. Communications have been demonstrated between the vessels and the spaces in the dura. Of course a quicker absorption would take place.

DR. PUTNAM: The doctor spoke of deep massage in diseases of the heart. Does he mean local in the region of the heart, or in the whole body?

DR. GRAHAM: In general; that statement has

been confirmed by Dr. Eccles of London, in the *June Practitioner*.

DR. PUTNAM: I don't mean to throw any doubts on Dr. Graham's statements, but I think it is very hard to find a reason for the decided effects which are produced. I think that anything which would lead to the clearing up of the mystery would be a very interesting study.

OXYGEN TREATMENT IN PNEUMONIA.

DR. V. Y. BOWDITCH said: I wish to speak of a method of treatment which I have been using for the past two days at the Carney Hospital, which was very striking; and that is the inhalation of an oxygen compound, as manufactured by Dr. Walton, of Orange, N. J. About three months ago Dr. Walton came to my office with this preparation, which he claimed he should not put forth by advertising. He claimed that he had a purer preparation than had been placed before the public before. We all know the vaunted advantages of the compound oxygen. This preparation is said to have two atoms of nitrogen to one of oxygen. He claimed that the beneficial effects would be found in phthisis. I have used several tanks in that disease with negative results. I have been waiting for a disease like this.

Day before yesterday a man came in with very marked evidence of pneumonia in the lower lobe of the right lung. There was bronchial breathing; the respirations were sixty; there was marked cyanosis. I said, We have a case now. The man took a few inhalations. He had not taken it ten seconds before the look that came into his eyes spoke more than any words than can be uttered. In half a minute his respiration was fifty. The respirations had changed to comparative ease. The color also changed. I kept the tube in his mouth for about a minute, he breathing through the nose all the time, and so wasting the oxygen. When I removed the tube, I said: "Did you get relief from that?" And the whole look when he said "I guess so," was enough. I gave orders that he should take it every two hours. I carried down the respirations ten a minute. I had also put him upon aconite, a drop every hour. The next morning the pulse, instead of being 120, and bounding, was 98, and of good strength. The respirations had come down to forty, and, although the condition of the lung had not materially changed, yet the character of the respirations had entirely changed. I ordered the oxygen to be continued occasionally, and it has been kept up to the present time. I mention this because I think it can be tried by other physicians in similar cases. Metcalf & Co. are agents for the tanks, and I think have some still, although Mr. Metcalf told me the other day that he should discontinue the agency. I shall write him that I have had apparent success in this case, and that I think it would be well to continue it a little longer, and see if other physicians cannot have similar results.

Certainly if we have anything that will relieve the fearful distress it will be a great gain. The gas comes in cylindrical tanks, under a pressure of 250 pounds to the square inch, and one should last several days in a pneumonia case. It is simply passed from the tank through a wash bottle, and then into the patient's mouth.

DR. CUSHING: How long?

DR. BOWDITCH: I kept it in the mouth about a

minute. He was breathing through the nose all the time. He kept asking for the oxygen, on account of the relief.

DR. CUSHING: Is this gas any different from what a mixture with air would be?

DR. BOWDITCH: I cannot say. He claims it a mixture of oxygen.

DR. CUSHING: As long ago as when King Humbert died it was tried. I think it has been considerably used in Italy and Germany. It is given mixed with the air in a bag.

DR. MARCY: For a number of years I have been using oxygen for this purpose. I have not felt that it was a curative thing. I use gas from the calcium-light company. They have made a gas which they sell for three dollars a tank, and which is always ready. I use those that are used for the oxy-hydrogen light. I have been in the habit of letting the gas from the tank through the tube, and the patient breathes as he pleases. I have never seen any bad effects.

DR. BOWDITCH: I don't think it has any curative effect, only that it is a means of relief.

DR. MARCY said: My own impression is that it would be of great benefit if used early. The moment the patient has very much discomfort let him have the oxygen. I would gladly recommend it, but was disappointed in not meeting with better results.

Meeting adjourned.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, November 21, 1887.

DR. DANIEL BROWN read the history of a

FATAL CASE OF VESICAL CALCULI.

The patient was a man of sixty-one, who was born in Palestine, of Turkish parents. Complaining of inability to pass his urine, accompanied with much distress, he applied to Dr. Brown, who found that the penis was of unusually small size, and that the meatus was occluded with some hard substance. He incised the meatus, which was of very narrow calibre, and removed several calculi. After this, he continued gradual dilatation of the urethra until a No. 18 sound could be passed, and at no time during the dilatation was any evidence presented of stone in the bladder.

After this the patient had no further trouble for two years, when he again presented himself, suffering from stoppage of urine. Calculi were again found in the urethra, and every day for a considerable time some were removed. On one occasion, in endeavoring to get into the bladder, which was now quite a difficult matter, Dr. Brown's assistant made a false passage. There was marked cystitis, and the patient gradually sank. After death, the bladder was found to be full of calculi.

The question naturally arose: was this a large stone which had spontaneously ruptured, or were there originally a number of small stones, which formed in the kidney, and received accretions in the bladder? The shape of the calculi seemed to indicate that the former was the correct hypothesis, and this was also rendered the more probable by the complete absence of renal colic during the history of the case. In conclusion, Dr. Brown alluded to instances recorded by various authors, in which there were a

large number of calculi, one of them being the case of Chief Justice Marshall, related by Gross, in which Dr. Physick found over one thousand.

The bladder, which had not as yet been opened, was now presented by Dr. J. W. S. GOULEY, to whom Dr. Brown had given it for the museum of the New York State Medical Association. He said that it had contracted to some extent since it had been placed in an alcoholic solution, and that, to the touch, it felt like a bag full of coarse gravel. On laying open its cavity in the presence of the members, he found that its walls were somewhat thickened, although not to such an extent as might have been expected. The calculi which it contained reached to the upper fundus. On emptying them out, he found that there had been a spontaneous fracture, not of a single large stone, but of a number of smallish stones, nearly all of which had been too large to be expelled spontaneously. There was, however, no urethro-vesical obstruction, such as would have been caused by an enlarged prostate, and there was, therefore, no reason why some of them should not have been discharged in this way. The mucous membrane was found to be more or less columnar, and in it were a number of little pouches. One of them was large enough to admit the end of the little finger, and at this point there was some ulceration of the membrane.

This, then, Dr. Gouley said, was a case of multiple calculi, and it was one of a very puzzling character. Many explanations had been offered for the spontaneous fragmentation of large stones in the bladder, and there was, indeed, scarcely an authority in this department of surgery who had not brought one forward. But in the present instance not one of them was applicable, and he was at a loss how to account for the condition of affairs met with. Taking up a number of the pieces, he said that he held no less than eleven distinct nuclei in his hand, and that there was not a single entire stone in the mass found in the bladder, which would probably weigh over a quarter of a pound. The case was one of great interest, and he felt sure that even if the diagnosis had been made easily, the result would have been the same. The extraordinary feature of it was the spontaneous rupture of all these stones.

DR. J. R. MACGREGOR related a case occurring in his practice some years ago, which, he said, very appropriately supplemented that of Dr. Brown, and which also illustrated very markedly the fact that there sometimes existed unknown conditions which could not possibly be diagnosed beforehand. The patient referred to was a married lady of sixty-three, who had had no children. She came to him stating that she had had a great deal of pain for a long time in the hypogastric region, and bringing with her a box containing more than three hundred and twenty calculi, which she had voided from time to time.

A vaginal examination revealed the fact that a number of calculi could be felt with the fingers, apparently in the bladder. A further examination was made at her own home, when gradual dilatation of the urethra was accomplished with sounds, and a narrow-bladed pair of forceps introduced into the bladder. Nothing like a stone, however, could be detected, and this attempt gave rise to so much pain and distress, that the patient declined any further interference for the time being. She then went out of town for the summer, but by the time that she returned her suffer-

ings had increased to such an extent that she was willing to submit to any procedure that promised relief. The late Dr. Studley was called in consultation, and, ether having been administered, the urethra was gradually dilated until the finger could be introduced into the bladder. No calculi were found loose in the latter, but plenty of them could be felt, covered, apparently, with some sort of a membrane, and it was concluded that the calculi were encysted. With the finger-nail and a pointed instrument, the supposed membrane was ruptured, and two calculi, each about the size of a grain of corn, were extracted. The others that were felt receded beyond reach when the effort was made to get at them. The discovery was then made that there was also a stone present of very large dimensions, but it was deemed imprudent to attempt anything further on this occasion. The patient had taken ether very badly, so that at one time it was necessary to resort to artificial respiration and hypodermic injections of brandy, and she died in about forty-eight hours.

At the autopsy, there was found in the pelvis an organ resembling a uterus at the fifth month of gestation; and, on section, there was discovered in it one stone of enormous size, together with a large number of small ones. The organ which contained them proved to be the left kidney, which had become displaced, and occupied the ordinary situation of the bladder. It was flattened out like a large sac, and in it were found more than five hundred and twenty calculi, while some additional ones were lost in the abdominal cavity. The large stone, which Dr. MacGregor now presented, was somewhat pear-shaped, and weighed no less than fifty-one ounces. It was six and three-eighths inches in its longitudinal axis, and measured sixteen and five-eighths in its larger circumference, and twelve and one-half inches in its smaller circumference. At each end there was an area where the surface had been polished off by contact with the small stones. The mass had never been sawn through, but was supposed to be composed mainly of uric acid, although the exterior was thoroughly encrusted with earthy phosphates.

Dr. MacGregor then proceeded to give an outline of some of the recorded cases of unusually large stone, commencing with that of Sir Thomas Adams, Alderman and Lord Mayor of London, who died in 1667, at the age of eighty-two. In conclusion, he said that with the exception of the stone in the possession of Dr. Liſton, the one now exhibited was the second largest stone on record; and that when its association with a large number of small stones, and its position in the kidney, and the abnormal conditions arising therefrom, were considered, this was certainly to be regarded as a case of the greatest interest.

Dr. ALFRED L. CARROLL inquired if there was an evident opening between the kidney and the neck of the bladder. If the stone had a phosphatic coating, he could not see how this could otherwise be accounted for.

Dr. MACGREGOR replied that there was no opening and no adhesions, but he thought it probable in a sac so large that the pelvis of the kidney really served as a substitute for the bladder. The extraordinary size of the pelvis of the kidney would account for the phosphatic deposit, because it had acquired new functions. The proper function of the kidneys, however, was but little, if at all impaired.

Dr. GOULEY said that the explanation given by MacGregor was hardly necessary, since it was a fact that phosphatic deposits would take place in any part of the urinary apparatus. He had formerly been skeptical in regard to this point, but he had so often observed such deposits in the pelvis of the kidney, that he was fully convinced of their occurrence. In herbivorous animals, moreover, the kind of stone that ordinarily originated in the kidney was the phosphate-of-lime calculus. Dr. Gouley then exhibited a work of John Greenfield, published in 1710, which contained a plate of the stone found in the bladder of Sir Thomas Adams, and also some other ancient books, with plates, on the subject of stone.

Dr. IRA B. READ related the history, and presented the specimen from a

CASE OF PERICARDITIS WITH COMPLICATIONS,

the most prominent feature of which was the extensive adhesions between the heart and pericardium, and pericardium and pleuræ, which rendered an exact diagnosis difficult. The patient, an adult male, in March last, had a slight attack of rheumatism, which was confined to one knee. In July, he began to suffer markedly from shortness of breath, and he then recalled that he had felt this to a slight extent at times for about a year. The dyspnœa now increased rapidly. The heart's action was tumultuous, being rapid and weak; but no friction-sound or evidence of effusion in the pericardium could at any time be detected. The temperature continued high. Prof. Edward G. Janeway was called in consultation, and the diagnosis of pericarditis was made. At the autopsy, it was found that the pericardium was closely adherent to the heart; that there had been no chance during life for any movement between the two, the absence of friction-sounds and signs of pericardial effusion being thus readily accounted for. About the 1st of August, seventy ounces of fluid were drawn off from the right pleura, an extensive effusion having occurred there, and this gave the patient much relief temporarily. Later, about one week before death, twenty-eight ounces of fluid were withdrawn from the right pleural cavity. The heart trouble still continued, however, and the patient succumbed before the 1st of September. The question arose: Did this pericarditis have its origin in the slight attack of rheumatism which occurred in March? As far as he was able to judge, it seemed to Dr. Read that it must have had an older history than that.

Dr. F. GRAUER described the condition found at the autopsy of a somewhat similar case which he had made recently. Four months before death the patient had an attack of pericarditis, from which he apparently made a good recovery; but about two months later he began to suffer from dyspnœa, and this steadily increased. The autopsy showed that he died from paralysis due to over-distension of the right ventricle. There was also excessive hypertrophy of the left ventricle, due to adhesions.

Dr. Grauer then presented the specimens from a patient of Dr. Janeway's who had died from

PERFORATION OF THE CÆCUM,

following obstruction of the gut. On the afternoon of November 19th the patient complained of colicky pains, and in the evening of the same day he died of collapse. At the autopsy, the cæcum, which was per-

forated by ulceration, was found distended almost like the stomach, the cause of the obstruction being a strong fibrinous band originating from chronic adhesive peritonitis. The muscular coat of the small intestine above the seat of obstruction was very markedly thickened, and the same was also true of the colon. Dr. Grauer thought it very doubtful whether the patient could have been saved if laparotomy had been performed in this case, on account of the condition found at the autopsy.

DR. ISAAC E. TAYLOR related two cases of intestinal obstruction which had come under his observation.

Recent Literature.

Cyclopædia of Obstetrics and Gynæcology: the Four Volumes on Obstetrics. Being the Treatise by DR. A. CHARPENTIER, translated under the supervision of, and with notes and additions by EGBERT H. GRANDIN, M.D. New York: William Wood & Co., 1887.

Charpentier's treatise, published in 1882, is too well known, by specialists at least, to require especial notice at this time. The author's aim was to write a work "which would give to the practitioner, student, and midwife a sufficient, although condensed, knowledge of modern researches" in the science and art of obstetrics. While we doubt very much whether the midwife and undergraduate student in this country, will find this work best suited to their use, physicians will value it not only as the best modern exposition of French obstetrics, but as a fair critique of German and English opinion from a French point of view.

In preparing this edition for American readers, the editor has sought by occasional corrections and additions to express the changes in opinion and practice which have occurred since the publication of the French edition; and he has also interpolated criticisms of French methods in so far as they are not in accord with the best practice in this country.

Volume I is devoted to the anatomy of the internal and external genitals, menstruation and fecundation, normal pregnancy and labor. The editor's notes in this volume are necessarily few, from the nature of the subjects treated, the most valuable and important being those on the management of the third stage of labor and on the use of the abdominal binder. While substantially agreeing with the editor in his views as to the use of ergot after the uterus is empty, we would raise the query whether the use of ergot for ten days after delivery does not sometimes markedly diminish the secretion of milk: this has seemed to us to be the result in some cases, and we believe, therefore, that when ergot is thus used, this possibility should be kept in mind.

Volume II is devoted entirely to the pathology of pregnancy. The editor's chief notes are in the chapters on miscarriage and extra-uterine pregnancy: they are in entire accord with advanced opinion in this country, and add materially to the value of the book.

Volume III treats of the pathology of labor, and there is also a chapter on the uses of ergot. It is in the subject-matter of this volume that we should ex-

pect most conflict of opinion between French and American authorities. The treatment of ineffective pains in the first stage, the question of version *versus* high-forceps in the minor degrees of pelvic contraction, the treatment of perineal lacerations, of post-partum hæmorrhage, and of placenta prævia have all received adequate attention from the editor, and the views of the best authorities in this country have been fairly stated.

Volume IV the author devotes to the obstetric operations and the pathology of the puerperium: although these subjects are very well treated, there is ample opportunity for revision, of which the editor has taken full advantage. The editorial work in connection with the subject of puerperal fever gives us great satisfaction.

In a work of such importance it is disappointing that the illustrations should be so poorly executed; they are all coarsely done and in many instances the designating letters, numbers, and leading lines are so indistinct as to make the cut practically useless. We trust this defect will be remedied in a subsequent edition.

Pathology and Treatment of Ringworm. By GEORGE THIN, M.D. London: J. & A. Churchill. 1887.

This is an excellent monograph upon the subject. The first chapter is devoted to a consideration of the structure and nature of the fungus known as trichophyton tonsurans, and to a description of the various methods of its cultivation in liquid and solid media; a branch of the subject which has received special attention from the author and upon which he is an authority. The rest of the book considers in detail the etiology, pathology, clinical aspect, and the treatment of ringworm in all its varieties. Any one who has much to do with the treatment of ringworm of the scalp gradually finds himself tending towards nihilism in therapeutics, and pessimism in prognosis with regard to it and as the author remarks "when many remedies are recommended in the treatment of a disease it is only too probable that not much confidence can be placed in any of them. Unfortunately, the latter proposition applies to the treatment of ringworm" (of the scalp). An appendix to the treatment of tinea capitis gives the views of three distinguished French dermatologists upon the subject, Vidal, Lailler and Besnier. Vidal gives the average duration of ringworm of the scalp as from ten to fifteen months. Lailler states it to be from twelve to fifteen months, and Besnier says "the duration of tinea tonsurans is always long; from two months to two years." It is well for the practitioner to bear the above statements in mind and not to be led astray by "remarkable results" in the way of treatment which he may see published in the journals, and thus be tempted to fly from one remedy to another in desperate uncertainty. As said before, the monograph is a most excellent one, and well worth the reading.

G. H. T.

— Oil of turpentine is said to be a powerful deodorizer for iodoform. A little rubbed on the hands will completely remove the smell from them. The hands should be afterwards washed in soap and water. In the same manner spoons and any utensil may be freed from the smell of iodoform.

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THURSDAY, DECEMBER 15, 1887.

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IS THERE A CONGENITAL SOUND-DEAFNESS?

AMONG the well-recognized varieties of aphasia due to pathological lesions in the left inferior parietal lobules, the first and second frontal convolutions and the vicinity, are the so-called word-deafness and word-blindness, the latter of which we had something to say in our last and elsewhere in our present issue. The question has been lately raised whether besides these phenomena, resulting from disease, there is a congenital sound-deafness, bearing something of the same relation to ordinary deafness that color-blindness bears to complete lack of sight. The phenomena which lead to such a supposition naturally come more under the cognizance of the teacher than of the physician, and a recent writer in the *London Journal of Education* in an article quoted at some length in *Science*, has discussed the question from the pedagogic point of view, adopting the opinion that there is such a congenital defect. This conclusion he bases upon some curious instances observed in children of the lack of power to distinguish between sounds, vocal and consonantal, of really marked difference, and upon the inability of certain children to spell even phonetically words read to them for the first time. For example, this writer found that one boy, in writing poetry which he had committed to memory, spelled "very" "voght." The boy was very slow in learning to read. Experiment showed that though he was not deaf he could distinguish no difference between the words "very," "perry," and "polly." It was, moreover, noticed that when a class of boys read aloud in concert, some of them would give, instead of a printed word, its synonym, although the latter was of totally different sound from the former. Yet, with some apparent inconsistency with his former statement, the writer says that these boys were those in whom the power of hearing was already under suspicion.

A boy of eleven, while a generally poor speller, was noticed in writing from dictation to make mistakes, especially in interchanging l and r. He wrote "sunderelents" for "sundry rents," "compreated"

for "complicated," "laserlacions" for "lacerations," etc. He cannot pronounce these letters, and his teacher believes the defect to be in his ears, though he is not at all deaf.

After remarking that on the analogy of color-blindness it might be expected that vowel sounds would be more likely to be confused than consonant sounds, he continued:—

"The confusion caused by explosive consonants is, however, more remarkable than that from vowels; the inexperienced ear which is dull at catching consonants is capable of any distortion of sounds. To illustrate this, an experiment was tried with a class of eleven boys, averaging ten and a half years of age, and all able to read fluently, one or two of them being somewhat extensive readers. Some short ordinary words were selected, which nearly all got right, and then words specially to test the power of hearing, some of which, it was hoped, the subjects of the experiment had never heard before. Here are the variations of five words (the italicized vowels show inter-change in the hard-vowel scale):—

Different	capable	ultramarine	spectroscope	Epaminondas
1 different	capbul	ultramarine	spaccrow	apnonas
2 different		ultramarine	specoroscope	apamondas
3 different	capeperbul	altremarine	speckshow	aponedondas
4 different	capperble	altremerein	speckros-cop	achappynomeen
5 different	camble	oltremere	spkerrope	appanandex
6 different	capable	untimmerrein	specteroskop	eupameondeous
7 different	capabybely	ultrian	spesptroscope	emeandass
8 different	capabibel	ultrern	spectuscope	epermondes
9 different	capabale	ultrernierem	specktrocope	aporymondas
10 different	ackable	ultomarien	spretting	apanenondes
11 different	caperble	ultrumeree	spatroscope	appongamanges

"The room was a small one, and the words slowly pronounced twice, each word being written immediately after it had been read out. The majority of these boys are unusually intelligent. The worst speller but one recited, soon after his eighth birthday, 'The Battle of the Lake Regillus.'"

"Twenty words in all were read out. Among them were 'yellow,' which all got right; 'instance,' five right, one of the best readers giving 'insentsess;' 'aniline,' of which there appeared these variations, 'haniyne,' 'anileling,' 'anelile,' 'animiene,' 'aleline,' the rest being at any rate phonetically correct."

Such failures as these to catch the sound of new words, or at least to depict that sound orthographically, are interesting, but several causes of error are to be allowed for before setting down the result of such tests as evidence of a true sound-deafness. The first of these is lack of attention of the pupils to just what was said. Leaving out of account actual stupidity, which must be very common among the class of children observed, lack of close, sharp attention to just what is said is an almost universal failure of children, even among such as might be classed, like these eleven boys, as "bright." An unexpected question asked quickly of a child, even if couched in perfectly simple language, usually requires to be repeated before it is grasped, unless the child has a power of attention greater than current educational methods seem to secure.

Again, the fact noted of the substitution, in reading

in concert, of a synonym for the printed word, does not of itself carry any suspicion of sound-blindness. Many persons, perhaps even those most accustomed to the use of letters, do the same thing. An intelligent reader's mind involuntarily keeps ahead of his eyes. He jumps at the meaning of his author, and is able to finish out many sentences irrespective of the author's own words. What, then, more natural than that, having framed a word expressive of the author's meaning, and finding its substantial correctness confirmed by the slightly tardier evidence of his eyes, he lets his synonym go without correction? We probably all notice this in reading aloud, when we turn a page, and occupying that trifling delay by supplying the first word of the following page.

Finally, we cannot help thinking that much of the poor spelling and of the discomfiture of children in the presence of combinations of letters which are novel to them, is to be ascribed to the fallacious modern "method" of teaching children to read. Our author says of these supposed victims of sound-blindness: "I inferred that they associated the printed letters not with their sound, but with the concrete thing which they represented, much as if they had been a picture." Now, just this is what is aimed at by the present popular mode of teaching. A child is taught to recognize groups of letters, that is words, as a whole, without reference to their individual constituents. "He reads before he knows his letters," is the boast of the teacher. The spelling-book no longer occupies its once dignified station in the school-room. This meets with the approbation of the scholars, and perhaps it may be defended on the ground that other studies are really of more intrinsic importance. But when, as a natural result, the scholar falters before some new word, with the sound and meaning of which he is perhaps already familiar, but with which he has no means of associating the characters before him, it is not fair to set his failure all down to the credit of sound-blindness.

Other observations, eliminating some of the errors noted above, will be welcomed as casting light upon the question whether there is a congenital sound-deafness. Meantime, we are more inclined to look for the acoustic analogies of color-blindness in the not rare lack of tone-sense, or, as it is popularly called, the "ear for music."

WORD-DEAFNESS.

WORD-DEAFNESS is the inability to comprehend the signification of spoken language; or, in other words, it may be defined as the amnesia of audible signs.

First accurately described by Wernicke,¹ in 1874, and named by Kussmaul *Word-deafness*, this form of sensorial aphasia was distinguished from mental alienation, on the one hand, and from ordinary deafness on the other, by Baillarger, as appears from the fol-

lowing citation from his academical discourse,² delivered in 1865:

"There is at this moment in my service a woman who cannot give the names of any of the more common objects around her; she cannot even tell you her own name. When any object is presented to her she makes a sign that she recognizes it, and endeavors to recall its name, but is unable. She is conscious of her condition, and is greatly distressed thereby.

"At the same time, this woman utters hosts of incoherent words, accompanying them by various expressive gestures, which prove that behind this incoherence there are definite ideas which she would fain express. The perversion of language was at one time so great in this patient that we believed her to be deaf and insane. The question of deafness was easily decided, but not so with the question of mental alienation. The lunatic, as has been said, is an unfortunate being who is unconscious of his own state; now this essential characteristic is wanting in our patient, who seems, in fact, well to appreciate her condition, and is, moreover, entirely devoid of all irrational acts."

The symptoms of word-deafness are well depicted in the report of a typical case by M. Girardeau, in the *Revue de Médecine* for 1882.³ The patient, B. M., was a female, aged forty-six years; entered St. Antoine Hospital in the service of Hayem. Etiological antecedents, very obscure; no specific affection. For three months patient had suffered continuous headache, the pain being located in both sides of the head. For a month prior to admission, and subsequently, was suffering from the aphasic affection in question. When asked a question, as "What is your name?" her invariable reply was: "I do not understand." Occasionally, however, on several repetitions of the question, the idea seemed to be awakened in her, and she replied correctly. The organ of hearing was found to be intact; the ticking of a watch and other low sounds could be distinctly heard. This patient could read written or printed language readily, and could answer written questions with facility, replying either by word or by writing. The special senses all seemed to be intact and motility was good on both sides. This case proved fatal, and the autopsy disclosed a sarcoma occupying the posterior portion of the two first temporo-sphenoidal convolutions on the left side.

The subject of word-deafness is, to use the expression of Kussmaul, like a person in the midst of a people speaking a foreign language. A patient of Seguin's having this affection used to say: "If I go to a lecture or hear a sermon, I hear the speaker, but what he says is all Greek to me." This patient could, however, go to a concert and understand musical notes.⁴ Persons afflicted with this form of aphasia, when a question is addressed to them, manifest an air of surprise, or seem more or less stupid, and their

² Baillarger. Bull. Acad. Imp. de Médecine, 1865, T. xxx, p. 828. (Cited by Bernard in his treatise on "Aphasia," Paris, 1885.)

³ Cited by Bernard in "Aphasies et ses diverses formes," Paris, 1885.

⁴ Pepper's Syst. Am. Med., Vol. v. p. 31.

¹ Wernicke. Die Aphasische Symptomen Complex, Breslau, 1874.

answers have no relation to the question asked. The vocabulary of some of these patients is limited to a very few words, as in a remarkable case reported by Rosenthal.⁶

With regard to the usual course of this affection, verbal-deafness, according to Wernicke, is of all forms of aphasia that which is the most likely to be recovered from. His first case is an instance of the kind, so also are those of Schmidt and Bernhardt. L. J., Charcot's patient, whose history is given in Bernard's work, was for two years able to utter only the words *yes* and *no*, and all comprehension of spoken language was lost; this patient had right hemiplegia with contracture; the recovery of speech was eventually quite complete.

With regard to the cortical lesion with which this form of sensorial aphasia is in constant dependence, the present state of our knowledge is well summed up by Keraval, in a note to Nothnagel's *Topische Diagnostik*, which he has translated: "This affection is clearly in relation with one of the left temporal gyri. It is certain that in typical cases accompanied by an autopsy there has always been noted, alone, or accompanied by other lesions, softening or other alteration of the two first tempero-sphenoidal convolutions on the left side, or of the upper-half of the first tempero-sphenoidal in its posterior part. In eliminating all cases where word-blindness is a complication, and the lesions which pertain to the latter, and in taking account only of the lesions met with in word-deafness *pure*, we are impelled to the conclusion that some morbid alteration of the *left temporal lobe*, and in particular, of its *supero-posterior extremity*, is a constant correlative of the form of aphasia in question."

The above view is, in words, almost identical with that advocated by Nothnagel. The cases on which it is founded are some twenty in number, and no facts have as yet been brought to light which seriously invalidate the conclusion.

THE CANCER BACILLUS.

WE have been expecting, these many years, the announcement of the discovery of the cancer bacillus. That the causal agent of this dire disease has not hitherto been found, is not owing to any lack of research and investigation. What ambitious bacteriologist, but has hoped at some time to startle the world with the discovery? By some deft process of staining, this (microscopic) monster of pathological depravity, which hitherto, like a true imp of darkness, has concealed itself from human vision, was to be branded and exposed to the scientific gaze. By suitable devices it was to be fished out of its haunts, and made to demonstrate *in vitro* its secret methods of morbigenous proliferation. The fiftieth generation of its descendants, well nourished in gelatinous media, was to be made, by suitable inoculation procedures, to unfold all the phenomena of carcinomatous genesis. All this, the ardent microbiologist has hoped would sometime be

his fortunate experience, and how he has toiled at the microscope till his vision was dimmed! But sections of morbid growths, and glass slides daubed with cancer juice, however stained, have hitherto revealed no bacteria that were distinctively new, or *sui generis*, and the diligent worker has eventually given up in despair the hunt for the hypothetical microbe.

But M. Scheurlen, of Berlin, claims to have been more successful, and the last number of the *Semaine Médicale* contains a brief communication in which he claims to have actually found the bacillus of cancer, a claim previously set forth in the telegraphic columns of the *New York Herald*, and referred to in our last issue. In brief, he takes from the interior of a mammary carcinoma that has been antiseptically treated, a drop of cancer juice. This, under the microscope, gives masses of amorphous spores. Inoculated in the sterilized liquid of a pleuritic effusion, which after being heated to 80° or 90° C., is allowed to coagulate, it gives rise, after three days, to a colorless pellicle, which soon becomes corrugated, and turns yellowish-brown.

On examining this pellicle under the microscope with a No. 2 eye piece and a one-twelfth Seibert immersion lens, Scheurlen finds abundant peculiar bacilli and oval spores, glittering, greenish, with motions (active or molecular) of rotation. The method of staining is almost identical with that by which Koch's tubercle bacilli are demonstrated.

Scheurlen has now, since the first of October, been experimenting with the results of his cultures. With the product of the culture of cancer juice on agar-agar, he inoculated six dogs, choosing for this purpose bitches, and injecting the culture liquid into the mammary gland. Four of these animals are still living, two have been slaughtered, the one on the thirty-fifth, the other on the twenty-eighth day after the injection. In the tissue of each mammary gland was found a hard tumor, the size of a filbert. The microscopic examination of this tumor disclosed large granular cells, some of which were certainly epithelial. By the side of these, there were cells undergoing fatty degeneration. Scheurlen does not doubt that this was a case of chronic inflammation with cancerous degeneration. The presence of the cancer bacillus in these tumors was demonstrated by the microscope, and by cultures which were made.

The four living dogs are shortly to be killed and the microscopic and other results reported.

The above account is of interest as indicating the possibilities of experimental investigation in this most obscure department of pathology. Whether or not M. Scheurlen has really discovered anything, or whether he has been pursuing a scientific will-o'-the-wisp, future researches must determine.

FAITH-HEALING EXTRAORDINARY.

A MEETING of Faith-healers was held last week in Chicago, at which, according to the Press reports, an audience of two thousand person were treated to his-

⁶ Centralblatt für Nervenheilkunde, 1884, No. 1.

stories more wonderful than those usually narrated on such occasions. The peculiarity of these testimonies was their reference to phenomena, usually supposed to be limited to crustaceans and other lower orders of life, such as the reproduction of lost members. For instance, a Swede declared that having lost his sight by an accident, not only had a diseased eye, through faith, become sound, but that in less than a week a new eye grew in the place of the one that had been removed. A clergyman stated that he had been born with hip disease, and that one foot (*sic*) being three inches longer than the other, he was cured in a moment, and suddenly found his old, short member as long as the other. Beside such statements as these, the usual class of reports, relating to the domain of internal medicine are likely to lose their interest for the brethren and sisters. The latter can probably be depended upon, however, in future meetings not to be left behind in the marvellousness of their experiences.

MEDICAL NOTES.

—A correspondent writes to the *Atlanta Medical and Surgical Journal* of an unusual case, that of a primipara aged twenty-one years. Nothing unusual occurred until the head was pressed against the coccyx, which did not yield. He applied the forceps and delivered her without any trouble and without any laceration of perineum. Immediately after delivery she suffered intense pain in the region of the coccyx, for which she was given an opiate and the bone examined. Some displacement was found, which he corrected, supposing it to be fractured. The opiate soon relieved the pain; she did not suffer any more until the ninth day, except some tenderness in the region. She had some slight pain on that day. On the tenth she passed a bone per anum, stating that she thought she had passed a joint of her backbone. Upon examination the doctor found it to be the lower segment of the coccyx. She has had no trouble since.

—The *London News* published the other day an interesting list of noted men now living, and what is more, now working at an advanced age. The paragraph was suggested by the occurrence of M. de Lesseps' eighty-second birthday. He can look around him and see but very few men of anything like equal eminence who are as old as he, says the *News*, referring to the event. The German Emperor is 90; Dr. Dollinger is 88; Moltke and Bancroft, the historians, are each 87; Kossuth is 85, and Prof. Owens is 83; but it is not easy to extend the list. Yet it is astonishing to note the large number of living great men, who have passed the ordinary limit of human life. Of sovereigns, the Pope is 77, and King William of the Netherlands is well on his 71st year. Of statesmen, Mr. Gladstone will be 79 next month, Mr. Bright is 76, Prince Bismarck is 72, M. Jules Grévy is 74, M. Leon Say and M. Leroyer are each 71; Lord Selborne is 75, Sir Rutherford Alcock is 78,

Lord Sherbrooke is 76, and Lord Granville is 72. Of generals, MacMahon is 79, Lebœuf is 78, and Bazaine and Cialdini are each 76. Of poets, Lord Tennyson is 78, Mr. Browning is 75, and Dr. Oliver Wendell Holmes is 78. Of musicians, M. Verdi is 73. Of engineers, Lord Armstrong is 77 and Sir John Hawkshaw is 76. Of painters, Meissonier is 72, and finally, of showmen, Barnum is 77. Perhaps, however, M. Chevreul, who is fairly started upon his 102d year, ought not to be omitted. In any case the catalogue is far from being a complete one. As it stands, it is sufficiently remarkable. We have mentioned the names of thirty-three persons, the average age of each being over 78. It may be doubted whether in the history of the world thirty-two men of as considerable celebrity and of as great average length of life have ever before been alive at one time."

—A bill has been drafted by a committee of English architects and civil engineers, for the State registration and control of these professions, which at present are open, as is medicine in Massachusetts, to any one who chooses to invest in a sign and expose it before the public. That great harm is done by incompetent architects through plumbing, unscientific in design and slightly supervised in construction, is evident. But a correspondent of the *Philadelphia Medical Times* cites a case where similar blundering was committed by a man who stood high as an architect in London. A small country house was built from the designs and under the superintendence of one of the leading architects in London. It was most conveniently planned, soundly built, and the elevation is very picturesque. The drains, however, were very badly arranged, and when examined recently were found to have been so carelessly finished that not one was in proper working order. Evidently an ignorant or dishonest builder had been allowed to make the connections between the house-pipes and the drains in any way that pleased his conscienceless soul, the architect not caring to take the trouble to ascertain whether the beautiful house he had built would not be rendered almost uninhabitable by imperfect drainage. Yet this very gentleman, were such a council to be established as is proposed, for controlling the practice of that profession, would very probably be one of the first persons nominated or elected to it. *Quis custodiet custodes?* There is reason to believe that American architects are sometimes open to similar criticism, at least, in their supervision of work, which they may have planned correctly but in which tricky builders contrive to blind their eyes.

BOSTON.

—An important case under the law regulating the sale of poisons was heard before Judge Forsaith at the municipal criminal court, last week. A druggist's clerk was charged with selling poison contrary to the provisions of Chapter 38 of the laws of 1887. It was the first case under the new statute that has come into court. The facts were these:

J. A. Nicholson committed suicide in Boston on

November 19th. He had made one attempt previously. On the nineteenth he bought at Cole's drug-store on Tremont street, three grains of strychnine which he took on his return home. He died a few hours later. Before he died he told his mother where he got the poison. The label did not show this. Medical-Examiner F. W. Draper, with an officer, visited Cole's drug-store. The defendant clerk admitted the sale of poison, of which he made no record. He said he thought it was to kill a sick dog. In court he admitted the sale of the poison. It was urged in his behalf that he was a foreigner, ignorant of the laws of the State, and that his employer had said that there was no need of making a record of sales. It was shown that the defendant had previously sold some poison to kill a sick dog, as he alleged, but the first record of the sale of poison was three days later than the 19th.

Judge Forsaith held that the case rested on the admission of the young man that he had sold poison without making a record. He was fined \$30 without costs, and an appeal was taken by his counsel, to the superior court but subsequently the fine was paid and the appeal withdrawn.

NEW YORK.

—The annual meeting of the supervisors of the New York Orthopædic Dispensary and Hospital was held December 8th, and the annual report showed that in the last ten years the institution had made all its beds free. There are now twenty-five beds instead of fifteen (only two of which were free), as formerly. The report of Dr. Newton M. Shaffer, surgeon-in-chief, showed that during the past year the number of new patients was 731, and of continued patients, 986. The cases of diseases included 349 of Pott's disease, 104 of lateral curvature of the spine, 127 of club-foot, 79 of knock-knee, 118 of bow-leg, and 98 of infantile paralysis. The deaths were twenty-four in number, and 413 patients were discharged permanently benefited. 10,079 visits were made at the dispensary; 970 at residences. At the meeting, addresses were also made by Bishop Henry C. Potter and Dr. F. LeRoy Satterlee.

—The Methodist Episcopal Hospital on Seventh Avenue, Brooklyn, the funds for which have been mainly provided by Mr. George I. Seney, has been partially completed and was formally dedicated on the 13th of December.

Miscellany.

CASES OF POISONING FROM TYROTOXICON.

DR. VICTOR C. VAUGHAN, director of the hygienic laboratory in the University of Michigan reports in the *Medical News*, December 3d, four cases of poisoning from this agent, with three fatal results. The cases occurred in a family of four, of whom the mother, son (aged eighteen), and daughter (aged sixteen), died; the father alone recovering. The symptoms were those of irritant poisoning. The deaths occurred from the fourth to the sixth day of illness.

The temperatures were subnormal, in some cases as low as 94. All complained of a burning constriction in the throat, and difficulty in swallowing, and all, as long as they were conscious, frequently called for ice. In all the pulse was rapid and feeble, and death seemed to result from failure of the heart. Those who died voided urine involuntarily. There was a coarse rash resembling scarlatina. The pupils were dilated.

Dr. Vaughan tested the vomitus for mineral poisons negatively. The symptoms did not point to any vegetable drug, unless possibly belladonna; but this was excluded by further investigation.

A post-mortem examination was made in the case of the daughter with negative results pathologically. The contents of the stomach and the liver were analyzed by an expert for mineral and vegetable poisons, without finding any. A cold-water extract of the stomach gave after suitable treatment, the tests for tyrotoxin, and a portion of it was administered to a kitten about two months old. Within half-an-hour after the administration the kitten began to retch, and soon it vomited. Within the next three hours it was noticed to vomit as many as five times. The breathing became rapid and labored. The animal sat with his head down, and seemed greatly prostrated. The pupils were examined, but could not be said to be dilated. There was no purging. The retching and heavy breathing, with evidences of prostration, continued more or less marked for two days, after which the animal slowly improved.

The source of the poisoning was found after negative examinations of the drinking water and other presumptive ingesta, to have been the milk used, which was kept in a buttery. The house, while kept very tidy so far as washing of floors, etc., was concerned, was very old, and had had a reputation of being unhealthy, there having been much sickness and several deaths among previous occupants. It had no cellar under any part. From the front, at least, the surface sloped toward the house, and the rain-water ran under it. In the floor of one room a trap-door had been placed, and directly under this a small excavation had been made for the purpose of collecting the rain-water when it accumulated under the house. Although this pit was dry at the time of the examination, its sides and bottom were marked with cray-fish holes, showing that water had stood in it. The floor was laid of unjointed boards, and every time it was swept much of the filth fell through the cracks, and every time that the tidy housewife scoured and mopped the floor, the water, carrying with it the filth, ran through the crevices, and thus the conditions most favorable for putrefactive changes were brought into existence, and maintained.

One corner of one of the rooms had been transformed into a small room, or buttery, as it was called, and in this, on shelves, the food was kept. On account of the more frequent scouring demanded by that part of the floor enclosed in this buttery, the boards had rotted away, and a second layer of boards had been placed over the original floor. Between these two floors was found a great mass of moist, decomposing matter, the accumulations of years, which the broom could not reach. When this floor was taken up a peculiar, nauseating odor was observable, and was sufficient to produce nausea and vomiting in one of the persons engaged in the examination. The milk

used was kept in this buttery and the farmer had noticed it often had an unpleasant taste. It was found to contain tyrotoxon and a kitten was poisoned by drinking it.

Correspondence.

“THE DOCTOR’S WIFE.”

CRANBERRY MEADOWS, December 14, 1887.

MR. EDITOR,—My neighbor Cœlebs (*Medical and Surgical Journal*, Dec. 8th), evidently thinks my success entirely due to the fact that I have married. Now, without for a moment wishing to detract from the credit due my wife, I would like to call your attention to a point which he might easily have scored if he had chosen to exert himself a little: *He has never called on the widow of the late lamented Gamboe.*

When I settled here in Cranberry Meadows my first step was taken in the direction of the old lady’s front steps. When we met, I expressed my deep sympathy for her in her bereavement—such a thoroughly estimable man (I had never heard his name mentioned until the previous week, when I chanced to learn of the opening)—such a shining light lost to the profession (here I referred tenderly to the only thing old Gamboe ever published, which I had read up in the *Boston M. and S.* the day I took the train to come here, entitled “A Severe Case of Bleeding Piles in a Youth of Sixteen successfully treated with a Decoction of Hemlock Bark,” and dated low down

in the forties); such a loss to the settlement (where they tell fearful stories of the doses he used to give). In short, I did the proper and becoming thing *under the circumstances*,—asked her for her advice regarding the size and lettering of my to-be shingle, and wound up by showing a degree of youthful diffidence and confusion at the idea of having dared to aspire to fill old G.’s professional Oxford ties, which quite fetched her. From that day she has been my firm friend. It was she who made up the match between Mrs. B. and myself; and the result shows that a doctor’s widow (if past fifty) is a good judge of what a young M.D.’s wife should be. She has presented me with her late husband’s medical library, which includes some really valuable notes from Nathan Smith’s lectures on “Theory and Practice of Physic,” taken at Bowdoin in 1827. I have also been made the recipient of his surgical instruments, which include the first and only speculum ever seen in these parts before Cœlebs and I arrived—a formidable-looking weapon of great size and weight, which old Gamboe used to pass through a hole cut in a sheet, with which the victim was completely covered, in the presence of such of the older lady residents of the Meadows as were renowned for their keen sense of propriety.

Just one word more. Cœlebs smokes, and, I am told, occasionally “takes something” in his office; whereas I never touch a weed, unless I chance to get a whiff or two behind the barn (tobacco is very unpleasant to Mrs. B.); and as for stimulants, I haven’t tasted a cocktail since I slipped into the Brunswick during the last session of the annual meeting of the M. M. S.

To be respected one must respect himself.

Yours truly,
BENEDICK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 3, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	658	229	23.90	19.95	.30	10.95	2.55
Philadelphia	993,801	357	84	11.76	8.96	3.92	5.88	.28
Brooklyn	745,103	334	104	18.85	17.11	1.16	12.18	2.32
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	152	57	15.18	7.26	2.64	3.30	—
Boston	400,000	197	51	16.32	17.34	.68	5.08	7.65
New Orleans	242,750	126	32	21.33	9.48	—	7.11	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	69	19	11.60	17.40	5.80	4.35	—
Pittsburgh	210,000	84	26	27.56	13.09	11.91	13.09	—
Montreal	186,257	34	20	11.76	8.82	—	4.41	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	11	0	—	27.27	—	—	—
Charleston	60,145	37	13	8.10	2.70	—	2.70	—
Portland	40,000	9	4	44.44	—	—	11.11	—
Worcester	68,383	27	5	11.11	11.11	—	11.11	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	7	15.40	11.55	—	11.55	3.85
Fall River	56,863	24	13	50.00	8.32	8.32	8.32	4.16
Lynn	45,861	11	3	27.27	9.09	—	18.18	9.09
Lawrence	38,825	16	6	12.50	6.25	12.50	—	—
Springfield	37,577	15	3	26.66	—	6.66	20.00	—
New Bedford	33,393	14	6	42.84	7.14	7.14	35.70	—
Somerville	29,992	10	4	—	50.00	—	—	—
Salem	28,084	15	3	—	26.66	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	3	—	33.33	—	—	—
Taunton	23,674	11	3	27.27	27.27	18.18	—	—
Haverhill	21,795	7	4	71.40	—	—	71.40	—
Gloucester	21,713	6	1	—	16.66	—	—	—
Brockton	20,783	5	0	—	—	—	—	—
Newton	19,759	7	4	—	—	—	—	—
Malden	16,407	9	1	22.22	22.22	11.11	—	—
Fitchburg	15,375	4	2	25.00	25.00	—	25.00	—
Waltham	14,609	6	0	—	—	—	—	—
Newburyport	13,716	4	0	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,294: under five years of age 706; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 403, acute lung diseases 340, consumption 315, diphtheria and croup, 202, scarlet fever 15, typhoid fever 49, diarrhoeal diseases 42, malarial fever 25, measles 12, whooping-cough 12, erysipelas eight, puerperal fever four, cerebro-spinal meningitis three. From diarrhoeal diseases, New York 13, New Orleans 11, Philadelphia, Portland and Fall River three each, Brooklyn, Boston and Charleston two each, District of Columbia, Pittsburg and Taunton one each. From malarial fever, New York nine, Brooklyn seven, New Orleans five, Baltimore three, Philadelphia one. From measles, Baltimore six, New York five, Pittsburg one. From whooping-cough, New York and Baltimore three each, Philadelphia and Boston two each, Brooklyn and Milwaukee one each. From erysipelas, New York, Baltimore and Fall River two each, Brooklyn and Milwaukee one each. From puerperal fever, New Orleans two, New York and Boston

one each. From cerebro-spinal meningitis, Fall River two, Milwaukee one. From small-pox, New York one.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 19th, the death-rate was 21.1. Deaths reported 3,747: infants under one year of age 883; acute diseases of the respiratory organs (London) 461, scarlet fever 85, measles 84, whooping-cough 80, fever 61, diphtheria 38, diarrhoea 31, small-pox (Sheffield 25).

The death-rates ranged from 13.5 in Hull to 30.4. Birmingham 18.7; Bradford 20.9; Huddersfield 24.9; Leeds 26.9; Leicester 15.3; Liverpool 22.8; London 20.3; Manchester 28.1; Nottingham 21.6; Sheffield 22.6.

In Edinburgh 20.6; Glasgow 24.0; Dublin 34.6.

The meteorological record for the week ending December 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Dec. 3, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...27	30.28	55.3	67.3	40.3	100.0	76.0	94.0	90.0	S.W.	S.W.	S.	1	12	6	G.	C.	C.		
Monday,...28	30.21	49.7	68.0	38.8	94.0	100.0	88.0	94.0	S.	N.W.	N.W.	16	18	12	O.	R.	C.		
Tuesday,...29	30.57	29.0	40.0	24.9	73.0	70.0	82.0	75.0	N.	N.W.	N.	16	11	14	C.	C.	C.		
Wednes,...30	30.72	20.0	29.0	12.0	80.0	76.0	74.0	76.7	N.	N.	N.	8	24	12	C.	C.	C.		
Thursday,...1	30.93	15.7	20.0	6.7	79.0	71.0	86.0	78.7	N.	N.E.	N.	12	11	10	F.	C.	C.		
Friday,...2	30.70	25.7	33.8	13.5	83.0	89.0	90.0	87.3	N.W.	N.W.	S.E.	8	6	12	O.	O.	O.		
Saturday,...3	30.44	40.7	47.0	33.3	92.0	85.0	96.0	91.0	S.	N.	N.	6	6	8	R.	O.	C.		13 hrs .02
Mean, the Week.			43.6	32.8															

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 3, 1887, TO DECEMBER 9, 1887.

HOFF, JNO. VAN R., captain and assistant surgeon. Granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Department of the Missouri, November 30, 1887.

MUNDAY, BENJAMIN, captain and assistant surgeon. Granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE FOUR WEEKS ENDING DECEMBER 12, 1887.

WYMAN, WALTER, surgeon. Granted leave of absence for thirty days, November 29, 1887.

WILLIAMS, L. L., assistant surgeon. Granted leave of absence for twenty-one days, November 18, 1887.

KINYOUN, J. J., assistant surgeon. Leave of absence extended seven days, November 29, 1887.

WOODWARD, R. M., assistant surgeon. Granted leave of absence for seventeen days, December 5, 1887.

GASSAWAY, J. M., surgeon. When relieved to proceed to Cairo, Illinois, and assume charge of the service, December 9, 1887.

IRWIN, FAIRFAX, surgeon. Promoted and appointed surgeon from date of oath, December 10, 1887. December 8, 1887. To proceed to Pittsburgh, Pa., Wheeling, W. Va., Gallipolis, Ohio, Evansville, Ind., Cairo, Ill., Little Rock, Ark., Shreveport, La., New Orleans, La., Rome, Ga., Chattanooga and Nashville, Tenn., as inspector, November 12, 1887.

GUIERAS, JOHN, passed assistant surgeon. When relieved, to proceed to Charleston, S. C., and assume charge of the service, December 12, 1887.

BANKS, C. E., passed assistant surgeon. To proceed to Portland, Maine, and assume charge of the service, December 9, 1887.

CARMICHAEL, D. A., passed assistant surgeon. When relieved, to proceed to Washington, D. C., for temporary duty in the office of the Supervising Surgeon General, December 9, 1887.

BEVAN, A. D., passed assistant surgeon. Granted leave of absence for twenty days, December 7, 1887.

GLENNAN, A. H., passed assistant surgeon. To proceed to Key West, Fla., and assume charge of the service, December 12, 1887.

DEATHS.

Died in Lawrence, Mass., December 10, 1887, David Dana, M.D., M.M.S.S., aged sixty-four years.

Died in Boston, December 9, 1887, Charles Harrison Spring, M.D., M.M.S.S., aged fifty-five years.

OBITUARY. DAVID DANA, M.D.

Dr. David Dana, whose death occurred suddenly on December 10th, graduated from the Harvard Medical School in 1847, went to Lawrence, Mass., in 1848, and had successfully practised his profession there ever since, with the exception of the time when he was serving as Surgeon in the First Massachusetts Heavy Artillery, during the War of the Rebellion. Dr. Dana leaves a widow and two daughters.

ON SO-CALLED SURGICAL SCARLET FEVER.

This is the name given by many to any eruption resembling scarlet fever which comes on after a wound or operation, whether it begins at the injured spot or at a distance. Hoffa has analyzed a number of such cases to be found in various publications, and reduces them to four categories. The first three are not true scarlatina, but (1), a simple congestive vasomotor erythema, depending on a vasomotor reflex; (2), toxic erythema, caused by the absorption of secretion from wounds or other fibrinous ferments, or it may be brought on by the use of chloroform, carbolic acid or corrosive sublimate; (3), septic erythema, sometimes very hard to diagnose from true scarlatina—after the rash fades there is occasionally desquamation; (4), a real scarlatina, arising in the usual way from infection. To deserve the name of surgical scarlatina, such cases must have become infected after the infliction of the wound or operation, and the exanthem must have commenced at the wound. Nine cases are selected from the literature of the subject. Hoffa is of opinion that a wound predisposes to scarlatina, as it presents a larger surface for the micro-organisms of scarlatina to attach themselves to, and in this way he explains the shortness of the period of incubation which has often been noticed. Volkmann's *Sammlung*, No. 292, *Edinburgh Medical Journal*, December, 1887.

BOOKS AND PAMPHLETS RECEIVED.

The Confidence of the Public in Non-Professional Prescriptions. By W. S. Leonard, M.D., of Hinsdale. 1887.

The Physician's Visiting List for 1888. Thirty-seventh year of Publication. Philadelphia: P. Blakiston, Son & Co.

Lecture.**THE BONES OF THE LEG CONSIDERED AS ONE APPARATUS.¹**

BY THOMAS DWIGHT, M.D.
Parkman Professor of Anatomy at Harvard University,

Now that we have studied the tibia and fibula in the usual way you are no doubt prepared to admit that the fibula is a most difficult and confusing bone. Indeed, I consider it the hardest in the body, but I wish to show you that the trouble comes from studying it alone instead of in its natural connections. In works on anatomy you find after the description of the bones of the spine, the skull, the thorax and the pelvis respectively, chapters on the spine, the skull etc., as a whole, but this view of the tibia and fibula is not given. I invite your attention, therefore, to a chapter which anatomists have apparently forgotten to write. You will find, I hope, that your ideas of the bones of the leg will be simplified, and that the fibula in particular will have lost half its terrors. Unlike the radius and the ulna, the bones of the leg are always in very nearly the same relative position. They are parts of one apparatus for supporting the weight of the body, forming the socket of the ankle-joint and giving attachment to muscles. The weight-bearing is done almost wholly by the tibia. Both bones have a share in forming the ankle-joint and in certain changes of position of the foot there is some slight motion between them. When the foot is extended,² that is, bent upwards towards the shin, the broadest part of the articular surface of the astragalus is brought between the malleoli, and the fibula gives a little. If the socket were wide enough to admit the broadest part of the astragalus without this giving, the latter bone would in most positions be without adequate lateral support. Still the amount of motion is very slight indeed. Very powerful muscles arise from the bones of the leg and the apparatus is broadened at the upper part to give them more room in a way consistent with the least possible increase of weight and the greatest elasticity. If this expansion were of bone there would be a very unnecessary increase of weight, as all that is needed besides the tibia, which is in the line of pressure, is a smaller bar at some distance from it and a membrane between them from which muscle can arise as well as from bone. The fibula is very elastic, and is undoubtedly subjected to much strain from muscular action, especially in sudden efforts, and it is of great advantage that it should be attached to the tibia by a joint to break the shock rather than be of the same piece. If it were not so arranged, fractures of the fibula alone would be much more frequent than they are. Moreover, it is possible to conceive that if the bones were continuous at their ends, the place of the membrane might have been taken by bone so thin as to add very little to the weight, but it is clear that the elasticity of the structure would have been lost or at least much lessened.

When the bones are together the breadth of the upper half of the structure, its narrowing to about the junction of the lower and middle thirds, and the subsequent moderate expansion for the ankle are all very evident.

Professor Humphry has pointed out the advantage of the narrowing to reduce the weight near the end of the limb that it may be swung the more easily, and also the need of a certain enlargement of the bones lower down to form the socket for the ankle. The amount of the narrowing varies considerably. It is very much less than usual in the bones from which Figures 4, 5 and 6 are taken. The junction of the middle and lower thirds is well known to be a weak point in the leg and various explanations of the fact have been given. It seems sufficient to say that at this point not only the circumference of the chief bone is at its smallest, but that the girth of the whole bony framework of the leg is smallest too. It is, moreover, as has been pointed out, the place at which the upper prismatic part of the tibia joins the lower cylindrical one.

By the study of these bones on a ligamentous preparation, we get at once a correct idea of another very important feature, namely, the want of parallelism between the transverse axes of the knee and ankle, or in other words the twisting of the bones of the leg by which the foot is turned outwards. If the bones lie on a table, the upper end rests on the internal tuberosity of the tibia and on the head of the fibula, except in some cases, when the latter bone bends so much backwards that a part of the shaft instead of the head is the point of support. In either case the anterior border of the top of the tibia is very nearly horizontal, the shortness of the outer tuberosity being made up for by the backward projection of the fibula. Turning to the lower end we see that it rests either on the outer malleolus or on the outer border of the tibia and that the inner malleolus is in the air. The transverse axis of the joint runs outward and downward. The variation of the degree of torsion is considerable. Mikulicz measured it on one hundred and twenty tibiae and found that the angle formed by the axis of the knee with that of the ankle ranged from 0° to 48°. The latter was, however, a very extreme case, and but very few approached it. In about two-thirds of the cases it ranged from 5° to 20°. This, to be sure, is easily seen on the tibia alone, but it is much more striking when the bones are united. Another idea which we gain from studying the bones lying on the table in this position, is that the general course of the fibula is not far from a straight one, while the inner posterior border of the tibia describes a great curve from the table. I shall return to this point when we come to the tibia in the living.

Let us now begin the description of the two bones as one piece. You will understand that it is not my intention to repeat the description of points that have been sufficiently dwelt on in the usual account of the bones, but to give you the outlines of the composite framework. I therefore say nothing of the internal structure of the bones and make no effort to give a complete list of the muscular attachments.

We find an upper and a lower end bounding the middle portion. The upper end is the same as that of the tibia plus the head of the fibula, which is situated far back on the outer aspect, and which is below the knee-joint. I have no occasion, therefore, to repeat the description of the upper end of the specimen. The lower end forms the socket for the ankle. The roof of the socket is broader in front than behind, and slightly concave from before backwards. There is a slight antero-posterior elevation in this surface which

¹ A lecture delivered at the Harvard Medical School, November 14, 1887, rewritten and added to.

² There is much confusion in the use of the terms flexion and extension as applied to the foot. It seems to me simplest to consider flexion the result of the action of the flexors and extension that of the extensors.

is more easily recognized by the touch than by sight. I would call your attention to the fact that slight changes in the surface of bones are best studied by the finger. Notice that the inner surfaces of the malleoli incline away from one another as they descend. This slant is greater in the short inner malleolus than in the longer outer one which sometimes forms but little more than a right angle with the lower articular end of the tibia.

When we look at the bones lying on the table it is easy to see that the inner malleolus is anterior to the outer. This is due to the twisting of the bones already referred to, for if we grasp the bones by the middle and consider only their lower ends, this does not appear. The outer malleolus is also decidedly longer than the inner. There is a little fold of synovial membrane which continues the ankle-joint a short distance between the bones above the socket. Just above this they are firmly bound together by the interosseous ligament.

We now come to what we may call the shaft of the structure, which consists of the shafts of the two bones and the interosseous membrane. We recognize three borders and three surfaces.³

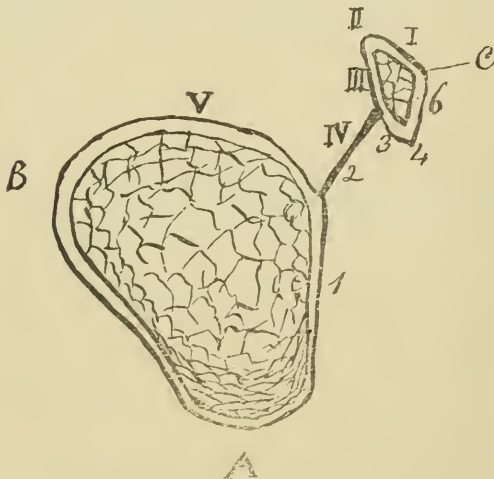


FIG. 1. About two inches below the upper surface.

The *anterior border* A is the crest of the tibia which, beginning at the tubercle, ends at the front of the inner malleolus. Its course is sinuous, the upper part having a slight convexity inwards, the lower, a stronger convexity outwards. In Figure 1, a little below the tubercle, this border is still very thick; at the middle of the leg, it is sharp; and near the ankle, it is not always to be recognized in a cross-section.

The *internal border* B is that of the tibia which begins at the inner tuberosity and ends at the back of the inner malleolus. Of the cross-sections the one at the middle of the leg is the only one which shows it at all clearly.

The *external border* C is the one known as the external border of the fibula (Quain) or the posterior border (Gray)⁴ running from the styloid process to the back of the malleolus. The cross-sections show that this is at the outer part of the fibula above and at the posterior below.

³ The description should be followed on the figures of the cross-sections, as well as on the views of the surface. The former were made from a ligamentous preparation imbedded in plaster so that the proper relations might be preserved. The figures are of the natural size.

⁴ Postero-external. Gray. Last edition.

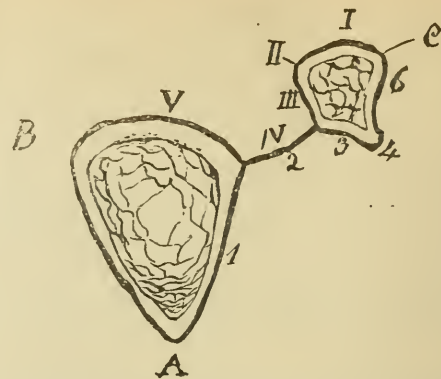


FIG. 2. Near the middle. Though the lines on the surface are well marked, these bones are probably from an old person as the tibia has much less solid bone below the crest than usual.

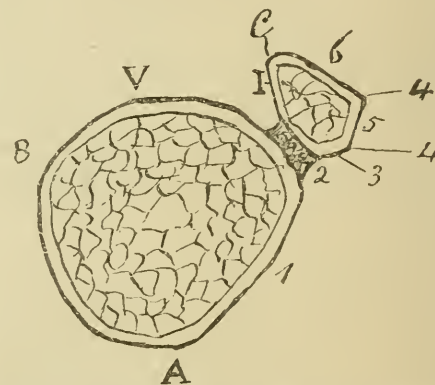


FIG. 3. About one inch above the lower surface of the tibia. The interosseous ligament is seen in place of the membrane.

The *internal surface* is bounded by the anterior, and internal borders A and B. It is seen much fore-shortened in Figures 4 and 6. It is the internal subcutaneous surface of the tibia. Passing the fingers down this surface one perceives that it is slightly convex in the upper part, slightly concave in the lower.

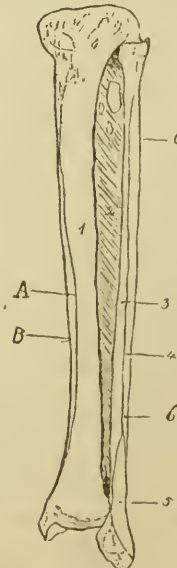


FIG. 4.

Figure 4 gives the anterior and outer aspect. Figure 5 gives the outer aspect.

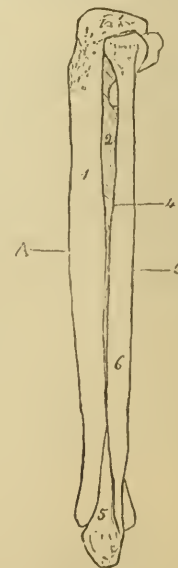


FIG. 5.

The *antero-external surface* is bounded by the anterior and external borders, A and C. It is much broader above than below, owing to the greater size of the upper part of the tibia and the greater separation of the bones. Its upper portion looks obliquely forwards and outwards but its lower is continued round to the back of the fibula. It presents the following features from within outward (which are marked by corresponding Arabic numerals on the figures): (1) A smooth surface formed by the tibia, the upper two-thirds of which looking outwards give origin to the tibialis anticus. Just below the inner tuberosity of the tibia, the inner part of the origin of the extensor communis is attached to it. The lower third of this surface twists forwards on to the front of the tibia, where it is covered by the extensor tendons. (2) The interosseous membrane forms the floor of a gutter which is shallow and broad above, deep and narrow below. It has one or more openings near its upper angle, of varying size and shape for the passage of vessels and nerves. The three chief extensors all arise in part from the membrane. (3) A narrow portion of the fibula looks inward, forming the outer wall of the gutter and giving partial origin to the common extensor and to that of the great toe. This surface is so perfectly clear when the bones are in place and united by membrane, that it is hard to realize how perplexing it may be on the separated fibula, especially if it be a poorly-marked one. (4) Next comes a ridge, the so-called anterior border of the fibula. It begins near the head of the bone, but at first it is often indistinct. It is very sharp about the middle of the leg. It bifurcates some three inches above the tip of the outer malleolus, one line going to the front, the other to the back of that structure and inclosing (5) a triangular subcutaneous surface looking outward above the outer ankle. (6) The last feature is a surface for the peroneus longus, and peroneus brevis, which beginning at the outer side of the fibula twists to its posterior aspect so that the tendons of these muscles pass behind the malleolus. This surface is strikingly smooth and its spiral course very evident. The two greater peronei are enclosed in a fibrous chamber by fasciæ passing inwards from the deep fascia of the leg to the anterior ridge of the fibula (4) and to the external border of the combined structures (C).

The *posterior surface*. Continuing our course round the back of the leg, we meet from without, inward after passing the external border (C), the following features (marked on the figures with Roman numerals): I, a surface on the fibula looking above, backwards; below, inwards. In its lower quarter it reaches the interosseous membrane. From its upper portion, arises the outer part of the soleus and from its middle portion (more than its middle third) the flexor longus pollicis. II, a ridge called the oblique line of the fibula (Gray),⁶ the internal border (Quain) starts from the back and inner aspect of the head of the fibula and twisting inwards and forwards strikes the interosseous membrane somewhat above the lower quarter of the leg. Above this point, another surface, III, looking inward, comes between the ridge and the interosseous membrane, IV. This membrane is at the bottom of a deeper depression than in front. It gives origin to only one muscle, the tibialis posticus, which encroaches also on the bones on either side. It ends below in a sharp angle between the bones just above

the interosseous ligament, the surfaces for the attachment of which are not seen when the bones are together. Next comes V, the posterior surface of the tibia. In the upper part of this the oblique line, VI, running downwards and inwards from the head of the fibula, marks off the popliteal surface, and gives origin to a part of the soleus. At about the juncture of the first and second quarters, or rather lower, is the nutrient foramen, the largest in the body, which is directed downwards. If the parts are very vascular, as the result of inflammation, the nutrient artery may give trouble after amputation. The foramen is sometimes very close to the interosseous membrane, sometimes half-an-inch from it. The much smaller canal for the fibula is on one of the posterior surfaces of the bone; most frequently on that marked I. In the forearm the nutrient foramina are found, also on the flexor surface of the bones, but there, they run towards the elbow

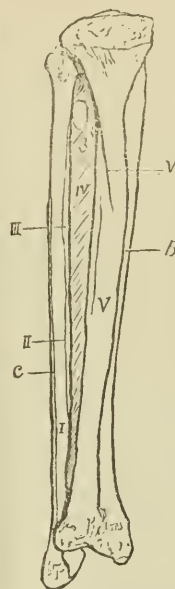


FIG. 6. Posterior and inner aspect.

and here they run from the knee. A much less distinct line is seen running nearly vertically about the middle of the bone, which separates a broader inner portion, from which arises the flexor communis, from a narrower outer one, beside the membrane which gives origin to the inner part of the tibialis posticus.

After this detailed description of the ridges and surfaces of the bones, we return to the study of the twists of the bones and we shall find it a less simple problem than is generally supposed. We saw at the beginning, that the lower part of the skeleton of the limb is twisted outward to allow the foot to assume its characteristic, human position. If we follow the ridges of the fibula, excepting that for the interosseous membrane, we find them pursuing a corresponding course. The surface for the peronei (6), shows this feature strikingly, and the one just beyond it on the posterior aspect (I), hardly less well. Now as the axes of the ankle-joint is determined chiefly by the tibia and as it is undoubtedly turned outward we should naturally expect to find the borders and surfaces of the tibia, turned the same way, but we do not find such to be the case. On the contrary, we find the anterior crest of the tibia twisting downwards and inward to the inner malleolus, and the two surfaces which it separates, to take a similar course. The twist of the posterior surface of the tibia is more difficult to analyze. It would seem as if, at least, the greater number of the surfaces of both bones twist as they descend away from an imaginary line between them.

It is interesting and important to know how much of the bones can be felt during life. The whole of the front and sides of the head of the tibia are easily made out, but it is deeply placed behind and obscured by the hamstrings and the gastrocnemius. The tubercle is very prominent in front, just at the insertion of the ligament of the patella. It is worth knowing that the tubercle is a part of the superior epiphysis of the tibia, which descends further in front than elsewhere. At the sides its line of union coincides with the lower border of the tuberosities. It

⁶ Postero-internal. Gray. Last edition.

includes, therefore, the articular surface for the head of the fibula and the upper anterior aspect of the latter, indicates pretty nearly the position of the line. The crest of the tibia is easily traced downwards from the tubercle. The finger that follows it reaches the inner malleolus. In muscular legs the *tibialis anticus*, projects somewhat beyond it, and this together with the dense fascia covering the extensors that springs from the crest tends to make it a far less prominent feature in the living than one would expect from the skeleton. In athletes, antique-statues and outline-drawings, there is a striking curved line in the leg, which the ignorant might easily mistake for this ridge, but which is caused by the internal border of the tibia. It is well shown in both legs, but especially the left one, of this outline from Flaxman's illustrations of the *Iliad*, representing one of two giants holding Mars captive. Notice that the line begins high up under the inner tuberosity of the tibia, and ends at the back of the inner ankle, corresponding perfectly to the internal border (B). One of the reasons why some are deceived is that they expect this border to be at the inner side of the leg, in the flesh as it is in the bones, forgetting that the great muscles of the calf, overlap it considerably and fill in a good part of the outline of the leg, even when seen from the front, as in this figure. This border curves forwards as well as outwards, so that this feature can be seen not only from the front but from the side. The subcutaneous internal surface of the tibia can be felt throughout.



FIG. 7. "Otus and Ephialtes held the chain."

The anterior surface of the tibia below the origin of the *tibialis anticus* is easily felt just above the ankle, though it is obscured by the extensor tendons passing over it. The head of the fibula is to be felt far back on the outer aspect of the leg. Very soon the peronei cover the shaft with a thick pad so that, although the position of the bone can be made out, its outlines are concealed till we get down to the triangular, subcutaneous surface, beginning some three or four inches above the ankle. The greater length, the more posterior position of the outer malleolus as well as the difference in shape from the inner one are easily recognized.

— The Court of Appeals of St. Louis has refused to incorporate the "Institute of Christian Science."

Original Articles.

LEAD-POISONING AS A CAUSE OF MUSCULAR INCO-ORDINATION (PSEUDO TABES).¹

BY JAMES J. PUTNAM, M.D.

It is well known that a number of cases have been described within the past few years, usually presenting a greater or less number of the symptoms which we are in the habit of referring to multiple peripheral neuritis, such as objective and subjective sensory disorders of a variety of kinds, and muscular wasting, with diminution of electrical irritability, but characterized above all by inco-ordination in the use of the muscles of the extremities.

The analysis of these cases shows that this inco-ordination may occur without many of the other symptoms of neuritis, just as, in other cases of the disease, the cutaneous sensory disorders may predominate, or even occur alone, or as paralysis may come on, and after lasting for a short time, disappear, without leading to muscular atrophy.

To this group of cases the name of pseudo tabes has been given, and although this name is not really a suitable one for many of the examples reported—those, for example, where the knee-jerk is exaggerated instead of being diminished—yet it is of temporary value as indicating the possibility of confounding cases of this kind with true locomotor ataxia, a mistake which has, in fact, no doubt often been committed.

In such cases as those which form the subject of this paper, there is a true impairment on the part of the patient's ability to co-ordinate their movements accurately, probably due to a loss of the impression coming from their muscles; but another class of cases has also been included under this same name of pseudo tabes, where there is no true inco-ordination, but a disorder of movement due to loss of power on the part of certain groups of muscles. In these cases the gait of the affected patient is of a character that has been likened by Professor Charcot to the movement of a high-stepping horse, because, in consequence of the paralysis or weakness of the extensors of the foot, the toe drops when the leg is lifted, and the knee has consequently to be raised unnaturally high in order to clear the foot from the ground. Furthermore, these patients, on account of their muscular weakness, often walk with an uncertain and somewhat straddling gait.

Of this latter group of cases I do not intend to speak further, although they are doubtless related, pathologically, in many respects, to those where true muscular inco-ordination is present.

All that is absolutely known, so far as I am aware, of the pathology of pseudo tabes of neuritic origin is furnished by the results of three autopsies, two of them reported by Déjérine,² and the third by Dreschfeld.³ In these three cases the disease was presumably of alcoholic origin.

The clinical histories agree in all essential particulars with the clinical pictures already indicated. The central nervous system was found practically unchanged in all, whereas there were marked changes in the peripheral nerves.

The microscopic examinations in the two cases re-

¹ Read before the Boston Society for Medical Development, Nov. 30, 1887.

² *Arch. de Phys.*, 1884, *Nervo Tabes Périphérique*.

³ *Brain*, 1885, Vol. VIII, p. 433.

ported by Déjérine were especially careful, and showed a degenerative process, mainly confined to the cutaneous nerves, but probably affecting, also, as he thinks, the nerves of the muscular sense.

Besides these cases, the pathological diagnosis of peripheral neuritis as a possible cause of muscular inco-ordination receives much support from what we know of other forms of this disease with which this form is often so intimately associated, and the indirect pathological evidence of this kind is now considerable.

The conditions under which pseudo tabes has been observed are, in the first place, chronic alcoholism; then, in cases of poisoning from arsenic, lead, sulphide and oxide of carbon, diphtheria, and other acute infectious diseases, and perhaps certain vegetable poisons.

Finally, the number of cases reported as traceable to these various causes is so small that in a given instance we cannot always safely assert that the relation between the apparent cause and the symptoms is more than one of coincidence. Furthermore, it is to be remembered that we get the symptoms of the so-called pseudo tabes in a more or less characteristic form, where the sensory tracts are diseased in another part of their course, namely, the posterior columns of the spinal cord. It will be pointed out further on that it is not always easy to say whether we are dealing with a case of inco-ordination from neuritis, which will probably be curable, or with the first stage of certain types of posterior or combined sclerosis of the cord which are likely to prove incurable.

As compared with the other symptoms of multiple neuritis from these different causes, the cases of inco-ordination are rare. Even in chronic alcoholic poisoning, where they are the most common, the whole number reported in literature is very limited.

Of the cases due to arsenic, of which a complete and excellent summary is given by Dr. C. L. Dana in *Brain* of January, 1887, the whole number reported amounts to seven. Two of these cases are described for the first time by Dr. Dana himself, and are of special interest, apart from the clinical picture which they present, from the fact that in one of them the arsenical poisoning was acute, and due to a single dose; while in the other it seemed to be traceable to the continued ingestion of small quantities, taken for medicinal purposes.

The reported cases which we have reason to believe may be of *plumbic origin*, consist only in two, so far as I know, of which I shall take the liberty of giving a brief account.

The first case was reported by Teissier, in the *Gaz. Med. de Lyon*, 1861-1862, and is cited at length in the thesis upon pseudo tabes by Leval-Picquechef, published in 1885. The patient was a young man of twenty-four years, who had worked as a plumber for two years previous to his illness, for which no other cause than lead-poisoning could be assigned. His symptoms, at the time of his first examination, consisted in increasing difficulty in the use of his arms and legs; in progressive impairment of vision and of memory; emaciation, headache and vertigo. He suffered also from sensations of prickling and numbness in his extremities; the sense of touch was found to be diminished in patches, and his speech was somewhat indistinct. On careful examination it was found that the difficulty in the use of his limbs was due, not so much to the loss of muscular strength as to the im-

pairment of his co-ordinating power, and this was so great that he could scarcely stand, or hold a pen. As is usual in cases of this kind, it was extremely difficult for him to keep his limbs in a fixed position. There was a marked lead-line on the gums. After treatment for three months in the hospital, the patient was discharged, much relieved, in all respects, but not entirely well.

The second case is reported by Raymond, and was first published in the important monograph upon chronic lead-poisoning by Renaut (*L'Intoxication Saturnine*). It is of unusual interest on account of the short time during which the patient was exposed to the poisonous action of lead, and for other reasons. The patient was a man of forty-two years, and began to work in a lead manufactory of Clichy towards the end of January, 1874. He gave up work on the 25th of March, that is after about two months. He had never worked in lead before, and showed no symptoms of lead-poisoning, or other important impairment of health. On the 20th of March, that is five days before he left work, he had an attack of colic, which lasted for nearly two weeks. On the 25th of March he had a convulsion of two hours' duration, and, four or five days later, another convulsion of similar kind. On the 2d of April he became quite suddenly very ataxic, so that he could not carry a cup to his mouth without spilling the greater part of its contents. This ataxia was preceded by a moderate degree of muscular weakness. The next day he had marked formication in his lower extremities, and a few days later could only walk with great difficulty. He had also pains in the head and impairment of sight and of hearing. The inco-ordination of the arms improved as that of the legs came on. There was considerable loss of strength in the arms, but no marked atrophy; and the strength of the two arms was equal, while the inco-ordination was greater on the left side. The loss of hearing was also greater on the left side. Anæsthesia of all kinds was present. In spite of their severity the ataxia symptoms were nearly well after four months of treatment. There was a lead-line on the gums.

To sum up the history of these interesting cases, we have two patients, both exposed to the causes of lead-poisoning, and both showing a lead-line on the gums, and one of them, in addition, characteristic colic and confirmatory cerebral attacks, and both exhibiting a series of symptoms, severe and yet curable, similar to those which we have learned to diagnose as pseudo tabes.

I desire to call especial attention to the fact that tenderness of the muscles on pressure is not mentioned as present in either of these cases, and that, for the second, the severest case, at least, it may be certainly assumed to have been absent, because the report says, in speaking of the sensibility, "there are two painful areas in the left leg, in the neighborhood of the articulations of the ankle and the knee; except from these both legs are anæsthetic," etc.

To these two cases I believe that I am able to add three more of my own observation.

The first case is that of a young lady twenty-seven years of age, in good circumstances, and of good previous health. She first consulted me on January 22, 1886, for serious inco-ordination and impairment of muscular strength, affecting, at that time mainly the hands and arms, and impairment of vision, especially

of the left eye. She gave the following interesting history:

The sickness had begun towards the end of the previous August (1885), with aching pains in the elbow of the left arm, and numbness and prickling, with loss of sensibility, along the back of the left forearm and hand. It is especially noteworthy as indicating a peripheral localization of the disease that, at that time, the forefinger and thumb were affected alone, that is, without the other fingers. The same aching pains then attacked the right hip, and similar, but severer, numbness affected the whole of the right leg on the under side, as far as the foot, and including the latter. The affected limbs, at the same time, became more or less weak, but it is interesting to note that, subsequently, this weakness improved rather rapidly. The right hand and the left leg were attacked in the same manner in the following November, that is, three months later. Since then, while the right hand has been growing worse, the legs have been improving, so that she now feels no numbness there, and can walk with ease.⁴

In the same month (November), she first noticed a sensation as of a broad band drawn tightly around the body below the breasts. This symptom lasted for some weeks, and then passed gradually away, though she is still conscious of it from time to time. Lest it should be thought that the presence of this girdle sensation stamps the case as one of ordinary myelitis, I will here remark that it is occasionally described in cases otherwise characteristic of multiple neuritis, and so diagnosed by good observers, as, for example, in Obs. III. in the thesis on pseudo tabes, of Leval-Picquechef.⁵ The irritation which causes it may occur anywhere, and must occur somewhere, in the course of the sensitive nerve or nerve-roots of the two sides, but it certainly did not, in this case, correspond to the upper level of a transverse myelitis.

At about this same period (Nov., 1885), the vision became blurred, especially, or as she thinks, exclusively, that of the left eye. This blurring came on, she says, quite suddenly, but has steadily increased, so that she has given up trying to read. At first it seemed to her as if there were something in front of the eye which she tried in vain to brush away. There was no double vision. Her feet and hands felt very cold, so that even in August weather she was obliged to use hot-water bottles. There was no fever at any time, and she had had no pain except that described as occurring at the onset of the sickness. No cause could be assigned for the illness, except as hereafter to be stated. Her sister said, as regarded the time of appearance of the first symptoms, that she remembered the patient speaking of weakness of the legs some months before the final outbreak.

My notes of the physical examination are as follows:

The patient's appearance suggests a naturally healthy person. The pupils are unusually large in moderate light, but are equal and respond well to light; very slightly, however, with efforts of accommodation. The hands, in consequence of slight atrophy of their intrinsic muscles, show the "bird-claw" deformity in some degree, with an approach to the simian position of the thumb. The position of the

right thumb can be voluntarily corrected somewhat, so that the thumb and little finger can be touched together. The left hand is worse than the right, and the interosseous muscles on the ulnar side of both hands are more affected than the others, so that the two smaller fingers remain crooked even when a strong effort is made to straighten them. The thenar eminence is also slightly wasted, but, on the whole, the appearance of atrophy is not marked. There is no marked change in the muscles of the right forearm, but the left forearm is cooler than the right, and measures one c.m. less, (right, 22.5; left, 21.5;) and the long flexor muscles on the ulnar side are somewhat wasted. The grasp with the left hand is weaker than that with the right, though both are weak.

The most striking symptom relating to the hands is, however, a high degree of inco-ordination of movement, associated with almost complete loss of the sense of position and impairment of the tactile sensibility, the latter, however, almost confined to the hands—and most marked at the ends of the fingers. The deep prick of a pin is distinctly recognized, but the point and head are distinguished with difficulty on light contact. Slight differences in temperature are distinctly recognized, even with the finger-tips. The inco-ordination is increased by closure of the eyes, but present even when the eyes are open. The loss of muscular sense is so great that the presence of a weight of fifty grammes held in the hand, with the arm bent at a right angle, is but just recognized with the left hand, and a weight of one hundred and fifty grammes is not felt with the right hand, although, in other respects, the right hand is in much the best condition. There is absolutely no sense of position of the hands, and, when the patient is not looking on, the fingers wander off in constant movement. The thumb and forefinger are less clumsy than the other fingers. The gait is now practically normal, though the legs are said to tire more easily than formerly. The muscles of the calves are rather flabby and small, but the patient can raise herself on the ball of either foot alone. She can also balance herself fairly well on either foot, and the difficulty in doing this is not much increased by closure of the eyes. The cutaneous sensibility of the legs (left alone tested), is slightly, but very little diminished. A light touch often passes unnoticed, but the prick of a pin is distinctly recognized, and the æsthesiometer points are distinguished at a distance of one and a half to two inches. The knee-jerk is markedly exaggerated on both sides, and the "front-tap" contraction is well marked. No distinct ankle-clonus is brought out by the usual methods of testing, but "trotting" of the leg is easily excited, and has been noticed by the patient herself. There is also some exaggeration of the myotatic irritability of the forearm muscles.

I will here remark that whether this increase in the myotatic irritability indicates an involvement of the spinal cord or not, it has several times been observed in cases diagnosed as multiple neuritis (Möbius, Strümpell, Brissaud, and others), and I have myself seen it repeatedly in undoubted cases of lead-poisoning.⁶

The electrical examination shows the reaction of the ulnar nerves to be equal on the two sides, and nearly or quite normal to both currents. The inter-

⁴ A similar rapid alternation of symptoms between the arms and legs is reported in Raymond's case.

⁵ Loc. cit.

⁶ Lead in the urine, etc. J. J. Putnam, Boston Med. and Sur. Jr., 1887, July 28th and August 4th.

osseous muscles and the opponens pollicis of the left hand react rather more readily than those of the right, in spite of being more atrophied. There is no degenerative reaction. Both disks look rather pale, but not beyond physiological limits. At a second examination I concluded that the right disk was normal. The left disk is more opaque than the right, though not absolutely beyond the limits of possible health. The vessels of the left disk show whitish lines along their borders, and there is, altogether, more connective tissue on the left than on the right disk. With the inverted image method, however, no difference in color is seen. The rest of the fundus is normal, and the media are clear. Fine oscillatory movements of the right eye are noticed during the examination.

This patient has been in the habit of drinking for a part of each year, and that during the winter season, water from a very old well which was sunk under the floor of the house, its exact position not being known. The water was pumped through a lead pipe, and was reported by Dr. A. M. Comey⁷ as "bad-smelling and filthy," and containing "an enormous amount of lead, considering that it is used for drinking."

The urine contained no albumen, but a large amount of lead.

In spite of the fact that up to the time of my examination the patient had been steadily losing ground in the use of the arms (although, to be sure, the legs had improved spontaneously), she improved decidedly under treatment, so that, nine months later, her sister writes that she "can use her hands almost as well as ever, although there still remains some of the numbness, and she has not fully recovered her sight." According to later reports her condition has varied from time to time, and though much better, she is not entirely well.

The second case is that of a young lady of fifteen, in good circumstances, not of neurotic temperament or antecedents.⁸ She was first seen by me in consultation with Dr. Wadsworth, of Malden, in April, 1887, for slight inco-ordination of the muscles of all four extremities, and difficulty in the use of the eyes. She gave the following history:

Her health had been good up to last fall, except for occasional headaches. Last fall and winter she had an increased number of headaches, each attack sometimes lasting several days, and the pain being referred to the forehead and vertex. On the day following one of these attacks she was very dizzy, but there was no nausea or vomiting. In the latter part of the autumn she had partial loss of control of the bladder, lasting several months, but ceasing when she stopped going to school, and going out into the cold. She left school in March, 1887, mainly because the teacher noticed that her eyes had a peculiar expression, and, perhaps, because there was some difficulty in reading, although the patient now thinks that she did not herself notice much trouble in reading at that time. For a few weeks previous to my examination, however, the patient had found it impossible to read, unless, perhaps, a line or two at a time, the words blurring and running together. She can recognize her friends, but has, as she says, "the greater part of the time," distinct diplopia. Since the middle of March she has noticed an unsteadiness of gait, and while walking

feels dizzy, probably on account of the diplopia. With this there has been impairment of strength, noticed, for example, in sitting down or rising from a chair, and a sense of fatigue in the legs. About Christmas time the ends of the fingers of the right hand felt numb and prickly for a week or so, but there was no difficulty in using them. The left hand began to be numb about the middle of March, at the same time with the onset of the symptoms above described, the numbness affecting mainly the fingers, but also the whole hand from the wrist downward. This numbness was persistent, not accompanied by pain, and disappeared about ten days before my examination, passing away quite suddenly.

The notes of my physical examination are as follows:

April 8, 1887. Slight but well-marked ataxia in both the upper and lower extremities. Grasp of both hands weak; left much weaker than right; left leg also weaker than right. Patient can stand on either leg and balance herself fairly well, even with her eyes shut. A staring expression of the eyes is very noticeable and there is well-marked diplopia. On examination it was found that the right eye cannot be moved inward much beyond the median line, and only very imperfectly upward and downward. The motion outward is perfect, or nearly so. All the motions are accompanied with more or less jerking of the eye-ball. The left eye is in a similar condition, but all its movements are better preserved. The pupils react well to light. Vision of the right eye is much impaired, so that print which can be seen at about eight feet with the left, is seen only at about two feet with the right. Field of vision but little, if at all, impaired. Knee-jerk exaggerated on both sides, and imperfect ankle clonus present. Attention is called to the fact that the right eye and the left limbs are the worst. Patient is said to be more dull and apathetic than before her sickness began, though not so much so now as at an earlier time.

An ophthalmoscopic examination was made, and seemed to show an abnormal paleness of the disks. At a subsequent examination, however, made a month later under more favorable conditions, the disks appeared normal, and as, by that time, the eyesight had become almost completely restored, it seems highly probable that the original difficulty of vision was one of accommodation only. At the first examination some of the muscles of the left arm seemed to be somewhat wasted, but the difference may perhaps have been no more than natural.

On May 26th, seven weeks later, the report of her condition was as follows: Better in every respect. Thinks the hands are as well as ever. No staggering. In fact, the only difficulty that seems to remain is a slight trouble in reading. On examination it is ascertained that there is double vision only when the eyes are carried far to the left, and under those circumstances the right eye is noticed to twitch slightly.

On electrical examination the reaction of the muscles is found apparently normal, that is, there is no essential difference in reaction between the flexors and extensors of either arm. None of them seem to react quite as rapidly as those of health but this is uncertain. The flexor muscles of the left arm are not quite so large as those of the right, but the grasp is nearly, if not quite, as good.

On examination of the urine of this patient, lead was

⁷ Vide Lead in the urine, etc. Loc. cit.

⁸ This case has been already reported (loc. cit.), but I give it again at somewhat greater length for the sake of completeness.

found to be present. The only source from which lead could have come is indicated in the inclosed letter from Dr. Wadsworth.

"Mr. G. told me after you had gone, that, last summer, during July and August, the family spent a couple of months at ———, where he built a house and drove a pipe some seventy feet for water. The sections of pipe were screwed together, and the joints covered with white lead, so that a good deal of lead would be left on the inside of the pipe, and this supplied the house with water."

Still later the patient reported herself at my office perfectly well in every respect.

The third case was seen by me in consultation with Dr. Francis, of Brookline, on January 13, 1887. The patient was a lady in good circumstances, forty-five years of age. She was passing through the menopause at the time her sickness began. Up to October, 1886, her health was pretty good. At that time she began to show signs of a peculiar form of indigestion, and very shortly afterwards had uncontrollable vomiting, which lasted about six weeks, and was so severe as to make it necessary to feed her by rectal injections. This condition at last passed quickly away, and she became able to take every kind of food as well as before. Then occurred what seemed to be a sort of hysterical mania, in which she was seen by Dr. F. Minot, in consultation, and although the worst phase of this soon passed off, she had never since been in her normal state of mind, behaving rather childishly, and taking her illness more lightly than might have been expected. During the height of the attack, and even after that, she had some incontinence of urine at times. A few weeks before my examination the present condition developed itself.

My report of the physical examination is as follows:

The patient sits in a chair with an indifferent expression and no appearance of suffering. The legs are bent at the knee, and the left cannot be fully extended. There is marked ataxia of the hands, increased by closure of the eyes. All movements are possible of all four extremities, but feeble. There is some tenderness on deep pressure in the calves, especially the left, but not of the nerves in the popliteal space. The knee-jerk is absent (except that it was obtained once to a slight degree on the right side). The temperature of the skin of the legs seems normal. There is great muscular relaxation everywhere, and great general emaciation, but no atrophy. The tongue protruded straight and without tremor. There is no lead-line. The heart is normal, but weak. The patient is unable to stand alone, but this probably proceeds more from deficient innervation than from weakness. Sensibility to touch or pricking normal on the hands. No ocular symptoms.

The patient was advised to enter the Adams Nervine Asylum, where, in the course of some months' treatment, she gradually improved, although even now, at the expiration of fourteen months, she walks only with crutches, and then with some difficulty, and has still some inco-ordination in the use of her hands.

Dr. S. G. Webber, under whose care she passed, has been kind enough to send me the following notes. I should say that I did not make the diagnosis of neuritis, because I thought that the local symptoms were insufficient, but concluded, erroneously, as I now believe, that the symptoms were of functional nervous

origin. Dr. Webber after careful examination, concluded that neuritis accounted for many of the symptoms at least. He did not, however, exclude the possibility of central disease as well.

"When she came to the asylum Mrs. L's condition was as follows: Pupils, eyes, facial muscles and tongue moved naturally. There was slight inco-ordination of the hands, but no tremor when extended. Sensation was only slightly impaired at that time, but later seemed to become more so. There was impairment in the sense of localization in the feet. No patellar reflex. No ankle clonus. Left leg was contracted, slightly flexed at the knee, and its strength was less than that of the right leg. The peronei muscles reacted but very slightly to the faradic current, the vasti interni scarcely at all, the interossei and the long flexors of both hands very much less than normal; the rest of the muscles reacted better. The mental condition was peculiar. There was an unusual degree of childishness. The memory was weak. It was not possible for her to read any long paragraph or article. During her stay she improved mentally, but the memory for recent events remained impaired throughout. At one time, while taking iodide of potassium, she had much tingling in the fingers, and even pain, so that I diminished the dose. At first there was hyperaesthesia of the muscles on pressure. She gained very slowly in all respects, but before she left us the electric reaction had improved, except those of the vasti interni.

The treatment consisted in iodide of potassium, five grains, three times daily; later, two and a half grains; massage, electricity, and symptomatic treatments of various kinds.

Lead was found in Mrs. L's urine, once, in such large quantity that I thought there must be an error, especially as there had originally been tin foil over the cork of the bottle. I then took extra precaution to exclude accidental sources of contamination, but lead was again found in large amount."

The symptoms to which I would especially call attention in these cases are the following:

First. The rapid spontaneous improvement of the legs in the first case at the time when the arms were still growing worse; and, in the second case an eventual improvement so rapid that it might suggest that we had to deal with functional and not organic disease. It is, however, well known that an equally rapid improvement has previously been reported in cases of this kind. As an instance of this sort I will call attention to the case cited above from Raymond, as well as to another very interesting case reported by Lilienfeld in the *Berliner Kl. W. schr.* for 1885, page 726.

Second. The exaggeration of the knee-jerk, to which I have already referred, and the bearings of which I have discussed elsewhere.⁹

Third. The serious character and protracted course and possibly central origin of some of the symptoms in cases I and III.

The class of cases to which special reference has been made in this paper are mostly curable, or at least susceptible of great improvement, though sometimes their symptoms are of long duration, and some of them may persist indefinitely. Partly on account of this curability, it has been assumed that the peripheral nerves are the chief seat of the disease, so

⁹ Loc. cit.

far as the motor and sensory symptoms are concerned and that the spinal cord is nearly, or quite, unaffected. How far this conclusion is justified, we have not as yet sufficient material to decide. The myelitic changes, if they exist, are certainly not of a progressive type. The differential diagnosis, however, between these cases and the early stages of certain others of really spinal origin, and of progressive and fatal course, is by no means always easy.

A typical case of true locomotor ataxia, by the time it has reached the ataxic stage, usually presents enough distinctive features to make this error impossible, but sometimes the posterior columns of the cord, either alone or in combination with other tracts, become diseased in such a way that inco-ordination comes on quite rapidly, attended by alterations of the sensibility, beginning in the hands and feet, and sometimes by amyotrophic or paralytic symptoms, not altogether unlike those which are due to multiple neuritis.

A case where this doubt as to the diagnosis might be entertained, especially in view of the recovery of the patient, is quoted by Leval-Piequechef, from a communication by Raymoud, who had made the diagnosis of *diffuse subacute myelitis, involving principally the posterior columns*. The patient was a man, forty-two years of age. Two weeks before the examination he felt, on arising in the morning, sensations of pricking and numbness in the arms; in the afternoon his legs became weak, but not so as to prevent walking; next day he was unable to stand, and lay in bed suffering from formication in the extremities, worse at night; pains in the legs and muscular twitching, and headache. On examination, he was found to have slight paresis of the left side of the face, and slight difficulty in speech, and in deglutition; the muscles of the legs were tender on pressure; the tactile sensibility was slightly diminished, and there was a certain degree of delay in the sensitive conduction from the inner side of the foot. There was also marked inco-ordination in the lower extremities on attempting to walk; and the knee-jerk was wanting. This patient remained under observation for a little more than three months, at the end of which time he had almost entirely recovered.

Another case which is suggestive from this point of view is one which I have lately had occasion to observe myself, through the kindness of Dr. M. A. Morris, of Charlestown. The patient was a woman of seventy-three years, who had been excessively anæmic, and for two years before my examination had felt sensations of numbness and pricking in some of the fingers of both hands, gradually increasing in severity. A few weeks before I was asked by Dr. Morris to examine her, she had been attacked rather suddenly with inco-ordination of movement which at first affected mainly the lower extremities, but, later, the upper equally. This increased rapidly, so that she soon became confined to bed. Besides the inco-ordination, there was great impairment of sensibility in all its modes. The lower extremities soon became entirely paralyzed, but this was due, mainly, to the development of acute myelitis in the dorsal region, which may be regarded, for the purposes of the present argument, as an accidental complication, although it was eventually the cause of the patient's death, which occurred a number of weeks later.

The examination of the spinal cord showed a

destructive degeneration of both the posterior and lateral columns throughout their whole extent, both above and below the seat of the acute myelitis. In this case the knee-jerk was greatly exaggerated, but, as we have seen, it is not safe, for this reason, to exclude the possibility that peripheral neuritis may be the prominent pathological condition and the prognosis favorable.

It is doubtless true that in most cases a careful study of the symptoms, etiology, and history will enable us to reach a satisfactory diagnosis in these doubtful cases, but it is also true that, considering the great differences in the clinical pictures presented by different cases of peripheral neuritis, and the long duration of some of the symptoms, it might easily be possible to mistake a pseudo-tabes of this origin for the early stage of incurable myelitis, and vice-versâ.

Finally, it must be admitted that when we say that we believe the symptoms in a given case to be due to arsenic, lead, etc., we must as yet, considering the small number of cases that have been reported, tacitly make the reservation that the disease and the exposure may perhaps have been coincident only.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D., BOSTON.

THE PUPIL SYMPTOMS MET WITH AFTER HEAD INJURIES.

JONATHAN HUTCHINSON, JR.,¹ in a review of the pupillary symptoms met with after head injuries based principally upon cases in the London Hospital, says: "A warm discussion has lately been held as to whether the human iris possesses any dilator fibres, the affirmative being maintained by Iwanoff, Merkel, Jeropheeff, and Henle, whilst Grünhagen resolutely denies the existence of any such muscles, and is supported to some extent by various observers."

Dr. Gaskell sees "no urgent necessity for a special musculus dilator pupillæ; variations in the extent of the contraction or relaxation of the sphincter are quite sufficient to account for all the differences in the size of the pupil, if only the radial fibres of the pupil possess, as Grünhagen thinks they do, a sufficient amount of elasticity." Dr. Gaskell points out the close resemblance of the nerves which dilate the pupil to those which inhibit the circular muscles of the intestine, and hence speaks of the former as the "cervical splanchnic," although, perhaps, it would be more convenient to use the term pupil inhibitor. The existence of such inhibitory action on the part of the cervical sympathetic, will probably come to be universally admitted, although there may be in addition dilator fibres, the existence of which in birds and certain other animals is not denied. As Gaskell observes, "The attempt to attribute dilation of the pupil to contraction of the bloodvessels of the iris, is for several reasons, not worthy of discussion." (See also these papers, August 5, 1886).

PUPILS IN CONCUSSION OF THE BRAIN.

During the collapse stage the pupils are neither contracted nor dilated, and they respond to strong illuminations, but not infrequently the pupils tend towards slight myosis, and inequality is occasionally

¹Ophthalmic Review. Vol. VI, Nos. 66, 67, 68.

seen. Whatever view be taken, as to the condition of the cerebral circulation (and both extreme congestion and anæmia have been found in cases after death from concussion), it is not doubted that the cerebral functions are, to a more or less complete degree, suspended by the violent shaking that the brain undergoes. Hence the condition of the pupils would be expected to be the same as during sleep and the anæsthetic stage of chloroform inhalation. In a few cases of concussion fixed mydriasis on both sides is noticed. Our author thinks that possibly this may be due to an irritation of the nerves of the dura-mater as Boche-fontaine found that on irritation applied to the dura-mater in dogs there was a decided temporary mydriasis, but also draws attention to the fact that Dr. Ferrier has found that irritation of the posterior part of the superior frontal convolution of either side is followed by dilatation of both pupils, attended with movements of the head and eyes. Where there is one-sided mydriasis following concussion, two cases are cited to show that occasionally they are to be explained by injuries to the third nerve or its nucleus. In the after-results of injury to the cortex and deeper parts of the brain, it is the general rule that with the onset of inflammatory reaction, the pupils become strongly contracted, although the lesion may be at some distance from the corpora quadrigemina.

COMPRESSION OF THE BRAIN AFTER HEAD INJURIES.

Surgical authorities are agreed as to the grave importance of insensitive and dilated pupils as a symptom of compression of the brain after head injuries, as pointed out many years ago by Guthrie. During the first onset of middle meningeal hæmorrhage, however, the pupils may still react to light, and whilst they do so, the compression of the brain is probably in a recoverable condition if trephining is immediately performed. Whilst double dilatation may be a symptom materially affecting the prognosis, fixed mydriasis on one side only, may with very strong probability, be taken to indicate that the hæmorrhage is occurring on the same side as that on which the pupil is affected. However, as has already been stated, one-sided mydriasis may occur from other lesions than compression. The current view with regard to the pupil symptom of compression, which was suggested by Hutchinson Senior, and endorsed by Jacobson, attributes it to pressure on the third nerve by blood-clot, situated about the cavernous sinus or just behind. This view our author combats and shows by the citation of cases that one-sided mydriasis is not due to pressure on the third nerve, but is probably to be ascribed to pressure on some cerebral centre. Probably pressure transmitted to the corpora quadrigemina must be taken as the explanation. That pressure occasionally produces irritation, and not paralysis of the pupil centres, is probable.

COURSE OF THE CERVICAL SPLANCHNIC.

The "cervical splanchnic" in its course to the eye was formerly assumed to pass through the lenticular ganglion, but of late some slight doubt has been thrown upon this. Hutchinson thinks that in man this nerve probably passes from the first or second dorsal nerve to join the cervical sympathetic cord, and bases his opinion upon the following case: the patient aged 54, was crushed between a railway-engine and the wall, as a result of which the three upper ribs on

the right side were fractured. When a strong light was thrown upon the eyes the pupils were equal, but upon removing the light the right pupil dilated only to $3\frac{1}{2}$ mm., the left to $4\frac{1}{2}$ mm. On the right side the palpebral fissure was decidedly smaller than on the left, owing no doubt to paralysis of the Müllerian muscle, but the relative protrusion of the eyes appeared to be about equal. These pupil symptoms continued until his discharge one month later. The effect of atropine and cocaine agreed with what one would expect from the results of Koller, Jessup, and others. On instilling a five per cent. solution of cocaine, the left pupil dilated, whilst the right remained the same size; atropine, however, caused it to dilate from 4 to 6 mm.

OPHTHALMOPLÉGIA EXTERNA.

Westphal² records a case of chronic progressive paresis of the ocular muscles (ophthalmoplegia externa), with a description of ganglion-cell groups in the region of the ocular-motor nucleus. The patient was a man forty-four years of age. In August, 1881, he had an attack of loss of consciousness, with paralysis of the right arm, which, however, recovered its power in a few days. This attack had been followed by others of a similar nature. There were two distinct scars on the penis, but the patient denied syphilis, of which there was no other evidence. When first seen by Westphal, in September, 1882, the ocular condition was as follows: The left eye was, through ptosis, half shut; there was little difference in the sight of the pupils (the left being slightly smaller than the right), the right reacted only very slightly to light, and the left not at all; there was a well-marked strabismus divergens, together with a complete paralysis of all the ocular muscles; the eccentric vision was good in both eyes; the vision of the right eye was not to any degree diminished, and the left eye was diminished about two-thirds; diplopia had been present. In February Dr. Uthoff had noted that the papillæ were somewhat whiter than normal, and also, in April and May of the same year, that the temporal halves of the papillæ were distinctly whiter than the nasal halves. The arteries on both sides were somewhat diminished in size. Later the pupils did not react in the slightest to brilliant illumination. The accommodation was not affected. The fields of vision were of normal size.

In September, 1883, the pallor of the optic nerves had not increased, and progressive optic atrophy could not be said to be present: The tongue was protruded straight, but was partially atrophied, and showed slight fibrillary tremor; the speech was peculiar, but not characteristically paralytic; sensibility of the face diminished; taste uncertain; smell nearly lost (chronic nasal catarrh); the lower extremities were not wasted; gait fairly firm; the patella tendon reflex could not be produced upon the right side, and was barely noticeable on the left; cremasteric and abdominal reflex on both sides; upper extremities not markedly affected; the patient had melancholia, which persisted until his death, which resulted from pneumonia and œdema of the lungs, in October, 1883.

Autopsy. The pia mater was markedly œdematous and thickened. There was atrophy of the abducens, oculo-motor, and trochlearis nerves. Fatty degenera-

² Archiv für psychiatrie, Bd. XVIII., Heft 3.

tion of the ocular muscles on both sides. Gray degeneration of the posterior columns of the cord. Marked cylindrical widening of the ascending aorta, with much atheroma. Examined microscopically, the oculo-motor nucleus showed advanced degeneration, very few ganglion cells remaining and these much shrunken in appearance. The ocular muscles and nerves were in the highest degree atrophic.

It is interesting to note, in connection with the ophthalmoscopic appearance of the papillæ during life that the condition of the optic nerves was not that of simple atrophy such as is found in cases of tabes. The sections were made from a portion of the nerve just behind the bulb, where the bloodvessels lie in the centre of the nerve. The changes consisted in a thickening of the connective tissue septa, which extended into the very finest sub-divisions. The process only occupied a portion of the periphery of the nerve, the rest was healthy.

GANGLION-CELL GROUPS IN THE REGION OF THE OCULO-MOTOR NUCLEUS.

The following anatomical appearances are of especial interest as being described for the first time. Behind the atrophic oculo-motor nucleus, and in the upper part of the column of the nucleus, as far as the posterior commissure, were found, in a whole series of sections, and lying on both sides of the raphe, a peculiar group of ganglion cells (median). The group had an oval form, with the long axis partly parallel, and partly oblique to the raphe. Further in, another series of sections made laterally to the "median" group, but at a little distance from it, was found another group of ganglion cells (lateral), also oval in form, with the long axis horizontal. The ganglion cells of both were everywhere abundant, and much resembled those of the oculo-motor nucleus. The "lateral" groups are separated by a fine band of nerve fibres passing downward to the crusta of the cruscerebri, which are evidently continued from the cells of the above groups. This band widens out above, and, with the raphe, completely surrounds the "median" group of cells.

Westphal thinks that it is probable that these cell groups give origin to oculo-motor fibres, and calls attention to the fact that such groups have been described by Gudden, Darkschewitsch, and others, in newly-born animals and human embryos. With regard to the physiology of these groups, in this case the ocular motor nucleus was entirely degenerated, and that the external ocular muscles were all degenerated, while per contra, the internal ocular muscles, the ciliaris and sphincter papillæ, were healthy, and from these facts it is suggested that these muscles are innervated by the cell groups he describes.

Eisenlober,³ on the other hand, reports a case of ophthalmoplegia externa progressiva and final bulbar paralysis, with an entirely negative autopsy. The patient was a girl, of eighteen years of age, and any acquired or hereditary syphilis was in the highest degree improbable. The patient was of neuropathic disposition, and had suffered, even when a little child, with migraine as often as twice a month, and later as often as twice a week, typical attacks, first on one side of the head, then on the other, accompanied by vomiting, and continuing generally twenty-four hours. It was impossible to ascertain whether the attacks of ocular muscle paralysis coincided, either in the com-

mencement or in their recurrence, with the attacks of migraine. Two years before seen the patient had become suddenly diplopic, and the physician who then saw her said that the muscles of the right eye were impaired. Under the use of potass. iodid., the diplopia vanished in three weeks. This diplopia reappeared from time to time during the summer of 1885. At this time there suddenly appeared ptosis, on the left side. This recovered under potass. iodid., but returned upon the left side, and subsequently changed from time to time. In July, 1886, after a very severe attack of migraine the patient suddenly noticed a weakness of both hands. In August there appeared a slight weakness of both legs, together with dyspnœa upon quick motions, and difficulty of deglutition and of speech. There was no hyperæsthesia or paræsthesia. Vegetative functions normal. Upon the 16th August, 1886, when Eisenlober first saw the patient, he found an incomplete ptosis on both sides, but somewhat more marked upon the left. Reaction of the pupils to light prompt. Accommodation normal. Both globes nearly motionless, but the left turned somewhat outward. No diplopia. Both lids could be closed, but it required a little effort. There was slight paresis of the facialis, especially for voluntary movements. The tongue was protruded straight, but with slight vibrations to the right side. Deglutition difficult. Weakness of various muscles of the hands and legs. Knee-jerk present. Triceps and forearm reflex felt on both sides. Sensibility remained everywhere.

A diagnosis was made of a chronic degeneration of nerve cells in the oculo-motor nuclei, together with the deeper motor nuclei of the bulb, and the anterior gray horns of the cord.

The autopsy was made twenty-four hours after death. The oculo-motor, abducens, trochlearis, and also the branches of the facialis were a clean white, and of normal size. The medulla oblongata, the pons, the region of the nuclei, of the eye muscles, were stained with carmine and Weigert's solution, sections made and examined with an entirely negative result.

MIGRAINE FOLLOWED BY TEMPORARY PARALYSIS OF THE THIRD NERVE.

Suckling⁴ reports a cure of paralysis of the third nerve, following attacks of migraine. The patient was a youth, aged 18. Since infancy the patient has been subject to severe headaches, occurring at varying intervals. During the last four years the attacks had occurred more frequently, and had been more severe, and for the past two years he has had an attack pretty regularly every fortnight. An aunt of the patient suffered from severe periodical headaches, but neither of his parents suffered from any neurosis whatever. An attack lasted two days, and took the following course: He first felt a slight pain above the left brow, which gradually increased in intensity, and was followed by a flow of saliva into the mouth, and he felt cold; the pain increased gradually, and attained its maximum in twenty-four hours; it then gradually subsided, and ended completely in another twenty-four hours; the pain remained localized over the left brow; he did not vomit, and there were no ocular spectra or paræsthesiæ of any kind; after an attack the scalp was tender.

The left eyelid was first noticed to droop after an attack in infancy, and this has occurred very

³ Neurol. Centralblatt, 1887, Nos. 15, 16.

⁴ Brain, July, 1887.

frequently since. Three years ago, after a severe attack, the left eye was completely closed, and the eyeball turned outward. The eye was not affected in the milder attacks. The eyelid begins to drop at the end of an attack, when the pain is wearing off. The lid takes twenty-four hours to drop completely, and in another twenty-four hours has completely recovered. The eye is not always turned outward, but it has been on two separate occasions, and then the paralysis lasts longer, not recovering for a week after the attack. The mother attributes the increased severity of late to attendance upon a night school the past two years. On examination a week after an attack, the left pupil was a little larger than the right, and responded normally to light and accommodative efforts. The left palpebral fissure was a little smaller than the right, and the upward movement of the eye was defective, there being diplopia in looking upwards. The patient complains that the sight of the left eye is not as good as the right; but Dr. White reports that the vision is normal, and that when he first saw the boy there was complete paralysis of both the internal and external muscles of the eye which are innervated by the third nerve.

ORTHOPEDIC TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES.

Bull⁵ has tried the method proposed by Professor Michel (see these papers April 11, 1876), and reports twenty-one cases, with the results obtained, most of them being palsies of the external rectus, of syphilitic or rheumatic origin. The duration of the paralysis varied from a few days to ten years. Complete cure was effected in eight cases, notable improvement in six others, and in seven the treatment seemed valueless. Most of the recoveries occurred in recent cases, though in some a cure was effected after the complete failure of drugs and electricity to accomplish it.

RECURRENT PARALYSIS OF THE MOTOR-OCULI.

Wadsworth has published a very interesting paper upon recurrent paralysis of the motor-oculi, which appeared in the *Boston Medical and Surgical Journal*, Nov. 24, 1887.

THE CORRECTION OF SQUINT.

Landolt⁶ writes that the agents for the correction of squint are atropia, glasses, cessation from work, orthoptic exercises, and operative interference. He never operates without satisfying himself that he has gotten the full effect of non-surgical measures. If the correction is made in a child, while young, without these precautions, divergence may occur later. It is difficult to determine beforehand just how much to do. It is easier to diminish than to increase the effect. Dr. Landolt never operates on two homonymous muscles at once. He rather does a tenotomy of one and an advancement of its antagonist. The remedies for over-effect in operations for convergent squint are stoppage of atropin, removal of stitches from advanced muscle, and use of the other eye. No case should lose its power of convergence or divergence after operation, as without that power binocular vision would be impossible. If divergence persist, advance the tenotomized muscle. This can easily be done on the tenth or twelfth day.

⁵ Proceedings of Am. Ophth. Soc., 1887.

⁶ Proceedings of Internat. Medical Congress, Am. Jour. Ophthal., Vol. IV, No. 9.

PATHOGENESIS OF PTERYGIUM.

Theobald⁷ writes that if the generally accepted theory of the pathogenesis of pterygium that it has its origin in a marginal corneal ulcer were true, pterygium would be found approaching the cornea from every possible direction. It is known, however, such is not the case, but that it is almost always situated directly over the recti muscles, and that in a very large proportion of such cases it is over the rectus internus. He draws attention to the close connection between the vessels of the recti muscles and those of the anterior portion of the conjunctiva, and points out that the determination of blood to these muscles might influence the blood-supply of the overlying conjunctiva, and that this would be the case especially with the recti interni, since they were the largest of the straight muscles, and in close relationship with the conjunctiva, because attached to the sclerotic nearer to the corneal border than any of the others. The muscles, he regarded as the usual cause of pterygium, through the localized hyperæmia of the conjunctiva to which they gave rise.

Clinical Memorandum.

FATAL TONSILLAR HÆMORRHAGE.

BY J. N. HALL, M.D., (HARV.), STERLING, COLORADO.

THEODORE W., about twenty-six years of age, cow-boy. Attacked with quinsy, he says, two weeks ago, and bled severely from the mouth. Does not know origin of the blood, which, he says, amounted to over a quart. Was about twenty miles from a physician, and did not consult the writer until he had bled slightly at several other times. Wishes now, October 30th, to know "what to take to get strong again."

At this time there had been no bleeding for several days, and the left tonsil, although somewhat swollen, was not very troublesome. He was given tincture of the chloride of iron, with fluid extract of ergot. After two days, feeling better, he went away from town to the ranch, forty-one miles distant.

The next day but one, and during the absence of the writer, he returned, reporting three severe hæmorrhages. He was very pale and weak. Dr. C. S. Stone found the origin of the blood to be in the right tonsil, in a cavity left by the evacuation of matter during the attack of quinsy. He applied styptics and no bleeding took place for ten hours. The patient was instructed to press upon the tonsil, in event of bleeding, with the finger. At 10 P. M., and at midnight bleeding occurred, but was checked before arrival of medical aid by the above plan. With the assistance of Dr. Stone, subsulphate of iron was applied to the interior of the cavity. The patient in each hæmorrhage lost, by the writer's estimate, about twenty ounces of blood. He was now pulseless at the wrist, extremities cold, and the heart's action very feeble, 150 per minute.

The left tonsil was now greatly swollen, and a little matter was evacuated with a broad exploring needle. Two days later a decomposing clot, nearly as large as a hen's egg, was coughed from the throat, and the tonsil returned to nearly its natural size.

⁷ American Journal of Ophthal., Vol. IV., No. 8.

For eleven days the patient improved, and was considered out of danger, having been on the street daily for a week.

I was called suddenly at 2 P. M., October 16th, to go a distance of one hundred and sixty-five feet, to see a very sick man. The time occupied in going was extremely short, but it proved to be this patient lying on the floor moribund. No blood had been lost on the street, but during the time the writer walked the distance named, the patient had lost blood so rapidly by the mouth and nostrils as to be so far gone that no measures of relief were taken, because considered utterly useless. As the writer entered, a stream of blood as large as could flow, came from the mouth and nostrils, but it stopped shortly. The pulse was perceptible for a few seconds only after arrival.

No post-mortem was obtained. It would seem impossible for death to occur so suddenly from a hæmorrhage from any vessel less than the internal carotid. It was learned after death that the patient had stated a short time before that he felt "something swelling in his throat."

Probably the ulceration weakened the wall of the carotid artery, and the bleeding came from an aneurismal dilatation of the vessel at that point. Such rare cases have been previously reported.²

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 28, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. J. J. PUTNAM read a paper entitled,

LEAD-POISONING AS A CAUSE OF MUSCULAR INCOORDINATION (PSEUDO TABES).¹

DR. S. G. WEBBER said that pseudo tabes seemed hardly an appropriate name for this series of cases, and he thought none of them were likely to be mistaken for cases of that disease. In the first two, tendon-reflex was present, and the whole group of symptoms differed from those of tabes. In the third case the whole history was widely different.

They were all remarkably well reported and interesting cases of lead-paralysis, affecting the nerves and possibly the spinal cord, and in the last case the brain. There are cases of lead-paralysis, due probably to neuritis, which might be mistaken for locomotor ataxia, as some to which the reader has referred. In many cases, however, it is by no means certain where the lesion is situated. In the third case reported, the brain was much affected, as shown by the inability of the patient to apply her mind, the loss of memory and the childishness of the mental processes. It is possible that the spinal cord was also affected. That there was not extensive organic lesion is shown by the fact that the patient slowly regained her strength and mental powers. She can now walk with crutches and a short distance without. She is able to read, her memory has improved and there seems to

be no reason for doubting a still greater gain will be obtained.

It is well to bring the subject of lead-poisoning to the attention of the profession at frequent intervals. The symptoms are so multiform and varied, two cases rarely being alike, that unless the physician is constantly on his guard he will make mistakes. The danger from the frequent ingestion of small quantities of certain poisons during a long period of time needs to be emphasized again and again.

DR. C. F. FOLSOM had seen cases of neuritis which he supposed to be due to lead, but not with such symptoms as to lead to difficulty in differential diagnosis between posterior spinal sclerosis and neuritis. His cases, of which he mentioned two, in particular, which simulated what is usually called hysteria more nearly than any forms of organic disease; were clearly of peripheral origin. In other forms of neuritis, however, and in certain cases of locomotor ataxia, he had found the usual symptoms so obscurely marked as for some time to give rise to doubt in diagnosis. He referred especially to cases of posterior spinal sclerosis which, in his experience, had followed soon after syphilis, within five years, in which the usual subjective symptoms had been entirely absent; where the diagnosis could be safely made from the presence of objective indications leaving no room for doubt.

DR. J. H. DENNY remarked that the use of the term "pseudo tabes" was indeed sanctioned by writers of eminence, but that he should have the same disinclination to employ it as to speak of pseudo typhoid or pseudo phthisis. It comprehends, nevertheless, a class of symptoms more or less imperfectly resembling tabes dorsalis, which are usually ascribable to some toxic agency, as lead or alcohol.

In one case that came under the speaker's observation for several years, that of a painter who had recurrent attacks of the symptoms of lead-poisoning, and who was under his care at the city hospital; the symptom of muscular incoordination, in the form of ataxic movements of the hands, appeared only during the last attack, and disappeared in a few weeks under treatment.

In another case, that of a woman suffering from lead-poisoning, there was ataxia of the legs, and aphasia ataxia, with the symptoms of paralysis of the extensor muscles of the forearms and legs, and of vertiginous attacks.

In both of these cases there was an absence of the patella tendon reflex. Many of the symptoms of tabes dorsalis appeared in cases of peripheral degenerative neuritis of toxic origin, which the speaker had observed, such as paralysis of the ocular muscles, nystagmus, swaying or inability to stand with closed eyes, sluggishly reacting pupils, simulating the Argyll-Robertson symptom, obscure disturbances of sensation, loss of the patellar reflex, some pain, and sometimes incoordination.

One of the cases reported by the reader was associated with a lesion of the central nervous system. Circumscribed minute hæmorrhages into the brain or cord have been found in lead-poisoning, and Vierordt² has recently referred to the question as to whether the secondary descending degeneration of the posterior columns of the cord, which might follow, would produce symptoms of tabes. He states his own opin-

¹ See page 596 of the Journal.

² *Pepper's System of Medicine*, Vol. II, p. 383. *Gaz. Méd. Paris*, 1878, p. 42.

² Zur Frage der Beilähmung. *Archiv. für Psychiatrie u. Nvhlk*, Bd. x vñj, Hft. 1.

ion that lead, in the vast majority of cases, does not affect the cord pathologically, but that when it does so, evidence goes to show that the effect is limited to the anterior gray cornua.

The pathology of these cases is not yet determined, and the hypothesis that the ischæmia resulting from lead-poison may produce functional disturbance of co-ordinating centres, and the phenomena of transitory inco-ordination of muscular movements seems plausible. Westphal,³ however, has quite lately advanced the opinion that tabes dorsalis may in rare instances have a sudden origin, consecutive to a cerebral lesion succeeded by secondary descending degeneration of the posterior columns, as referred to by Vierordt. The speaker said that as he regarded tabes dorsalis as essentially due to a primary lesion of the posterior columns, and early characterized by marked disturbances of sensation such as is not characteristic of pseudo tabes, he preferred to classify such cases variously as those of lead encephalopathy, secondary degeneration of the posterior columns, toxic spinal paralysis, or toxic peripheral degenerative neuritis, etc., according to the development of the symptoms.

The name, however, is of minor importance, the really important thing being to arrive at a more accurate pathology. The cases reported by the reader with accompanying pathological and histological demonstration are both an interesting and a valuable contribution toward this object.

DR. P. C. KNAPP considered the paper a valuable addition to our knowledge of the still obscure subject of chronic lead-poisoning. He had never had the opportunity of seeing a case of ataxia from lead neuritis although he had once seen a man in Dr. Webber's service at the City Hospital, when he was house-officer there, who had typical lead colic. He was a worker in lead and this was the second attack. Careful examination, however, revealed the absence of the knee-jerk, Argyll-Robertson pupils, and Romberg's symptom, while inquiry brought out the history of "rheumatic" pains. He agreed with Dr. Webber in criticising the term "pseudo tabes" for Dr. Putnam's cases. They did not resemble the pseudo tabes from alcohol, arsenic or diphtheria, for in the latter cases the knee-jerk is absent. In all the cases of multiple neuritis that he had seen, and in the great majority of those reported, the knee-jerk has been absent or diminished. Dr. Putnam's cases were furthermore interesting as showing the existence of marked sensory symptoms. Lead seems to have a propensity for attacking the purely motor fibres, and Tanquerel states that lead-anæsthesia, although it is sometimes seen in lead-paralysis, is a rare affection. Most writers state that as a rule there are no sensory disturbances in lead-paralysis. He agreed with Dr. Folsom in thinking that in many cases of true tabes dorsalis the early symptoms were not so definite as Dr. Putnam had implied, although he had not been able to note the difference between cases coming on five years, and those coming on ten or fifteen years after syphilis, partly from the difficulty of getting a definite history of syphilis. He had, however, seen many cases where the symptoms were explained only by the discovery of the loss of the knee-jerk, the changes in the pupils, optic atrophy, or Romberg's symptom. One of the last cases of tabes that he had

seen, complained only of a localized pain and soreness near one tibia, worse at night. There was no periostitis or admitted history of syphilis, but the patient, a woman, had Argyll-Robertson pupils and no knee-jerk.

DR. W. N. BULLARD referred to the existence of somewhat severe but quite obscure forms of lead-poisoning, and related the history of a hospital case, that even after a careful examination, presented apparently nothing but great debility. The patient, a man of thirty-five, had no history of either syphilis or alcohol. The eyes were examined with negative results. The urine contained much lead and as the weakness was great, the man was admitted into the wards of Dr. Doe, where under treatment for lead, he rapidly recovered strength.

DR. PUTNAM said in conclusion, that he did not care in the least to defend the name of pseudo tabes, and had used it simply for convenience sake. At the same time, he thought that its use was justifiable at present, on the ground that while this class of cases is still unfamiliar, the name helps to fix some of their important peculiarities in the mind of the profession.

He recognized that some of the cases described could not be mistaken for true locomotor ataxia, but said that they were, nevertheless, closely related to other cases which might be so mistaken.

FOREIGN BODY IN WHARTON'S DUCT.

DR. A. T. CABOT showed a piece of brown straw, one inch and one line in length, and as large as a No. 5 needle, which had lodged for six months in Wharton's duct.

The patient, a young man, lost a piece of straw under his tongue on the 14th of May, 1887. For three or four weeks he experienced no trouble from it. Then a somewhat painful swelling of the submaxillary gland upon that side occurred.

When seen in August, the submaxillary gland contained a hard swelling about the size of a robin's egg, and in the line of the duct, about one inch from its orifice was a little hard swelling as large as an apple seed. Pressure along the duct caused the issue of a drop or two of pus. The bit of straw being supposed to be very small and evidently lodged far back towards the gland, a cutting operation in search of it seemed unadvisable, and the patient was advised to press occasionally over the gland, and then along the duct so as to force the pus and secretion out, in the hope of working the straw out along with it.

This milking the gland and duct was followed by a decided increase of pain and swelling, but it was continued at intervals until October 1. At this time a little abscess formed over the duct, and was punctured by the patient. A few drops of pus appeared. On November 15th the patient found that when he gaped and raised his tongue, the duct was so shortened that the tip of the straw appeared at the orifice. After some trouble he succeeded in seizing the end with a fine pair of scissors and withdrew the straw.

Poulet, in his exhaustive work on "Foreign Bodies in Surgery," has succeeded in finding but six authenticated cases of foreign bodies in Wharton's duct. In one of these the foreign body was, as in our case, a bit of straw introduced while picking the teeth. A very severe inflammation followed in the case reported by Poulet, and, abscesses forming, the straw, which was

³Ibid. Bd. xvii., II. 2.

two-thirds of an inch in length, was finally discharged spontaneously in two pieces.

A careful search in this case at the time of opening the abscesses failed to find the straw.

In answer to a question by Dr. Hooper, Dr. Cabot said that if he had suspected the size of the straw, he should have made an incision of the duct and should have hoped to find it. The evidence at the time he saw the patient, however, was that the bit of straw was extremely small and far back towards the gland where the chances of finding it were but slight. As the patient was suffering no pain, it seemed better therefore to wait and try to work the straw forward to where it could be easily reached. That it was worked forward by the manipulation practised seemed probable by the result.

THE NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, December 1, 1887.

The President, DR. A. JACOBI, announced that the COMMITTEE ON CONFERENCE WITH THE CITY BOARD OF HEALTH

which he had been requested by the Academy to appoint, in accordance with the suggestion of Dr. Bryant, would consist of the following gentlemen: Drs. C. R. Agnew, R. H. Derby, Stephen Smith, E. G. Janeway, and A. Jacobi.

DR. J. W. STICKLER, of Orange, New Jersey, read a paper on

FOOT AND MOUTH DISEASE AS IT AFFECTS MAN AND ANIMALS, AND ITS RELATIONS TO HUMAN SCARLATINA AS A PROPHYLACTIC.

Having thanked the President for the opportunity of appearing before the Academy, he said that he had two reasons in presenting the paper, the first being that it gave the results of investigations which he had been carrying on for the last four years, and the second, that it pointed out the way in which such results might, perhaps, be turned to practical account. It had long been known that foot and mouth disease may be communicated to the human subject in either of the two ways: *first*, through the agency of milk from affected animals, and, *second*, by the accidental introduction of virus into open wounds. Having referred to the general symptoms of the disease in animals, he mentioned the characteristics which it presented in man, stating that among these were glandular enlargements, vesicles in the mouth and upon the hands and feet, and in some cases, a scarlatinal eruption on different parts of the body. This was the case of Hertwig, and others who purposely contracted the disease by drinking milk from infected animals.

Dr. Stickler then gave some accounts of the sudden and severe epidemic of sore throat which occurred in Dover, England, in 1884, and attacked the inmates of the best houses in the place; and said that it was conclusively proved that the outbreak originated from milk obtained from cows suffering with foot and mouth disease. In the majority of cases the two principal symptoms were inflammatory sore throat and enlarged cervical glands, while in many instances vesicles were also noted. The sequelæ in general resembled those of scarlet fever. An investigation of

182 of the cases, made two years after the outbreak, showed the following points:

- (1) None of the patients had since had scarlatina.
- (2) Numbers of families who have previously had scarlatina as a rule escaped the epidemic, while those who had not had scarlatina were generally attacked.
- (3) Sixteen of the patients have already had scarlatina.
- (4) Four of these were very mild cases.
- (5) Two of these had had scarlatina when they were very young.
- (6) In ten cases it was doubtful whether the patients had had scarlatina or not.

He then related the histories of three cases in which he inoculated children with virus from milch cows and subsequently exposed them to the contagion of scarlet fever. The first was a child eight years of age who, after it had entirely recovered from the effects of the inoculation, was taken to the bed-side of a scarlet-fever patient, and made to inhale the breath of the latter and place its head upon the pillow used by him. Yet, notwithstanding this exposure, the child did not develop scarlet fever. The second was a child four years of age, in whom the inoculation produced much greater constitutional disturbance, than in the previous instance. The throat and mouth became sore, the temperature went up to 103°, and there was a scarlatinal eruption, followed by desquamation of the cuticle. The child was afterwards directly exposed to the infection of scarlet fever in the same way, and did not contract the disease. The third child inoculated was a boy ten years old, and although during the three years since the inoculation was made, abundant opportunities for infection had been met with by him, up to the present time he had escaped scarlet fever. Dr. Stickler said that he was well aware, however, that at this stage of the investigation now being made no positive conclusions in regard to the prophylaxis of scarlatina could be arrived at.

While foot and mouth disease was essentially the same in man as in animals, there were some points of difference, and he now proceeded to describe in detail the symptoms met with in the latter. There were four marked stages in its clinical history in animals, viz.: (1) fever; (2) eruption; (3) desiccation, and (4) desquamation. In milch cows the flow of milk became nearly suppressed, while the milk was of a yellow color and readily coagulated on boiling or when exposed to even a moderate degree of heat. There were vesicles in the mouth and throat, and unhealthy ulcers and erosions were sometimes left. Thomas had stated that scarlet fever was the only disease in which the mucons membrane could be torn away in considerable pieces, but he was not probably aware that this was also the case in foot and mouth disease. Repeated attacks of the affection in the same subject were supposed to be rare; but authorities differed very greatly in regard to this point.

Klein, he went on to say, had discussed what he believed to be the germ of foot and mouth disease, and stated that it could not be distinguished from the germ met with in the disease caused by milk, which occurred at Hendon, and was unquestionably scarlatina. In order to test the transmissibility of scarlet fever from man to the lower animals, Dr. Stickler inoculated two colts by injecting virus into the jugular vein and also giving them saliva and mucus from the mouth and throats of scarlet-fever patients, to swal-

low. In one colt the temperature went up to 103°, and in both there were sore throat, redness of the mucous membrane, cough and difficulty of deglutition. In one of the cases there also resulted desquamation. Having repeated these experiments in a large number of other animals, he was convinced that it was possible to inoculate the lower animals with scarlatina.

In inoculating human beings with virus from animals thus treated, the lesion was found to be a mild one, and he believed that this virus could be used in such a way as to prevent scarlet fever, subsequently, four years ago he had inoculated twelve cases in this way with good results. Out of thirteen other children inoculated, who were already exposed to the infection of scarlet fever at the time, five escaped the disease entirely; while eight were attacked with it. None of these cases, however, were severe, and the question arose whether the severity of the disease had not been mitigated by the inoculation. During the last year he had inoculated two children. In conclusion, he said, that while it was by no means proven that scarlatina could be prevented by such inoculations, the results thus far obtained were very suggestive, and he hoped to pursue still further the investigations in which he was engaged.

DISCUSSION.

DR. ANDREW H. SMITH said that the author of the paper had certainly made out a very excellent case for the efficacy of inoculations against scarlet fever. He would like to inquire whether it was an easy matter to procure virus, so that the supply could be kept up in case the method came into general requisition.

DR. STICKLER replied that the foot and mouth disease was extremely common in Europe. In this country, however, it was very rare. There had been an attack of it in Maine two years ago, and he had also been told that it had occurred in the West. The disease which affected the cows at Hendon was not so frequent. This he believed to have been genuine scarlet fever, and he thought there would never be any difficulty in inoculating milch cows with scarlatinal virus derived from the human subject.

DR. SMITH said that he feared that if virus derived from cows inoculated in the manner suggested by Dr. Stickler were employed, the children thus treated would be subject to all the dangers of the unmodified disease, as was the case in small-pox, when the latter was transmitted from person to person by inoculation.

DR. FINLAY, a veterinary, said that he had seen a great deal of foot and mouth disease in Scotland. It was regarded as an epizootic aphtha, and one attack of it conferred no immunity whatever from subsequent attacks, as he had known cattle to suffer again from the disease within six months after having had it, and it was exceedingly common for the same animals to have it more than once. In the case of sheep, however, it really seemed that one attack was protection against subsequent ones, and he did not remember ever to have seen a recurrence of the disease in the ovine tribe.

A physician who was the medical attendant of one of the children inoculated by Dr. Stickler said that he had never seen a case of scarlatina more marked than that following the inoculation. The child was perfectly healthy at the time the inoculation was made. There was at first a slight blush around the seat of

inoculation, and when this subsided the patient was entirely well. Then followed a distinct attack of scarlatina, the temperature running up to 102½° or 103°, and the eruption becoming general. On the sixth day desquamation commenced. So far as he was aware the child had not been exposed to scarlatina in the ordinary way, although the disease was more or less prevalent in the school district in which it lived, and it was possible that it might have been so exposed. The point of interest was that the case presented all the characteristic signs of true scarlatina.

PROFESSOR LAW, of Cornell University, said that as regards the prophylactic form of foot and mouth disease against scarlet fever in the human subject he had to confess that he was still a skeptic. In Great Britain there were frequent outbreaks of the disease, which affected not only the cattle but the people coming in contact with them, and he thought that if foot and mouth disease prevented scarlatina, the latter ought to be a much less common disease there than in this country, where epizootic aphtha was almost unknown. Such was not the case, however, as the statistics show that during the last five years no less than ninety thousand deaths in Great Britain had been due to scarlatina. Then, again, an attack of foot and mouth disease conferred a very limited, if any, immunity from subsequent attacks, and, like Dr. Finlay, he had known it to recur within six months in the same animal. Recurrence of the disease was very common in his experience, and he would, therefore, hardly suppose that inoculation with it would confer immunity from scarlatina for any length of time, if at all. While it was a very contagious disease when there was direct exposure to it, he believed that it differed from scarlatina as to its contagiousness under other circumstances. His own personal experience also tended to throw doubt upon Dr. Stickler's hypothesis. While he had been over and over again exposed to any amount of morbid products from cases of foot and mouth disease, he had never suffered from the affection, but the very first time that he was exposed to the infection of scarlatina he contracted that; his system being susceptible to the one, but not to the other. These points, therefore, seemed to militate against the protectiveness of one disease against the other. Still, it did not follow that the immunity conferred by foot and mouth disease might not be more extended in a race less susceptible to its influence than the bovine.

As regards foot and mouth disease he would strongly urge that the investigation into its prophylactic power should be carried on on the other side of the Atlantic, as it would be a very serious matter if that affection should be introduced in this way among American cattle, and he had no doubt that there would be a general outcry among the cattlemen if it were known that experiments were being made with the virus of the disease in this country.

Again, if we employed the virus of scarlatina for making inoculations, did we not more widely disseminate the disease? While he had great respect for the ability and achievements of Pasteur, he could not but believe that he had increased the spread of anthrax by scattering broadcast his modified anthrax virus, for he was convinced that a weakened virus might, under certain conditions, be rendered potent and dangerous. In the same way he feared that rabies would only be increased by the dissemination of his attenuated virus of that disease, and he believed

it to be a fact that there had been more rabies among dogs in England since the discovery of Pasteur than ever before. These considerations, in his opinion, condemned the method, and he thought that the living germ of the same disease ought never to be used for inoculations on account of the danger of spreading the affection involved.

DR. MCLEAN, a veterinary, said that he did not doubt that the Hendon epidemic was one of true scarlatina, but he thought it had by no means been proven that the scarlatina came from the cows. He denied that there was such a disease as bovine scarlatina, except, possibly, in cases where the disease was transmitted directly from the human subject by inoculation. In the Hendon outbreak the disease might have been conveyed by the milk, but if this was the case it did not come originally from the cows. The milk was no doubt contaminated from other sources, as had frequently been noticed in epidemics of typhoid fever and other affections, and it was well known how excellent a medium milk was for the conveyance of infectious diseases.

Again, he did not think it susceptible of proof that foot and mouth diseases was prophylactic of scarlatina, as he believed this to be a specific disease, the germ of which was capable of giving rise to epizootic aphtha, and to nothing else. So far as he was aware there had been but two outbreaks of foot and mouth disease in this country, one in Maine and the other in the vicinity of New York city, extending up the Hudson as far as Poughkeepsie.

DR. JOHN C. PETERS said that a great many of the most eminent veterinary authorities believed in the occurrence of scarlatina in horses and cattle.

PROFESSOR LAW said that veterinarians had unfortunately given the name scarlatina to an affection in which there was redness of the mouth, but which was non-contagious and totally distinct in character from true scarlet fever. The name had consequently given rise to much confusion.

DR. J. LEWIS SMITH said: Since the time of Jenner the hope has been awakened that some of the other fatal infectious diseases, and especially scarlet fever, might be prevented as small-pox has been, by the substitution of a milder and modified disease, derived from the lower animals. As regards scarlet fever two propositions of great interest and importance have arisen: First, is there a disease in the bovine race which is a true scarlet fever, or which communicates genuine scarlet fever to man, and secondly, if there be such a disease, does it produce a mild and modified form of scarlet fever in man.

Many instances have been recorded in the last five or six years, in which epidemics of scarlet fever have arisen from the use of milk furnished by healthy cows and infected with the scarlatinous germ after the milking, but in the St. Marylebone and Hendon epidemic, occurring two years ago and described in the *British Medical Journal*, May 20, 1886, the outbreak of scarlet fever appeared to be clearly traced to diseased cows. Now the point to which I wish to call attention is this. The sickness of the cows was mild, not appreciably impairing their appetite, nor diminishing their milk, but the disease which the use of the infected milk produced is described as an "intense outbreak of scarlet fever." Instead of a mild disease being propagated from the cow, for which we are looking and hoping, the reverse occurred. A

mild form of the disease in the cow produced a severe one in man, so that it appears from the history of this epidemic that by inoculating with the bovine scarlatinous virus, we might produce severe and fatal epidemics, instead of a mild and modified form of the disease.

DR. STICKLER, in closing the discussion, said that if he produced only a slight and harmless attack of scarlatina by his inoculations he could see no objection to the use of the scarlatinous virus for this purpose. and when the terrible effects of the unmodified disease were taken into consideration, he thought it of extreme importance that a method of protection should be secured, if possible. As to the disease from which the Hendon cows suffered, it had, he thought, been clearly demonstrated that it was nothing else than scarlatina, since it was precisely the same affection as was ordinarily produced in cows by the inoculation of scarlatinous virus from the human subject.

Recent Literature.

Transactions of the Association of American Physicians. Second Session. Held at Washington, D. C., June 2d and 3d, 1887. Philadelphia: Printed for the Association. 1887.

The second volume of the transactions of this Association is issued with commendable promptness and in a most attractive typographical dress. It contains two hundred and fifty pages. The articles, seventeen in number, comprise: Hepatic Cirrhosis in Children, by Professor R. H. Howard, of Montreal; Direct Functional Murmurs and Obstructive Safety-valve Action in the Heart, by Dr. John Guiteras, of Charleston, S. C.; Pneumatic Differentiation, by Dr. H. A. Johnson, of Chicago; Methods of Research in Medical Literature, by Dr. John S. Billings, U. S. A. Two papers on Antipyretics in Fever, by Drs. H. C. Wood and Francis Minot; Sewer-gas Poisoning, by Dr. Henry Hun, of Albany; Aneurism of the Abdominal Aorta, by Dr. Israel T. Dana, of Portland. Two papers on Hemorrhagic Infarction, by Dr. Wm. H. Welch, of Baltimore, and Wm. Osler, of Philadelphia; Atrophy of the Gastric Tubules, by Dr. F. P. Kinnicutt, of New York; a third contribution to the study of Localized Cerebral Lesions, by Dr. E. C. Seguin, of New York; Forms of Typhoid Fever simulating Remittent Malarial Fever, by Dr. I. E. Atkinson, of Baltimore; The Frequency with which Lead is found in the Urine, by Dr. J. J. Putnam, of Boston; the "Bergeon" Treatment of Pulmonary Diseases is discussed by three writers: Drs. E. T. Bruen, F. C. Shattuck, and Wm. Pepper, none of whom found any considerable advantage to have been derived from the gaseous injections.

The readers of the JOURNAL have already been given some half-a-dozen of these papers in full, and from their quality may fairly judge of the standard of the contributions of this young and vigorous Association.

— A London druggist has hit the popular taste for good bargains. In his window he displays a card that reads: "Come in and get twelve emetics for one shilling."—*Texas Siftings.*

THE BOSTON

Medical and Surgical Journal.

THURSDAY, DECEMBER 22, 1887.

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94 BOYLSTON STREET, BOSTON, MASS.

STOGDALE vs. BAKER.

FOUR times in as many years Mrs. Annie Stogdale has come into court with her faithful legal advisor and has related to the twelve men on the jury and to such other men as chose to listen, the story of her alleged wrongs at the hands of Dr. W. H. Baker, and has asked that he be compelled to pay to her the sum of ten thousand dollars as a placebo for gynaecological malpractice and its consequences; telling her auditors with unaffected plainness all about the manner in which she was drugged and abused and made to lose her ovaries under false pretences at the Boston Free Hospital for Women, and forced to go through life unsexed, and with an unsightly hernia at the cicatrix of the opening through which the rape of her sexual glands was accomplished. Four times has she sat by with ingenuous unconcern while, for the defence, the jury was enlightened concerning the mysteries of her pelvic anatomy, physiology and pathology, in all their details. Four times has she, under oath, denied her own signature upon a document prepared before the operation for the removal of her ovaries, and giving her full and free consent to that procedure. Four times has her singular compound of facts, fancies, and falsehoods been met and controverted by clear evidence, and her counsel's theory of the medical aspects of the operation itself and its needlessness has been exploded by able expert testimony. And now, at the end of the fourth wearisome trial, a jury has agreed in deciding a question upon which its three predecessors declared their inability to agree, and has formally rendered its verdict that Dr. Baker is wholly free from the blame imputed to him by this misguided woman and the erratic people who, under the impulse of a misdirected philanthropy have given her their money and their sympathy.

The JOURNAL extends its congratulations to the defendant in this case that he has at length secured this personal vindication. We congratulate and thank him in a larger sense that, loyal to his profession, conscious of his rectitude, tenacious of his rights, he

resisted all inducements to compromise the affair by settlement, and met the issue squarely and fearlessly as often as his persistent adversary, longing for lucre, chose to raise it.

This example of endurance to the end should not be forgotten or unheeded by the medical profession. The settlement of suits for malpractice by the payment of money to avoid a trial is relatively economical, and is attended with the least degree of vexation and anxiety; but it is precisely the issue which unscrupulous lawyers, representing impecunious claimants, hail with satisfaction, and the direct tendency of such a course is to make the terms of the settlement increasingly exacting and more and more of the nature of blackmail. Therefore, when a defendant in a suit like the present one carries his case through to a verdict by a jury and wins his cause, he does much more than any other method can accomplish to discourage shyster lawyers and unprincipled claimants from bringing fraudulent suits.

One feature of this trial deserves special mention. Before entering upon the examination of witnesses the counsel for the defence moved, and the court granted the motion, that the plaintiff should file a bond, with proper securities, for the payment of all the costs of the suit, in the four trials, if in this trial the jury rendered a verdict for the defendant.

This proceeding is very unusual in the courts of Massachusetts; but it is plainly a very just and commendable one. We wish it might become a rule of universal application in actions of tort. It would be a distinct and effectual hindrance to unjust suits which are little else than blackmail in their motive. To the objection that poor but deserving plaintiffs would thus be placed under a serious if not controlling disadvantage, the answer is that if the counsel really believe in the justice and soundness of their client's cause, and are willing to assume the risk of a trial in other than a spirit of speculation, they can find at any time an easy way to meet this preliminary obstacle, and the discretion of the court may safely be trusted in fixing the conditions of the bond with equity.

Another thought is suggested by this remarkable series of trials. Ought not medical men to combine to protect themselves from the ever-impending risk of actions for malpractice, and to defend themselves successfully when such actions are brought? These litigations are expensive to the defendants in time, money and anxiety, and there are few who are disposed or can afford to engage in defending a suit if an easy and honorable way of avoiding it is afforded. But in unison there is strength; and if surgeons, obstetricians and all other medical men who love their profession, and recognize its true relation to the law, would join in a mutual association for medical defence, pledging themselves to pay assessments for the legitimate expenses of the best possible defence of any of their number unjustly charged with malpractice, we should hear less of trial by jury with physicians as

defendants. Such an association, by its very existence, would deter lawyers from bringing shaky suits into court, and it might become a power in securing legislation to the same end.

THE NERVE-REST CURE.

UNDER this head, James Muir Howe, in the last *Nineteenth Century*, discusses the Weir Mitchell treatment of nervous diseases.

Nervous subjects, says this writer, are generally regarded by doctors as most unsatisfactory patients. No sooner do they find such an one than they order him off to the mountains, or over the seas, anywhere to get rid of the trouble of treating him. Some affect to believe that nervous subjects feign their ailments for the purpose of attracting attention and sympathy. It is quite true, says Mr. Howe, that they frequently exaggerate their sufferings, but that is no reason for denying their existence. Nervous irritability is described as insanity of the nerves, and it is certainly quite as deserving of recognition and treatment as insanity of the brain. He whose brain is insane is generally oblivious of the opinion of his fellows, while he of insane nerves is usually acutely conscious of want of sympathy on the part of his friends. A harsh word or an unfriendly glance will worry him as much as a heavy loss. Indeed, many such sufferers are driven to drunkenness through dread of the daily annoyances of daily life.

The writer gives several instances in which strong mental control on the part of the patient has put a stop to perverted functional nervous action. Of these, we give one: A young lady in other respects healthy, had gastric nerves so wayward that they would allow only a very small amount of food to remain on the stomach. This condition produced both debility and inconvenience. Her physician told her that she might, by a strong mental effort free herself from the ailment. She tried her best, but failed. It became apparent that she did not possess sufficient will-power for the task. The physician decided to assist the will by inducing a strong emotion with respect to the ailment, and this he effected in the following manner: Going to the future husband of the lady he urged him to inform her that their union could not take place until she was cured. The time fixed for the marriage was near at hand, and the shock of such news had an immediately beneficial effect. The gastric nerves began to resume their normal functions from the moment of that interview.

Cases in which such treatment is beneficial are very rare. Even when successful in abolishing the ailment, it may prove highly injurious to the patient, who thus strains one set of nerves to control another, for if the higher nerves are not much stronger than the lower, general nervous prostration will ultimately supervene. Many local nerve affections carry off irritation from the nerve centres, just as an attack of gout in the great toe frequently relieves an irritable brain. It is

therefore dangerous to suppress a local symptom without previously removing any existing central disease. In the case just related, the central nervous system was healthy, consequently no harm resulted from suppressing the local symptoms.

Mr. Howe comes to the rational conclusion that the safest way to cure the majority of nervous affections, is by means of nerve-rest to reduce the general nervous excitability of the patient. It is highly injudicious to urge a nervously exhausted person to exertion before he has had rest sufficient to enable him to lay up a fresh store of nervous energy. Under the forcing system, one patient walked herself almost into a lunatic asylum to ward off a threatened attack of hysterical paralysis. This is an instance of the lower nerves being controlled by the higher to the detriment of the latter. It was ultimately decided to prohibit walking in this case, the power of reason being considered of more importance than that of locomotion.

The writer further dilates on the great advantage which has accrued to the therapeutics of nerve maladies by the systematic rest inaugurated by Dr. Weir Mitchell. Nerve reparation gradually but surely follows. The muscles by frequent passive exercise with massage and electricity, are braced up and kept from wasting, and thus are able to respond to the call of the renewed nerves.

Moreover, the passive exercises to which these patients are subjected, promotes general nutrition and enables the patients to tolerate the persistent over-feeding, which is a part of the treatment. The amount of exercise undergone in massage equals a walk of several miles daily, so that there is more appetite in two hours, than there used to be after a whole day's fast.

The treatment indicated is in a measure applicable to the minor degrees of nervous exhaustion. For one who cannot get a sufficient holiday, the best substitute is an occasional day in bed. Many whose nerves are constantly strained in their daily vocation, have found this out for themselves. A Spanish merchant in Barcelona told the writer of the review article that he always went to bed for two or three days whenever he could be spared from his business, and he laughed at those who spent their holidays on toilsome mountains. If we cannot avoid frequent agitation, we ought, says Mr. Howe, to give the nervous system time to recover itself between the shocks. "Even an hour's seclusion after a good lunch, will deprive a hurried, anxious day of much of its injury. The nerves can often be overcome by stratagem when they refuse to be controlled by strength of will."

FREQUENCY OF TWIN AND TRIPLET BIRTHS.

MEDICAL statistics, have a certain value, either as pertaining to the beginning, the duration, or the close of life. It does not follow that, because a city or a country practitioner has met two or three cases of trichinosis, or of fracture of the os calcis, or any other

rare disease or surgical lesion, upon a single street, within the same week, the same event will occur to him on the following week. One or two deaths only from the first mentioned cause have occurred in Massachusetts in the past twenty years.

The probable error in computation from small, is vastly greater than that from large numbers. The obstetrician occasionally writes to know the ratio of twin or triplet births to 1,000, 10,000, or more labors. Other things being equal, such as race, climate, character of population, etc, the variation between any two series of one thousand labors, will usually be greater than the variation between two series of ten thousand labors.

We have in the Massachusetts Registration Reports, an opportunity to study the ratio in one million births. In the twenty-five years ending with 1886, there were registered in Massachusetts, 1,016,278 births. There were also registered in the same time 9,028 pairs of twins, and 109 cases of triplets. This gives a ratio of one case of twins in every 113 labors, and one case of triplets in 9324 labors. So that the common statement that one case of twins occurs in 100 labors, and one of triplets in each 10,000 labors is not far from correct.

In the period named, the greatest frequency of twins in any year was in 1865, when there was one case registered in 96 births, and the least frequency was in 1885 when there was one case of twins in 130 births. In 1881 there were registered nine cases of triplets, or one in 5024 births and in 1879, but one case in 40,205 births.

As an instance of marked departure from the above, and also an illustration of the error in dealing with small numbers, two cases of triplets occurred in the writer's practice in a series of less than 300 labors.

ANNUAL REPORT OF THE MARINE HOSPITAL SERVICE.

THE report of the supervising Surgeon-General of the Marine Hospital Service shows that the number of sick and disabled seamen to whom relief has been furnished during the past year is greater than any preceding year since the organization of the service. The chief part of the report proper is occupied with material relating to quarantine, the yellow fever epidemic at Key West, and kindred matters. The appended tables are numerous and full. Among them is a statement of the mortality of passengers on voyages from foreign ports to the United States for the year preceding June 30, 1887.

A large number of pages are devoted to selected cases from hospital practice, and records of autopsies. The cases show a very large amount of surgery done during the year. The radical cure of hernia is given considerable prominence in the service evidently. The table of operations shows that eleven cases were operated upon, with one death. Six of these cases are given at length, but the fatal case is not among them.

THE DISCUSSION ON THE CANCER BACILLUS BEFORE THE BERLIN MEDICAL SOCIETY.

THE scientific men at the Society of Internal Medicine of Berlin, Session 28th of November, who discussed Scheurlen's claims to the finding of the cancer bacillus, with one exception, were not disposed to make much account of Scheurlen's alleged discovery. Fraenkel thought Scheurlen's culture methods defective. It is a little singular that the bacillus which the latter thinks to be the *vera causa*, should proliferate so rapidly in the culture media, and in almost all nutrient media, while in tumors it multiplies so slowly; for cancerous growths are notoriously of slow development. It is, remarked Fraenkel, a matter of experience that a bacillus which multiplies with rapidity in most culture media, also multiplies equally fast when it is of pathogenic nature. But this, as before said, does not agree with the slow development of cancer.

Moreover, from all that we know of the action of the pathogenic schizomycetes we never find them giving rise to epithelial products. The bacilli develop only in the blood or in the connective tissue where there are blood vessels and lymphatics; and when they provoke processes of proliferation as, for example, in cases of tuberculosis, lepra and syphilis, we always witness the development of typical products, as the granulomata of Virchow, but we never observe an epithelial proliferation.

Fraenkel thought that Scheurlen had not taken sufficient pains to exclude the possibility of a variety of bacteria in the case given with which he originated his cultures. This can only be done by a process like Koch's "fractional" method, which would require first diluting with water or liquified gelatine the cancer juice, then "sowing" it in a suitable medium, and on glass slides from which the air is excluded, watching the development of spores. In this way pure cultivations might be obtained, and it could easily be perceived whether there were present several distinct species or only one. Fraenkel was disposed to admit that carcinomata belonging, as they do, to tumors that are the subjects of rapid degeneration, either caseous or fatty, are likely to be the prey of numerous kinds of schizomycetes, which penetrate them from the exterior. In other words, secondary infections might easily occur. He believed cancer to be an infectious disease, but was not clear that it was of bacillary origin.

At the same meeting, Guttman expressed his satisfaction with the results obtained by Scheurlen, and read a letter from Dr. Schill, of Dresden, in which the latter, who has been for the past five years seeking for the microbe of cancer, states that he has discovered a bacillus resembling that described by Dr. Scheurlen.

MEDICAL NOTES.

—The Emperor of Brazil has had glycosuria for five or six years, and the symptoms have lately become worse.

—Press reports from Selma, Ala., state that a horrible murder was committed there on December 18th by W. W. Jordan, a crazy faith-doctor. He had been living in Selma for the past twelve months, and had in that time acquired great influence over the negroes, whom he told that he had come to redeem the Jews. He arranged for a passover-feast at the house of two negro women on the outskirts of the city, and told them that a sacrifice was necessary. One said that she was willing to offer herself, and laid her head on the table. Jordan thereupon took a sword and struck her several blows on the neck and stabbed her a number of times, killing her instantly. The body was then dragged out into the street by the two other women.

—The Medical Society of the County of Kings, New York, has authorized the publication of a monthly medical journal, to be known as the *Brooklyn Medical Journal*, to contain the transactions of each meeting, together with the papers read, and the discussions thereon. It is to be edited by five members of the society, appointed by and under the control of the council. It is expected that it will contain the transactions and papers of the Pathological, the Surgical, the Medical, Microscopical, the Pharmaceutical, and the Dental Societies.

BOSTON.

—The Boston Cremation Society has failed to raise the capital stock of \$25,000 requisite to erect its buildings; only about \$7,000 were subscribed, and this sum is to be returned to the subscribers, who are referred to the Massachusetts Society of similar aims.

NEW YORK.

—The Methodist Episcopal Hospital, of Brooklyn, which was formally opened last week, is an imposing structure, consisting of three separate buildings of brick, trimmed with freestone, occupying an elevated site just west of Prospect Park, which covers an entire city block. The grounds are rectangular, extending about seven hundred feet east and west, and two hundred feet north and south, and include more than three acres. The main building and the two pavilions, one on either side of it, are connected only by light corridors on the ground floor. Mr. George I. Seney, the founder of the hospital, has given in all \$410,000 towards its erection and equipment, his only stipulation being that the institution should be open to individuals of all creeds alike. In addition to this amount, \$70,000 has been raised from other sources; but a considerable sum is still needed to fully complete the buildings, when there will be accommodations for two hundred patients. Among the speakers at the dedication ceremonies was Dr. Horatio C. Wood, of Philadelphia.

—The Board of Estimate and Apportionment have fixed the appropriation for the expenses of the Board of Health for the year 1888 at \$394,287.

—In order to get some more effective check upon bad plumbing than at present exists, President Bayles, of the City Board of Health, has secured from

the Corporation Counsel an opinion that it lies with the Department of Public Works to refuse a permit to connect with the Croton water mains any building in which the plumbing is condemned as illegal by the Health Board.

—For the Christmas dinners of the inmates of the various institutions under the charge of the Department of Charities and Correction 12,990 pounds of chicken, and 3,445 pounds of turkey will be required. The Insane Asylum on Ward's Island receives the largest amount of poultry of any one institution, on account of its more numerous population, 1,850 pounds of chicken, and 500 pounds of turkey.

Miscellany.

THE CONVERSION OF BENIGN GROWTHS OF THE LARYNX INTO MALIGNANT.

At the recent Congress of German Naturalists and Physicians, Professor Schnitzler read a paper upon the subject of the "Malignant Degeneration of Benign Growths in the Larynx." He first described, as we learn from the *Lancet*, a case of epithelial carcinoma with secondary growths in the lymphatic glands and pleura, in a patient who some months previously had been operated on for papillomata, the recurrence of which had been treated by cauterization. The patient subsequently came under Professor Schnitzler's care with symptoms of perichondritis, but the carcinomatous nature of the disease was recognized, and the supervention of pleurisy some weeks later was considered to be due to a diffusion of the malignant disease. This diagnosis was confirmed after death, when, besides the laryngeal and pleural carcinoma, there were found necrosis of the thyroid cartilage and gangrene of the right lung. Professor Schnitzler remarked upon the rarity with which benign tumors take on malignant characters, he having seen such conversion only three times among hundreds of cases of laryngeal papillomata. He left undetermined the question whether the operations and frequent cauterizations induced the malignant disease, and said that endo-laryngeal operations upon papillomata should be discountenanced on this ground. He also spoke of the difficulty in the differential diagnosis between benign and malignant growths, as well as between laryngeal syphilis and carcinoma. Dr. Morelli related the case of a man whose larynx was so blocked by papillomatous growths as to necessitate tracheotomy prior to a thyrotomy with complete ablation of the new growth and galvano-cauterization of the laryngeal wound. The patient left apparently cured, but wearing the tube. After the lapse of a year, he returned with evident carcinomatous degeneration of the papilloma, which filled the larynx to the level of the tube, which was partially displaced and blocked by it. This was the only case of the kind that Dr. Morelli could recall within a period of nearly ten years. Dr. Seifert referred to a case published by Böhlmer, where papillomata (histologically examined) had been treated by Professor Gerhardt and himself for a year, but which passed into carcinoma, for which the extirpation of the larynx was practised; but the patient did not long survive the operation.

Correspondence.

HEBRA'S CURE FOR DYSPEPSIA.

VIENNA, AUSTRIA, December 5, 1887.

MR. EDITOR,—Not long since I had brought to my knowledge the fact, that Messrs. T. K. Cook & Co., chemists, of New York, are manufacturing and advertising a remedy under the title of "Dr. Hebra's wonderful cure for Dyspepsia."

In justice to myself I wish to say, that in spite of the statement made in their circular, I have never placed the result of any analysis, nor any antidotes against dyspepsia in Messrs. Cook & Co.'s hands. Further, that I have given them no right to use my name and that they are not authorized in any way whatever to sell the remedy under the title used.

The great distance of my residence from New York renders it difficult, if not impossible for me to prosecute Messrs. T. K. Cook & Co. for the misuse of my name, so that I can not do better than to warn the public through your columns against a remedy which has been offered to it in fraudulent guise.

If you will kindly publish this letter you will greatly oblige,
Yours very truly,
DR. HEBRA.

ANOTHER EPITAPH.

BOSTON, December 17, 1887.

MR. EDITOR,—In your last issue you gave an epitaph of a London dentist. This one, evidently suggested by her physician, a distant relative of mine, found on a gravestone in a cemetery, Surrey County, England, may amuse your readers.

"Here lyes Elizabeth
Betsy Ogden,
1674.

Her lyved no longer
Cos her——cooden."

Yours truly,
WILLIAM M. OGDEN, M.D.

LETTER FROM BERLIN.—SCHEURLIN'S CANCER BACILLUS.

BERLIN, December 4, 1887.

MR. EDITOR,—Those who watched the painful fetal development, birth and growth of the *Bacillus Tuberculosis*, and of the *Coccus* of *Erysipelas*, will not be surprised that the *Bacillus* of Cancer is suffering parturition throes quite as tormenting. Every time a new pathogenic germ is heralded, the mass of unlucky bacteriologists, who have no concern in it, rise up to strangle it before fully born. Six years ago the sages of pathology predicted its coming, basing their opinion upon a logical balancing of anomalous instances. Every student who has watched with becoming intelligence the march of science, who has seen the old landmarks of aetiology and pathology levelling themselves and giving place to established facts, who has noticed how one well established discovery led up to another, and how probable the deduction was that anomalous forms of disease might be due to similar causes, will not now be astonished that Scheurlin has announced a new bacillus. Fränkel's arraignment, to those who can read between the lines, amounts to nothing as scientific argument. S. Guttman and Stabsarzt Schill both confirm the results after personal experimentation and investigation. Schill has been for years engaged in the same line of inquiry. Not in one instance nor in two did Scheurlin find these bacilli, but in every case examined by him. Because Koch was not fortunate in finding it, this has no bearing whatever upon the question; neither did he find the coccus of *erysipelas*, but yet no one to-day doubts Fehleisen's work. If it be true that certain eminent doctors in New York have travestied this matter, as the telegrams of yesterday report, it only lowers them as scientists in the eyes of those competent to judge, and presupposes a snap judgment of a subject which they have never investigated, and concern-

ing which, consequently, they are incompetent to pass an opinion. There is a bacillus of cancer just as really and absolutely as there is one of consumption. Its morphological characteristics are not yet clearly defined, and there are many other doubts to clear up and questions to answer. But all of this can come only after many months of hard and patient labor. It stands exactly upon the same ground that the coccus of *erysipelas* possessed when announced, and it will possibly go through the same fiery ordeal that all original work must go through before accepted. To be a competent critic there are certain well-recognized prerequisites: (1) A man must be thoroughly well trained himself in habits of research, and especially in those lines of inquiry related to the subject in hand. (2) He must come to his work free from any preconceived ideas that would warp his judgment, and free from personal feeling which would belittle his learning.

To those who know the ins and outs of professional feeling in Berlin the fact that the discovery was made in Leyden's clinic and not elsewhere is not without significance.

Very truly yours,

HORATIO R. BIGELOW, M.D.

"CÆLEBS," "BENEDICK" AND "GAMBOGE."

CRANBERRY CENTRE, December 19, 1887.

MR. EDITOR,—The letters printed in the last two issues of your highly esteemed weekly, from Cælebs and Benedick have interested me considerably. They bring up old times again. I knew Gamboge well enough, and recollect perfectly well how he first came to get that instrument Benedick mentioned. It was this way: Along about '54 or '55, there was an old maid from Boston, Mass., came to board for the summer at the Meadows. She was a curious sort of a critter—sort of high-strung, and called herself thirty-five and an invalid. I can see her now a teetering along the main street, with a hoop-skirt as big as a hay-stack. The folks where she boarded used to be (and are still), patients of mine; so when she began asking about a doctor, they told her "that I was, etc." But she said I lived too far away, and as she often needed medical attendance in a hurry, she couldn't think of depending on a man living four miles off—so Gamboge got the case and a circus it proved. Every morning she was as chipper as a lark, full of talk "about Shakespeare and the musical glasses" as an old aunt of mine used to say, but when Gamboge had got well tucked in for the night, she would yank him out of bed, and when he got there she'd have lost her voice and make signs to him that something had come up from her lower splanchnic cavity and was choking her to death. Of course, if she had been a native, he would very soon have tried what cold water and mist assafed, could do towards making her let his night-bell alone. But the fact was, she sort of topped it over him with her city airs and her talk about Ossian's poems and the Waverley novels, and then again, next morning when he entered his \$1.50 on his books (the regular charge to the natives at that time, for a night visit being only 75 cents) he'd feel somewhat consoled for his broken sleep. He dosed her well (always gave medicine enough), with valerian, elixir pro., etc., but nothing seemed to hit the case until she explained to him that hers was a case of "reflex nervous trouble of internal origin," and Gamboge felt obliged to buy the specimen which amuses Benedick so much; this, though "old-fashioned" in style now, answered its purpose very well until one fine morning the patient took the early stage for Boston, forgetting his bill. The way the doctor swore was terrible.

The "presence of older women" and the "sheet" seems to amuse Benedick very much. The least he has to say on that subject the better, Gamboge with all his faults was an honorable, clean and decent practitioner, and did not feel called upon to carry round a bag full of new-fangled speculums on his daily visits, rattling his nonsensical instruments, nor did he think, as some of the young men nowadays seem to do, that there is a "passary" which suits

every case, and that a cotton tampon is needed to cure everything in a woman.

I remember that case published in '46, very well, the hemlock decoction was such a "success" that when I ligated those hemorrhoids the next spring, they seemed tougher than piles usually are. I never published my part of the case, at least *not in print*.

Now about those two young men who settled at the Meadows last year: Living as I do, four miles off, and having arrived at an age when people are not apt to fly off the handle, I can freely say without (I should hope) being called prejudiced, that I don't approve of either of them. Benedick rides up and down the turnpike as if Satan himself was after him; while Cælebs sits at his office windows, rolling little paper cigars. "Feathers and Lead" I call them, when I happen to talk about them to folks who like a joke.

Benedick "scores a point," as he calls it, by making that spavined mare for which he gave his note last month, haul him over here to the Centre once or twice a day, (I believe he *does* doctor a black woman who lives over by the mill-pond), while Cælebs, who has traded his horse for some old books, just keeps his chair down, and thinks the geese will come without dough. Cælebs seems to feel sure, and Benedick possibly believes, that Mrs. B. is going to be a great help to his practice. *May be*. But I have been in physic over forty years, and I never yet knew a woman alone to make a man. Yours respectfully,

FULLER WORMWOOD, M.D.

[We must beg to decline future correspondence on this subject of the "Doctor's Wife." An exception, however, would be made in favor of Mrs. Benedick, should she see fit to address the JOURNAL. *Place aux dames*. ED.]

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 10, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	669	246	18.00	21.00	1.05	9.60	3.60
Philadelphia [Dec. 3]	993,801	318	93	12.40	13.64	3.41	5.27	1.55
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	139	57	20.16	10.80	3.60	7.92	—
Boston	400,000	189	61	14.84	16.43	.53	5.29	5.83
New Orleans	242,750	114	31	11.44	9.68	.88	5.28	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	88	25	25.46	12.54	6.84	3.42	—
Pittsburgh	210,000	89	28	23.52	2.24	14.82	4.48	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	49	19	22.44	12.24	4.08	10.20	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	9	5	22.22	—	—	—	—
Charleston	60,145	42	17	13.28	6.64	6.64	—	—
Portland	40,000	7	1	42.84	14.28	—	28.56	14.28
Worcester	68,383	23	8	17.40	17.40	4.35	4.35	—
Lowell	64,051	21	5	19.04	—	—	19.04	—
Cambridge	59,660	15	7	13.33	26.66	6.66	—	6.66
Fall River	56,863	20	11	15.00	20.00	—	5.00	—
Lynn	45,861	14	5	14.28	14.28	—	14.28	—
Lawrence	38,825	20	8	25.00	10.00	15.00	—	2.00
Springfield	37,577	18	6	11.11	16.66	—	11.11	—
New Bedford	33,393	20	8	30.00	5.00	—	25.00	—
Somerville	29,992	10	3	—	10.00	—	—	—
Salem	28,084	9	2	—	11.11	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	2	33.33	—	—	8.33	25.00
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	10	3	20.00	20.00	10.00	—	—
Gloucester	21,713	8	2	—	12.50	—	—	—
Brockton	20,783	8	1	12.50	12.50	—	12.50	—
Newton	19,739	6	4	16.66	—	—	—	16.66
Malden	16,407	5	0	20.00	—	20.00	—	—
Fitchburg	15,375	7	3	14.28	—	—	—	—
Waltham	14,609	4	1	—	—	—	—	—
Newburyport	13,716	13	3	30.76	15.38	—	30.76	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,956; under five years of age 665; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 333, acute lung diseases 300, consumption 235, diphtheria and croup, 143, typhoid fever 53, scarlet fever 47, diarrhoeal diseases 25, malarial fever 19, puerperal fever 11, cerebro-spinal meningitis 11, erysipelas nine, whooping-cough eight, measles six. From diarrhoeal diseases, New York and New Orleans six each, Philadelphia, Boston, District of Columbia and Charleston two each, Baltimore, Pittsburgh, Nashville, Fall River and New Bedford one each. From malarial fever, New York eight, Baltimore four, District of Columbia three, New Orleans two, Nashville and Charleston one each. From puerperal fever, Pittsburgh three, District of Columbia two, New York, Philadelphia, Baltimore, New Orleans, Milwaukee and Haverhill one each. From cerebro-spinal meningitis, New York and Milwaukee three each, Worcester two, Philadelphia, Fall River and Law-

rence one each. From erysipelas New York four, Philadelphia and Boston two each, District of Columbia one. From whooping-cough, New York three, Baltimore two, Philadelphia, Boston and District of Columbia one each. From measles, Baltimore five, District of Columbia and Fitchburg one each.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 26th, the death-rate was 23.5. Deaths reported 4,158; infants under one year of age 936; acute diseases of the respiratory organs (London) 560, scarlet fever 126, whooping-cough 115, measles 92, diphtheria 44, fever 44, diarrhoea 41, small-pox (Sheffield 16, London and Bristol one each) 18.

The death-rates ranged from 13.8 in Leicester to 34.4 in Blackburn. Birmingham 25.0; Bradford 25.1; Brighton 19.8; Hull 19.9; Leeds 21.3; Liverpool 24.9; London 23.0; Manchester 26.4; Nottingham 24.0; Sheffield 23.1; Sunderland 17.7. In Edinburgh 23.8; Glasgow 24.5; Dublin 33.8.

The meteorological record for the week ending December 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Dec. 10, 1887.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 4	30.39	40.0	41.0	34.0	87.6	88.0	88.0	87.0	N.	S.E.	S.	10	12	8	O.	O.	O.		
Monday, ... 5	30.05	42.0	50.0	36.0	88.0	90.0	82.0	87.0	S.	W.	W.	8	7	12	O.	O.	C.	4	.07
Tuesday, ... 6	30.19	37.0	44.0	32.0	76.0	52.0	77.0	68.0	W.	W.	W.	12	13	12	C.	C.	C.		
Wednes, ... 7	30.24	36.0	43.0	28.0	79.0	72.0	79.0	77.0	N.W.	S.E.	S.	4	4	6	C.	O.	O.		
Thursday, ... 8	30.25	40.0	44.0	38.0	81.0	72.0	82.0	78.0	W.	N.E.	N.	7	9	8	C.	F.	F.		
Friday, ... 9	30.53	34.0	37.0	33.0	81.0	72.0	76.0	76.0	N.	E.	S.E.	8	12	11	O.	O.	C.		
Saturday, ... 10	30.32	42.0	46.0	31.0	82.0	92.0	96.0	90.0	S.E.	E.	S.E.	3	8	12	O.	O.	R.	6	.04
Mean, the Week.	30.281	38.7	44.0	33.0				80.4										10	.11

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 10, 1887, TO DECEMBER 10, 1887.

STERNBERG, G. M., major and surgeon. Assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md.

CLEARY, P. J. A., major and surgeon. Assigned to duty at Fort Wingate, N. M.

ANDERSON, C. L. G., first lieutenant and assistant surgeon. Assigned to duty at Fort McDowell, Ariz.

TAYLOR, A. W., captain and assistant surgeon. Assigned to duty at Fort Robinson, Neb.

APPEL, A. H., captain and assistant surgeon. Assigned to duty at Camp at Highwood, Ill., relieving assistant surgeon H. O. Perley.

PERLEY, H. O., captain and assistant surgeon. Will rejoin his proper station (Fort Wayne, Mich.) S. O. 285, A. G. O. December 8, 1887.

BANISTER, W. B., first lieutenant and assistant surgeon. Ordered to proceed at once from Fort Lowell, Ariz., to Fort Wingate, N. M., and report to the commanding officer for duty. S. O. 128, Department of the Arizona. December 1, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Ordered for duty at Fort Niobrara, Neb. S. O. 286, A. G. O. December 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 17, 1887.

HUDSON, A., medical inspector. Ordered to the "Trenton."

BATES, N. L., medical inspector. Detached from the "Trenton," and placed on waiting orders.

SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at the Hall of the Roxbury City Guards, 67 Warren Street, Roxbury, December 27, 1887, at 7.45 P. M. Communications: I. Asthma and its Treatment by Lobelia, by W. C. B. Fifield, M.D. The discussion will be opened by Dr. H. M. Cuts, with a consideration of other methods of treating asthma. II. Various Influences Affecting Lactation, by A. P. Perry, M.D. The discussion will be opened by Dr. F. W. Vogel. III. Exhibition of Pathological Specimens, by W. P. Bolles, M.D.

S. ALLEN POTTER, M.D., Secretary.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT.—The Section for Obstetrics and Gynecology will meet at 19 Boylston Place, on Wednesday, December 28th, at 7.45 P. M. Business: Election of chairman. Discussion: The Treatment of "Posterior Positions." The discussion will be opened by Dr. C. M. Green and Dr. Edward Reynolds.

GEORGE HAVEN, M.D., Secretary.

OBITUARY. ALONZO F. CARR, M.D.

Hon. Alonzo F. Carr, M.D., who died at Goffstown, N. H., December 16th, aged seventy years, was born in Goffstown, and was the son of the late Judge Jesse Carr. He graduated at the Dartmouth Medical College in 1839, and had been in constant

practice in his native town ever since. He had served in both branches of the State Legislature. A widow and four sons survive him.

RESOLUTIONS ON THE DEATH OF THE LATE DAVID M. PARKER, M.D.

At the Twentieth Annual Meeting of the American Academy of Dental Science, held in Boston, November 16, 1887, the committee appointed to submit resolutions concerning the death of Dr. David M. Parker, having attended to their duty would report the following:

Resolved, That the American Academy of Dental Science has received with sincere sorrow the intelligence of the decease of our late respected friend and associate, David M. Parker, M.D., of Boston, an Honorary Member and former president of this Society.

Resolved, That by the death of Dr. Parker, the Academy has lost one of its most worthy members, a man of excellent judgment and skill in his profession, and always interested in all movements looking towards the better organization and education of the profession and the advancement of its practice. He was highly esteemed in the community in which he lived, because of his kindly virtues and his earnest, upright and sincere life.

Resolved, That the proceedings of the Academy this day, in honor of our late lamented brother, be engrossed upon the records, and communicated to the widow of the deceased, with the assurance of our deep sympathy in her bereavement. Also, that a copy be transmitted to the *Independent Practitioner*, the *Dental Cosmos*, and the *Boston Medical and Surgical Journal*, for publication.

ELISHA G. TUCKER }
JACOB L. WILLIAMS } Committee.
EDWARD N. HARRIS }

DEATH.

Died, at Vineyard Haven, Mass., December—, 1887, John Manchester Smith, M.D., M.M.S.S., aged sixty-one years.

BOOKS AND PAMPHLETS RECEIVED.

Roman Fever. By Gregorio Fedeli, M.D., of Rome. Reprint. 1887.

The Treatment of Neuralgia in General Practice. By Gustavus Elliot, A.M., M.D., New Haven, Ct. 1887.

Loisettian School of Physiological Memory, or the Loisettian Art of Never Forgetting, etc. By Prof. A. Loissette, 237 Fifth Avenue, New York.

The Rectum and Anus. Their Diseases and Treatment. By Charles B. Ball, M. Ch. Univ. Dub., F.R.C.S.I. With fifty-four illustrations and four colored plates. Philadelphia: Lea Brothers & Co.

The True Nature and Definition of Insanity. By C. H. Hughes, M.D., etc. Former surgeon United States Army, late superintendent and physician-in-chief Missouri State Lunatic Asylum, etc. (Reprint). 1887.

The Throat and its Diseases, Including Associated Affections of the Nose and Ear. With one hundred and twenty illustrations in color, and two hundred engravings. Designed and executed by the author, Lenox Browne, F.R.C.S.E., etc. Second edition, rewritten and enlarged. Philadelphia: Lea Brothers & Co. 1887.

Original Articles.

A COMPARISON OF GRADUAL DILATION, DIVULSION, INTERNAL AND EXTERNAL URETHROTOMY IN THE TREATMENT OF URETHRAL STRICTURE.¹

BY F. S. WATSON, M.D.

Surgeon to Out-patients, Boston City Hospital, Surgeon to Genito-Urinary Department, Boston Dispensary.

[This paper is intended to be little more than a framework upon which to hang a discussion of the subject, and is limited to the operative measures in the title. Organic stricture only is considered.]

I shall assume that there are now comparatively few surgeons in this country who do not accept Dr. Otis's conclusions in regard to the calibre and varying sizes of urethrae, and the proportion between the circumference of the penis and the urethra it contains, that is, that people have different sized urethras just as they have different sized noses. The average urethra is 32 Fr.; that this sized urethra will be found in a penis which measures three and one-fourth inches in circumference; that for every increase of one-fourth inch in the circumference the urethra will be two millimetres larger. So that when we talk about restoring a strictured portion of the urethra to its normal calibre we have these figures in mind.

These statements are not accepted by many foreign surgeons. And the result of their operations are the less enduring by just so much as they are disregarded.

I also assume that strictures of the anterior urethra contract more readily after dilatation than those of the deep urethra, and that strictures of the meatus contract most readily of all.

Starting, then, on this basis, the operations may be considered in the order named, dwelling only on the two important factors affecting the decision of choice of method, namely, their relative dangers and the permanency of their results.

(1) Gradual dilation is generally agreed to be the safest method of restoring the calibre of the urethra. Its mortality does not rise above one per cent. The method cannot be advantageously applied to resilient strictures, to impermeable strictures, to such as are so dense that the force requisite to traverse them converts the operation into divulsion. And, last but not least, should not be continued where constitutional symptoms appear during its use. I have seen several times the advantage of the bolder course in these cases, the last being one upon whom I recently made three attempts to dilate a stricture at five and one-fourth inches. Each attempt was followed by chill, fever and retention. I divided the stricture, as well as some anterior ones, freely with internal urethrotomy. The patient has had not the slightest disturbance since. This experience, as well as others, reiterates the statement made by Sir Henry Thompson in relation to this point, who observes:

"In relation to those cases in which rigor almost always occur after passing a bougie. I know nothing so admirable as the results of internal urethrotomy. . . . Even the operation will not be followed by any rigor, nor will the patient be likely to experience another throughout his subsequent treatment."

I do not know of any one who claims permanent

¹ Read before the Surgical Section of the Suffolk District Medical Society, Nov. 2, 1887.

cures of stricture by gradual dilatation, but by way of exception in newly-formed ones. The contrary opinion, is that generally and strongly expressed. Dr. Keyes, for instance, says: "Occasionally, I believe, cure results from dilatation of strictures of the deep urethra, but very rarely if the stricture has any pronounced fibrous character."

Dr. McBurney says: "I do not think that gradual dilatation ever cures an organic stricture of the anterior or posterior urethra."

Dr. S. W. Gross, in the discussion in New York in 1878, said "he considered dilatation utterly unavailing as a curative procedure."

Dr. Gouley, on this occasion, resorted to gradual dilatation first and tried to effect a cure by this means and had done so, having had some (how many not stated), cases under observation for ten years; where this did not succeed after a reasonable time he would do internal urethrotomy.

Mr. Berkeley Hill similarly says, unfortunately dilatation fails to obtain an expansion which does not shrink again, and with the exception of an early stricture is a most unsatisfactory process.

Dr. Weir thinks that dilatation is entirely ineffectual in the anterior urethra, but being safer in the deep than other operations uses it there when he can do so, but does not expect to cure by it. My own experience with dilatation is derived from the treatment of over a hundred cases, of which I have been able to keep some knowledge, and it accords with the opinions above in relation to permanent results. I have had six cases in which a cure seemed to result; all were of recent formation and wide calibre. In the rest I could never bring about a permanent result, often after trying months, in some cases years, and carrying the dilatation sometimes to overstretching. I have had one case of cystitis and pyelitis follow the use of sounds, and one of cystitis alone. The chief reason for using gradual dilatation is that it allows the patients to go about their business. In the deep urethra, except in those cases where rigors, etc., follow its use, it is safer than divulsion or internal urethrotomy. The method on the other hand is responsible for more bad urethras (false passages) than anything else. It happens to the most skilful occasionally to do damage to the urethra by the use of sounds, and just so much more often to those who have less skill and experience. The steel sound has a powerful leverage, and chronically inflamed mucous membrane is easily torn.

Divulsion is chiefly associated with the name of Perreve and Voilemier in France, and Holt in England. Its mortality is from one per cent. to five per cent.

Cases, Deaths.		Cases, Deaths.	
Holt	217 0	Caswell	15 2
Weber	6 0	Hill	120 2
Ashton	13 0	Fayer	16 0
Gouley	32 5	Christopher Heath	40 6
University Hos.	87 6	Le Dentu	24 2
Total, 590 cases, with 23 deaths, + 3%			

I know of no one who claims permanent cures by this method, but by way of exception. It is only fair to say, however, that but few operators carry the splitting or dilatation subsequent to it to sufficiently high numbers, an incompleteness which internal urethrotomy also labors under in Europe. Dr. Cabot tells me, that when this is done, he has seen enduring results. With this exception and the fact that early strictures in exceptional instances as by dilatation may be cured by this method, I have not found any

claims to permanent cures. Personally, I have never seen one, but, on the contrary, have thought it the rule to find the relapses, which I have seen after the operation in the hands of those who practice it, associated with dense deposits of connective tissue, very difficult to dilate. In many of the cases recorded in the Massachusetts General Hospital and Boston City Hospital, of *relapsed* strictures, I have found, when admitted for tight, dense strictures, they had already had divulsion performed at varying dates previous.

The reason for this is to be found, I think, in the nature of the scar made by the operation of divulsion. The wounds inflicted are beyond guidance as to direction, extent and depth. There may be one clean longitudinal rent, or many, the direction is sometimes in the long axis of the canal, sometimes as a jagged tear obliquely across it. In these respects the operation not only lacks scientific accuracy, but what is more important, lays the foundation for denser and less tractable connective tissue than was originally there. *Outside* the urethra it will be conceded that a scar resulting from the rending or bruising of the tissues ends in greater impairment of function of the injured part, and larger deposit of connective tissue than a clean cut. Is there any reason to believe it will be otherwise *in* the urethra?

This theoretical reasoning and practical experience, so far as I have observed, support each other.

Like divulsion, internal urethrotomy had its origin in France, and has been extensively practised there ever since. The mortality is the same as that of divulsion, from one per cent. to five per cent.

Cases. Deaths.		Cases. Deaths.	
Sedillot	21 1	Le Dentu	24 2
Gosselin	16 1	Terrier	11 0
Maissoneuve	66 3	Otis	600 0
Trelat	4 0	Teevan	53 0
Dumarquay	12 0	Chr. Heath	130 7
Bonilt	5 0	Coulson	206 10
Desormaux	10 0	Sir H. T.	340 6
Reybard	14 0	Maston	333 0
Perrin	15 0	Watson	23 0
Guyon	459 20	Tilden	18 0
Mallez	180 2		

Total, 2540 cases, with 52 deaths, + 2%.

My own experience is small, being limited to twenty-three cases, without a death or serious symptom.

Is there any difference between the two operations when applied to the deep urethra? The only one is the greater liability to hæmorrhage from deep cutting than from deep divulsion. I can find no greater mortality on the score of pyæmia, shock, infiltration, extension of inflammation, suppression, etc. It is, however, very rare to hear of a death from hæmorrhage due to deep cutting. But many of the most ardent advocates of the method do not cut beyond five inches, on account of this danger, or at any rate anxiety. But the great advantage claimed for internal urethrotomy is that it produces more cures and permanent results than any other operation. This advantage is claimed in varying degrees by different operators, as will be seen from the following quotations, in which I have included, also, the opinions of the relative merits of divulsion and internal urethrotomy as compared with each other.

Sir Henry Thompson, after giving it as his opinion that urethrotomy is the safest and best and most enduring in its results, does not claim much for it as a radical cure. "While I am free to confess that my

experience does not warrant me in promising immunity from return, we may often regard the period of return as remote. Now and then I have met with a case in which the patient's troubles have not reappeared."

His opinion of divulsion is thus expressed: "Divulsion, at one time so much in vogue, now so completely and properly neglected."

Berkeley Hill, in *British Medical Journal*, 1879, in speaking of the two operations, says: "I have abandoned the use of divulsion for its unsatisfactory results. This is manifested, on the one hand, by the speedy shrinkage of the split tissue to its former narrowness, or beyond it, and on the greater difficulty which ensues on a second course of treatment, a new formation of fibrous tissue, the result of the operation occurs." Mentions two cases of divulsion which relapsed in eighteen and five months respectively, and were found much narrower and denser than at the first operation.

Internal urethrotomy is a safe proceeding, while it has this crowning advantage that it gives, in all cases, a period of relief from stricture always measured by years, and often by a long term of years.

Teevan, speaking of permanent results of the two operations in 1880 *Lancet*, October 2d, says: "I can state from personal examination of hospital and private patients years after they have been operated upon by different surgeons, that the tough non-dilatable cicatrices resulting from divulsion contrasted very unfavorably with the soft, supple, dilatable splices inserted by internal urethrotomy."

Coulson, 1884 *British Medical Journal*, Sept. 29th, considers that internal urethrotomy gives much the most enduring results. After divulsion the cicatrices often give rise to contractions as resistant as traumatic strictures.

A. Swinford Edwards thinks that relapsed strictures after divulsion are much more dense than the original disease was.

William Thornley Stoker, *Dublin Journal of Medical Science*, 1885, vol. 79, p. 410, says: "In the early years of my practice I performed divulsion frequently, and the best expression of my opinion in regard to it is that I have completely relinquished it for internal urethrotomy. The return of stricture after divulsion is as much the rule as it is the exception after urethrotomy."

In London, divulsion is practised now in only three out of fourteen hospitals. Internal urethrotomy is practised, as a rule, by Sir Henry Thompson, Messrs. Wood, Croft, Berkeley Hill, Annandale, Coulson, Jordan, Laud, Teevan, and many more of the best men in England. Are not these last two facts sufficiently suggestive? Especially are they so when we take into account that most of these men were brought up on divulsion, and all practised it.

In France we find varying opinions as to the relative advantages of the various operative procedures. These opinions were well mirrored in the discussion that took place last spring before the *Société de Chirurgie*. Among the participants in the discussion were Le Fort, Tillaux, Trelat, Pollailon, Despres, Marc See, Horteloup, Le Dentu, Kirmissou, Terrier. The discussion followed a paper by Le Dentu, who compared twenty-four cases treated by divulsion with twenty-four by internal urethrotomy. Each set had two deaths. The society was about evenly

divided in its opinion as to choice between the two operations, but gave the preference to gradual dilatation, when it could be performed, to either. It is noticeable, however, that, as in England, but few radical cures are claimed. But in both countries *the old standard practically remains in regard to the extent to which the operation should be carried.* This, I think, is the reason why there is such a wide difference of opinion between American surgeons and those of other countries as to the permanency of the results. For here, the advocates of the operation claim *permanent cures of strictures anterior to five inches, as the rule*; by permanent cures, meaning a freedom from recontraction and the use of sounds for years, generally all their lives.

Dr. Otis, of New York, heads the list of those holding this belief, and asserts that if such strictures are thoroughly cut (according to the rules laid down in the beginning of this paper), and are kept open by the passage of sounds until healing is complete, they never return. From this, which is the extreme view of the situation, some of the differences may be seen by the following quotations:

Dr. Keyes says: "I always cut strictures of the pendulous urethra internally. This cures them radically, *as a rule.*"

Dr. McBurney writes: "I have a very poor opinion of divulsion for any stricture, and believe that it seldom cures. I do not think that gradual dilatation ever cures an organic stricture. Internal urethrotomy is my constant practice for all strictures anterior to five inches, and I expect a cure as a rule."

Dr. Bull practices internal urethrotomy and obtains frequent permanent results. Does not practice divulsion.

Dr. Weir practices internal urethrotomy as a rule. I do not know his opinion as to final results.

Dr. S. W. Gross, of Philadelphia, says: "All permeable strictures are best treated by internal incision, while for those situated within four and a half inches from the meatus it is the only method which holds out the slightest prospect of a radical cure. I have performed the operation too frequently not to be convinced of its superiority as to enduring results over all other methods."

My own experience is too small to contribute much to any decision, but I have been at some pains to follow the cases up, and as most of them have occurred in private practice, it has often been possible, as they are all directed to come twice annually for examination, and generally do so. The number is twenty-two. There have been no deaths, and no serious symptoms in any. No stricture has been cut that was deeper than five inches.

1.	6 years ago.	Internal urethrotomy.	Uses no sounds.	Has never recontracted since.	Has no symptoms.
2.	5 years ago.	No sounds.	No recontraction.	No symptoms.	
3.	4	do.	do.	do.	do.
4.	4	do.	do.	do.	do.
5.	3	do.	do.	do.	do.
6.	3	do.	do.	do.	do.
7.	3	do.	do.	do.	do.
8.	3	do.	do.	do.	do.
9.	3	do.	do.	do.	do.
10.	1	do.	do.	do.	do.
11.	1	do.	do.	do.	do.
12.	1	do.	do.	do.	do.
13.	1	do.	do.	do.	do.
14 to 17 recent.					
4 cases lost sight of.					
22, Total.					

Four were lost sight of after a few months. One of these, however, showed signs of recontraction be-

fore he went away, and it is interesting to note that in this case I did not divide the stricture thoroughly, having only a small Maissoneuve knife. One case has had, to my knowledge, to use sounds ever since.

With an occasional exception, then, in the cases I have been able to follow, the operation has given the patients entire immunity from periods varying from six years to one year. I cannot say that they may not contract again at some time in their lives until they and I have lived our lives, but they certainly show no disposition to do so. This, so far as it goes, forms a basis for a favorable opinion in regard to the operation. I cannot go so far as Dr. Otis in thinking that all cases properly cut are always cured, because I have seen strictures recontract after it has been done, and done well, too.

But what are we to do with deep strictures? It will be seen from the following that some surgeons hesitate to cut internally beyond five inches.

Dr. Keyes says he would never divulse or cut a stricture of the deep urethra. By preference he dilates such when possible. "In all cases of severe deep urethral stricture not suitable for dilatation I think best of external urethrotomy. I have tried all the operations a number of times, and can only give as the sum of my experience that final expression of opinion namely, the personal one. If I had a deep urethral stricture not suited to treatment by dilatation I would elect to be cut externally by a competent surgeon rather than run the risk of efficient divulsion or internal urethrotomy."

Dr. McBurney says: "In a tight undilatable stricture at five inches or beyond, I would always do an external urethrotomy. Nothing could persuade me to do a divulsion in such a case."

The opinions so decidedly expressed by two such good authorities are gaining ground in many quarters, and here it is that external urethrotomy puts in a claim as a competitor. Its mortality, based on a calculation of more than a thousand cases taken from Gregory's tables, Hôurteloup, and other sources — since the days of antiseptics — is at the highest eight per cent.: if the figures are sifted it becomes three per cent., but let the figures stand, as in the other calculations, at their face value. In the earlier days the mortality was much higher, due to the fact that dirt reigned supreme, as is shown by the large number of deaths due to pyæmia and septic processes; and, also, because the operation was rarely employed except as an emergency operation. I have only done the operation eight times without mishap.

I would call attention to the fact that when perineal section is performed for purposes of exploration of the bladder, no stricture being present, there has been practically no mortality. This gives a good idea of the danger of the operation *per se*. Its danger where long-standing deep-seated stricture is present, is at its height. Here it isn't the operation that kills, but because we are obliged to operate when the patient is prepared for death by renal complications and a broken constitution. The less serious the stricture the less risk in the operation. And, although I cannot furnish figures to support this view, I feel safe in saying that if the operation were performed earlier the mortality would compare favorably with that of divulsion or internal urethrotomy. Once a deep stricture is beyond the control of dilatation it seems to me best treated by external urethrotomy. And I would suggest that the

operation be not reserved until retention and extravasation are actual present dangers, but do it while the urethra is still permeable for a guide. The permanency of results are not so good as those of internal urethrotomy, so far as I can learn, though they are sometimes enduring, as in a case which I recently saw, in which Dr. Cheever performed the operation seventeen years ago, and the patient has only recontracted to a small size recently, and has entirely neglected his urethra in the interval. Dr. Keyes tells me, also, that he has radically cured a severe traumatic stricture by this operation. A reason why, as a rule, the results are not so permanent may, perhaps, again be found in the same reason that affects the mortality, namely, that the cases so dealt with are only the severest forms, and consequently even with a guide we can seldom divide the strictured portion with one clean cut. The cut must often be extensive, and long in healing, exposed to the air, the contact of dressings, etc.

One of the objections always urged against external urethrotomy is that it is liable to leave a urinary fistula afterward. I do not know the exact proportion of cases in which this is the case. Again, it is probable that if the operation were done earlier the healing would be more complete, and fewer fistulae would result. It is by no means a great misfortune to have a fistula, and it may be a safety-valve. A great deal of discomfort may be avoided by using a catheter. In the first case I did the patient has today a fistula. He can urinate by the natural channel without a drop coming by the fistula by standing with his legs slightly crossed. Moreover, such urinary fistulae can often be closed by plastic operations, so that their number may be reduced. The immediate union of the wound by suture also aids in securing this end.

(1) *Conclusions.* All strictures anterior to five inches are best treated by internal urethrotomy. Dr. Otis's operation yields the most enduring results.

(2) Divulsion should be rejected as an operation for stricture, unless it can be shown satisfactorily that where carried sufficiently far it yields as permanent results in as many cases as internal urethrotomy.

(3) Dilatation where practicable should be employed in strictures deeper than five inches.

(4) For strictures deeper than five inches not suitable for dilatation external urethrotomy should be selected, and not reserved for an emergency operation only.

A CASE FOR THE MEDICAL EXAMINER.

BY S. D. PRESBRY, M.D.

On Saturday, June 11, 1887, I was visited by a young man, who resides in a farming-district about ten miles from Taunton. He wished to notify me of a sudden death and to ask for investigation, since he had been informed by the physician who had been called, that such was the proper course. From my visitor I learned in substance the following facts. The dead body was that of a young woman twenty-one years of age, who had been living as a domestic in his father's family. The family consisted of his father, an elderly man, whose wife had been dead two years, and his brother, unmarried, about twenty-five years

of age. He himself, and his two sisters, all married, lived in the vicinity. This domestic came into the family seven years ago, and at first acted as assistant, but at the death of his mother became the house-keeper. She had relatives in Ireland, and one sister, who was then on her way to this country, was daily expected. She had no relatives in this country except an aunt, with whom she was said not to have been on good terms. My informant and all the members of the family with whom I afterward conferred, spoke in the kindest terms of the young woman, and from no one of them could I learn anything unfavorable, either as to her character or her ability.

On this Saturday forenoon my informant was at work with his younger brother, the one mentioned above, planting upon their father's farm. His father was not at home, having gone out of town on business. The young woman had attended to her household duties as usual, and was supposed to be preparing to go with his sister to a neighboring city to do some shopping. At 11.30 the young man went to the house to get seed for planting, and on entering the house he heard groans, which appeared to come from a room in the second story. He went up-stairs, as he says, and found the door of the girl's room locked. The groans continued and he got no answer to his repeated calls. Failing to fit the lock with any keys which he had with him, he forced the door open and found the young woman quite naked, sitting in a wash-tub partly full of water, leaning back and unconscious. He placed her upon her bed, covered her with blankets and at once notified his brother, his sister-in-law and his sisters, who all live not far from his house. A physician was summoned, but before he arrived, and within a few minutes after having been placed upon the bed, she ceased to breathe.

This history was given by the young man and was evidently accepted by all members of the family as correct, nor has any doubt been thrown upon it by any thing that has been since learned.

The room and its contents had been left for my inspection, exactly as found. The young woman's clothes were lying upon a chair, there was soiled water in a wash-tub, soap-dish with soap stood near, towel was handy, and in short the room justified the opinion that she was in the act of taking a bath.

The body showed no marks of violence, and from the view and inspection no satisfactory theory of the cause of her death could be formed. A conference with the selectmen of the town, to whom the above report was made, resulted in a request that an autopsy be made, and if necessary a chemical analysis of organs. After the necessary preliminaries, on Sunday morning the autopsy was made, of which the following is the report. Twenty hours after death, rigor slightly marked; body, full and round; pupils, evenly but not widely dilated; slight "black-and-blue spot" upon the middle of the left clavicle; front of body pale, back, purplish red; no froth or bloody matter about mouth or nostrils; external orifice of vagina patulous, easily admitting two fingers; hymen not seen; rugae of vagina, coarse and hard; nothing more learned by inspection.

Internal examination. Cut surface of scalp bloody, and an excess of fluid blood found in veins and sinuses, especially in dependent portions; nothing abnormal in the brain; incisions show no traces of air in the circulation; trachea lined with a delicate coat of bub-

¹ Read before the Massachusetts Medico-Legal Society, October 5, 1887.

bling mucus, not bloody; lungs, spleen, liver and kidneys engorged and of dark color, more especially in dependent portions; large veins filled with dark liquid blood, no clots found. The large vessels about the heart were carefully tied. The heart was small and soft, but otherwise apparently normal, and quite empty. The uterus was removed with its appendages and the upper part of vagina; the os uteri was entirely plugged with mucus, not bloody, and never having been disturbed; uterus about four and a half inches long and three inches wide at the fundus; the membranes were unruptured, and containing liquor amnii and a foetus measuring from head to caudal curve one and three-quarters inches; the umbilical cord was not spiral; the interior of the uterus showed no marks of violence; the right ovary contained a distinctly marked corpus luteum; other organs normal in appearance.

Portions of the brain, liver, kidney and the stomach complete were sent to Dr. William B. Hills of the Harvard Medical School for examination. The following is his report:

"I have completed the analysis of the organs of ——— and do not find anything to account for death. The stomach contained one-half ounce of semi-fluid brownish contents which from microscopic examination were found to be composed in great part of remnants of food, namely, fat, starch, partly digested muscular fibre and more or less vegetable tissue the exact nature of which could not be determined. The contents of the stomach contained also a small amount of sulphate of iron. The presumption is, I think, that this was taken in the form of a pill, with perhaps aloes or something similar. I think I am right in believing that such pills are sometimes taken under the impression that they will cause abortion. At any rate I have met with two cases in which such pills (containing sulphate of iron) have been administered by abortionists for this purpose. I do not think, however, that there is the slightest reason for supposing that the sulphate of iron was the cause of death. The amount present was small, and there was no evidence of any inflammation of the mucous membrane of the stomach.

"Chemical analysis of the stomach and contents showed the absence of all the *ordinary* poisons. The tests for most of the substances employed as abortifacients are not so well-defined as those for the ordinary poisons, and for detecting them we have to rely to a considerable extent on the microscopical examination, being aided at times by the odor. I did not, however, discover anything on microscopical examination which suggested the use of any abortifacient which may be detected in this way, and there was no indication to the sense of smell of any of the essential oils, neither could any essential oil be detected by chemical analysis.

"I think I should add, in order to make the report as complete as possible, that at one point on the mucous membrane of the stomach, was a slight brown deposit, and a portion of the deposit was sulphate of iron; I could not determine the nature of the remainder. There was nothing characteristic about it when examined beneath the microscope, and analysis threw no light on its nature. I think it was some vegetable substance; and there is a large number of these for which there are no known tests. It was the occurrence of this deposit, which led me to think that the sul-

phate of iron was administered in pill with some organic substance."

"(Signed) WILLIAM B. HILLS."

After careful deliberation upon the facts of this case, it was thought best to submit the following return, "that ——— came to her death by natural causes, the exact nature of which was not disclosed, autopsy and chemical and microscopical analysis giving only negative results."

Though we were unable to arrive at an exact diagnosis in this case which we could record with a conviction of its absolute accuracy, several theories of the cause of death came up for consideration.

First, the theory of poisoning, whether accidental or intentional, would seem to have been set aside by the examination of Dr. Hills, and his report lends weight to the idea that she was only using ordinary and simple means to induce the appearance of her menses, such as the aloes and iron and the warm water sitting-bath.

Again, our history of her position and condition when found, rests entirely upon the evidence of one person, who might possibly be an interested party. The circumstances, however, seem to corroborate his statements. Yet, if in the face of his statements and of the circumstances, we were to consider the possibility of death by smothering and arrange the evidence in order, we should find fluid blood in the larger veins and sinuses; lungs, spleen, liver and kidneys engorged; no clots; bubbling mucus, not blood-stained, in the trachea; no blood about the mouth and nostrils; heart quite empty (even the right heart); and no appearance of subpleural ecchymoses—a condition that would hardly warrant the diagnosis of death by smothering.

Taylor describes a mode of death which he calls syncopal-asphyxia, in which the symptoms substantially as above mentioned may be expected, and it seems worthy of consideration whether a pregnant woman, anxious as to her condition, hurrying through her work (to be in readiness to go out with a friend), and immediately sitting in a tub of warm water, may not become faint, and leaning helplessly backwards over the edge of the tub, may she not become so exhausted that nature may fail to rally, even if the body has been placed in a horizontal position before respiration has ceased? I am not prepared to say that this theory of the cause of death is quite satisfactory, yet I have been unable to suggest a theory that meets the circumstances of the case any more fully.

CASES OF URETHRAL STRICTURE, TREATED BY ELECTROLYSIS.¹

BY G. W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

THE following cases of stricture were treated by electrolysis, the method employed being essentially that advised by Dr. Newman, of New York, and Mr. Clark, of St. Bartholomew's Hospital, London. The calibre of the stricture having been measured, a bulb-electrode one or two sizes larger is passed down to it and connected with the negative pole of a galvanic battery. The positive pole is attached to a broad

¹ Read before the Surgical Section of the Suffolk District Medical Society, Nov. 2, 1887.

metallic electrode, covered with wet absorbent cotton (or a sponge electrode), which is held against the abdomen or elsewhere. The strength of the current used should be from three to five milliamperes. In the cases reported it was four milliamperes; a little less in the last case. The electrode will generally pass through the stricture within half-an-hour, only the gentlest pressure, if any, being exerted. The operation is painless. Very little after-treatment is indicated. In these cases ten grains of quinine were given after each operation, and the patients were advised to keep quiet for a day or two. After an interval of a week or more, not less, the urethra is examined to ascertain the result of the operation.

CASE I. G. T., twenty-eight years old, was first treated for stricture two years ago. His urethra is very sensitive and he has several times had chills after the passage of sounds.

Strictures of a calibre of 19 (French scale) were found at $\frac{1}{2}$ inch and at 2 inches from the meatus, and one of 16 at $3\frac{1}{2}$ inches. The first stricture was treated by electrolysis May 7th. Electrode No. 20 was placed against the stricture and with a current of 4 milliamperes it passed through in 20 minutes. Within 12 hours the patient had a severe chill, with fever and vomiting, and was quite ill for several days. He returned to the Dispensary in about a month, but the result of the operation could not be accurately ascertained, as he had meanwhile been treated by gradual dilatation at the City Hospital. This latter treatment was continued.

CASE II. J. H., fifty-three years old, had strictures admitting 17 at $1\frac{1}{2}$ and $1\frac{3}{4}$ inches. May 24th, electrode 18 passed both strictures in 10 minutes. Although there was no chill, the operation was followed by malaise lasting a week, with considerable local irritation and a copious discharge. The strictures were found to have contracted to 14 and the treatment was abandoned.

CASE III. E. J., thirty-nine years old, had his first gonorrhœa eighteen years ago and symptoms of stricture fifteen years ago. He came to the Dispensary with a chronic discharge and, when examined, was found to have strictures as follows: at $\frac{3}{4}$ inch 22, at $1\frac{1}{2}$ inches 18, at $2\frac{1}{4}$ inches 14. July 28th the middle stricture (18) was electrolyzed and electrode No. 20 passed through in 15 minutes. The operation caused no constitutional symptoms whatever, but some local irritation with increased discharge and painful micturition, on account of which, examination was delayed, and the patient was lost sight of until September 22d, when the stricture operated upon and the one posterior to it were found to be the same size as before, while the anterior stricture had contracted. He had had no treatment meanwhile. Two days later electrode 17 was passed through the narrowest stricture (14) in 20 minutes. This was followed by no constitutional symptoms and by less local disturbance than before. One week later (October 1st), bougie à boule 18 was passed easily through all the strictures. The urethra was very sensitive. October 8th, a bulbous bougie No. 19 was passed, meeting with some resistance at each stricture. Electrode No. 20 passed all three strictures in half-an-hour. October 20th, the strictures were defined by bougie à boule 21, 22 passing with slight difficulty. Another operation was begun, but when, in about 15 minutes, electrode No. 25 had become engaged in the first stricture, the pa-

tient suddenly became faint, and nothing further was attempted. He has not since been seen.

CASE IV. J. C., twenty-eight years old, began to have symptoms of stricture four years ago, and complete retention two years ago. On examination, he was found to have a series of strictures, gradually diminishing in size from 25 at $1\frac{3}{4}$ inches to 11 at $3\frac{3}{4}$ inches and at 5 inches. August 23d, electrode No. 15 was passed to the first of the two narrowest strictures (11) but failed to pass in 20 minutes. This operation was followed by no constitutional symptoms, but by increased discharge, difficult and painful micturition, and a great deal of swelling and induration about the seat of the stricture. The size of the stricture was apparently unchanged. It was deemed advisable to discontinue this treatment and gradual dilatation was substituted. A smaller electrode would probably have been better in this case, but was not at hand.

REPORT ON FOODS, DRUGS, AND THEIR ADULTERATIONS.

BY BENNETT F. DAVENPORT, M.D.

EXAMINATION OF PEPTONE PREPARATIONS.

THE variable composition of the so-called peptone preparations of the market led August Hirschler¹ to make quantitative estimations of them for both the true nutritive peptones or allied bodies, and the less nutritious ones. He precipitated the nutritive peptones by means of phosphotungstic acid and estimated the amount of nitrogen they contained, and he also estimated the total amount of nitrogen in the preparation, and, subtracting one from the other, obtained the amount of nitrogen equivalent to the non-nutritious nitrogenous material present. The following table shows his results:

	Koch's	Kemm'rich	Witte	Weyl	Simon
Total percentage of Nitrogen	8.08	10.04	13.3	12.68	10.15
Percentage of nitrogen from non-nutritious nitrog. Substances	10.7	9.72	9.21	13.9	9.86

According to the investigations of Kühne and Chittenden,² albuminoids digested by means of the pepsin ferment do not form true peptones, but do form hemi-albuminose which is identical with the propeptone of Schmidt Mülheim, and which must be considered as an intermediate product between albuminoid material and peptone. Kühne and Chittenden found in the resulting products from the digestion of albumen with pepsin, four different kinds of albuminoids, but in the peptone preparations of the market said to be made in this manner, no peptone at all, or only mere traces were detected.

The hemi-albuminoids differ from albumen in their solubility in hot water in dilute-salt solutions, and in their behavior toward weak acid solutions, and property of separating in the cold. They also differ from true peptones by dialysing slowly, and by being precipitated by common table salt, by this and acetic acid, and by acid or alkaline solutions of ammonium sulphate.

¹ Zeit. chem. Ind., 1887. Heft. 2, 62.

² Zeit f. Biologie, 1883. Bd. 19, 169, and 1884, Bd. 20, 1.

Koenig³ says that commercial so-called peptone preparations should more correctly be called meat albuminoids (fleisch albuminosen), while the term meat peptones should be bestowed only on those preparations which are the result of pancreatic digestion.

MEAT EXTRACTS AND BOUILLON EXTRACTS.

In the table given below will be found the analysis made by Rudolph Sendtner⁴ of the meat and bouillon extracts of the market, the method used being the one published in volume one of the *Archives für Hygiene*.

	Water.	Ash.	Organic Substances.	Nitrogen.	Soluble in 80 per cent. alcohol.	Chlorine Present in the ash
	%	%	%	%	%	%
1. Pastoril Meat Ext.	15.50	26.23	53.27	—	61.74	—
2. Pisoni's Ext. of Meat	17.73	19.68	62.58	—	64.68	—
3. Kemmerich's argent. Fleisch Ext.	18.88	19.46	61.66	—	59.06	—
4. Cibils' Ext. Carnis	19.41	26.43	54.15	—	62.86	21.32
5. Liebig Ext. av. of 170 analyses	18.79	23.02	58.19	8.00	61.85	10.00
6. Saladero Concordia	21.88	15.85	62.27	9.64	58.29	—
7. Peptone de viande, Kemmerich	34.27	7.70	58.02	9.36	28.40	—
8. Cibils' Hermanos (fluid)	64.12	13.29	17.58	2.10	34.28	44.45
9. Koch's Peptone Bouillon	59.58	15.88	24.54	3.65	32.78	43.19
10. Kemmerich's Cond. Fleisch Bouillon	62.59	17.06	20.35	3.13	29.32	41.97
11. Maggi's Bouillon Ext.	68.64	23.80	7.56	1.29	25.79	57.23
12. Bouillon Conc. Morris Canning & Co.	64.24	13.40	22.35	—	29.87	—

The first four preparations have a composition similar to that of Liebig's extract. Cibils' extractum carnis and Pastoril's fleish extract have probably had salt added to them. Numbers eight to twelve are fluid extracts, or bouillon extracts, and according to the amount of nitrogenous material present in them, stand in the following relation: Maggi, 1; Cibils, 1.62; Kemmerich, 2.43; Koch's, 2.84; Liebig's, 6.10. The amount of chlorine found in the ash is the guide to the amount of salt added to these preparations. If we subtract the normal amount (ten per cent.) of chlorine which is found in the ash of a true meat extract from that found in the ash of these preparations, we find that Cibils has had 56.7, Koch's 54.69, Kemmerich's 52.68, and Maggi 77.83 per cent. of the salt which they contain added to them. As regards flavor the author considered that Cibils ranked first in tasting more like beef soup. This is not true of the other preparations. If a little salt, and perhaps some water, be added to the well-known Liebig's extract a bouillon can be prepared, at a considerable saving of expense, which will compare very well with the bouillon preparations of the market that are now so highly praised.

THE NATURE OF PEPSIN.

Carl Sundburg⁵ has undertaken to show that the ferment pepsin is not an albuminoid body, and that

albuminoid reactions that are obtained from the so-called pepsins are due to foreign materials contained in them. He claims that by subjecting the pepsin to successive dialysations a solution is obtained which has powerful digestive properties, and which responds to no tests for albuminoids.

SACCHARIN.

According to Maumené,⁶ Fahlberg's saccharin is allied to taurin. He claims it consists of two substances which differ in their solubility in water and alcohol. These substances can be separated by forming double salts with sodium chloride. One of the substances contains 12.98 per cent. of sulphur, the other 15.6 per cent, the latter alone containing the powerful sweetening principle. Saccharin is said to be prepared from toluol. It is a white powder, acid in reaction, slightly soluble in water. If the acidity be neutralized with potassium carbonate or hydrate, its solubility in water is increased. It has an odor not unlike bitter almonds, and is 280 times sweeter than cane sugar.

Saccharin is now principally used to sweeten the food of diabetic patients.⁷ It has no nutritive value.

Aducco and H. Mosso have found that urines which contain it resist fermentation for a long time. Pollatchek⁸ has used it to disguise the taste of drugs, and since its solubility is increased by alkalies he combines it with sodium carbonate, as in administering quinine.

EUCALYPTUS HONEY.

Guillmette⁹ obtained in Tasmania specimens of honey which were deposited on eucalyptus trees by a specimen of black bee. The honey had a strong odor of eucalyptus, and when taken internally is said to diminish the frequency of the heart's action. When mixed with milk or water it makes a very pleasant drink. It is highly praised in diseases of the throat and lungs by some.

ARTIFICIAL BUTTER.¹⁰

As an extra precaution in the sale of the above product it is recommended by a food journal in Germany that the government require manufacturers to comply with the three following conditions: (1) Every artificial butter manufactory must be under the surveillance of German officials; (2) every 100 kilos of artificial butter must have one gram of phenol-phtalein added to it; (3) Failure to comply with the second condition is punishable by a fine of five hundred marks for a first offence. For a second offence a fine of one thousand marks to be imposed, and the right to carry on its manufacture to be revoked.

The presence of phenol-phtalein in artificial butter allows the latter to be easily detected should natural butter be adulterated with ten per cent. of it. All that is necessary to detect it is to add an alkali as potassium hydrate, or even cigar ashes, to the sample, and an intensely red color is obtained.

Penol-phtalein is non-poisonous, has no physiological action, and hence does no harm when added to the butter.

⁶ Phar. Rund., 1887, No. 5, 113.

⁷ D. Med. Ztg. 1887, 131.

⁸ Phar. Centralb., 1887, xxviii. No. 20, 253.

⁹ Drog. Ztg. 1887, xlii, No. 17, 213.

¹⁰ Z. für Nahr. Untersuch und Hyg. I, Heft 7, 134.

³ Revue Internationale, fals des Dendrées aliment. 1 liv., 1887, 13

⁴ Archiv. für Hyg., vi, 253.

⁵ Phar. P. 1887, xx. No. 18, 288.

NEW ARTIFICIAL BUTTER LAW.¹¹

At a meeting of the German artificial butter manufacturers held in Frankfort on August 13th and 14th, attention was called to the new artificial butter law of the Canton St. Gallere, where the government requires that all artificial butter should contain at least twenty-five per cent. of natural butter. The German manufacturers considered that they were submitted to hardship in not being allowed to improve their products in the same manner, as their law forbids any admixture.

NEW METHOD OF PRESERVING BUTTER.¹²

M. Pierre Grosfels, of Vervier, has communicated to the "Société d'encouragement de Vervier," a process for preserving butter for a long period, so that it may be imported into countries the climate of which does not permit it being made there, on account of the very high temperature. It consists of working the butter in water containing two per cent. of lactic acid, and two per cent. of one per cent. of salicylic acid. The process is stated to be very economical, as the antiseptic liquid will serve indefinitely being unalterable, and its cost is but slight.

"NORMAL" PAPER.¹³

Those who have recently visited Germany could not have failed to notice the extensive sale Prof. Gustav Jaeger's "normal" underwear was having, and may be interested to know that he has suggested a method for the manufacture of "normal" paper. He calls attention to the unhealthy property ordinary paper has of absorbing disagreeable odors or vapors, and again giving them off in moist atmospheres. This he best illustrates by the odors noticeable in large libraries and document rooms, on a wet day. He suggested that a paper be manufactured from vegetable fibre, not unlike parchment, which has not the above disagreeable property, and he now has manufactured under his supervision at the Balsthal Solothurn paper manufactory, the following varieties:

(1) Packing paper, free from coloring matter and bleaching materials, to be used for food products.

(2) Writing paper, and paper for printing purposes, which contains a slight amount of clay, but which is also free from coloring matter and bleaching materials.

(3) Writing paper free from clay and other matters. This is thin and transparent and allows writing only on one side.

A NEW SUBSTITUTE FOR THE POTATO.¹⁴

At a recent meeting of the "Société Nationales d'Agriculture" in Paris, Mr. Triana, of Columbia, South America, showed two varieties of the *Arrachacha esculenta*. These plants, he said, belong to the family of umbelliferae and the tubers are not unlike medium-sized turnips in shape. It is sweet and mealy, and during the recent potato disease in Columbia, they were found to be fitting substitutes for the potato. Attempts have been made to cultivate them in France, but thus far with poor results. Experiments are now being carried out by the Agricultural Society of Paris, and it remains to be seen whether it can be cultivated sufficiently to be of commercial value as an article of diet.

¹¹ Zeit. für Nahr. Untersuchung und Hyg., September, 1887.

¹² Board of Trade Journal, September, 1887.

¹³ Zeit. für Nahr. Untersuchung und Hyg. 1. Heft. 7, 136.

¹⁴ Zeit. f. Nahr. Untersuchung und Hyg. 1. Heft. 4, 1884.

TERPIN HYDRATE AND TERPIN OIL.¹⁵

These are among the latest of the terpenes and camphors introduced into medicine. Terpin hydrate is formed by mixing oil of turpentine, alcohol and nitric acid in the cold, where it separates as large rhombic crystals, easily soluble in water, alcohol or ether. Terpin oil is formed by the action of dilute sulphuric acid on terpin hydrate. Terpin hydrate is only superior to oil of turpentine in being less aromatic.

EXTRACT FILICIS MAS.¹⁶

This extract is usually required to be of a deep green color, such being preferred to the brownish green. Weppen and Ledders report in the *Berlin Ph. Ztg.*, that it is impossible to obtain a green extract with the exclusion of metallic copper vessels in its preparation. It owes its green color, when present, to copper, or to added chlorophyll.

PHENYL COCAINE.¹⁷

A preparation of this name is said to be an effective local anæsthetic in dentistry. It is prepared according to G. Viau¹⁸ by heating one part phenol with two parts cocaine. It is not as yet known whether an actual chemical combination takes place or not.

SALICYLATE OF SODIUM.¹⁹

It is asserted that considerable quantities of this salt are now offered which contain much more sodium than is necessary to make the salt, in other words, a large amount of uncombined carbonate or bicarbonate is present as an adulterant.

ADULTERATION OF COFFEE.²⁰

L. Padé, chemist in Paris, calls attention to two new methods of adulterating coffee. (1) Coffee that has been damaged at sea is freed from the sea salt by washing, and is then bleached with lime, again washed, and then either partially roasted or colored with an azo color. (2) This second method is used in roasted coffee, the intention being to increase its weight as high as twenty per cent., by either moistening it with water or impregnating it with superheated steam. Coffee treated in this manner can best be detected by taking the specific gravity, or by estimating the loss of weight, caused by exposing it in a drying oven to the temperature of 110° C. for six hours. Good roasted coffee never losing more than one or two per cent.

If the specific gravity is below 1,000, look out for damaged coffee which has been partially roasted. Dye stuffs can be detected by placing the coffee in alcohol, when, if they are present, the color will appear in the alcohol.

A NEW TEA.²¹

Attention is being called to a new kind of tea, the so-called coffee-tea, which is made from the roasted leaves of the coffee-tree. It is said that when the leaves are thoroughly roasted, and an infusion is made, a dark brown liquid is obtained. This looks not unlike coffee prepared from the beans. It smells like green tea and tastes like a mixture of tea and

¹⁵ Ther. Month. 1887, 8.

¹⁶ Phar. Rec., Vol. 7, 19, p. 317.

¹⁷ Phar. Zeit. 45, 317.

¹⁸ Nouv. Revue., 1887, 192.

¹⁹ Phar. Rec., Vol. 7, 6, p. 94.

²⁰ Chem. Tech. Zeit. 1887, 261.

²¹ Handels-Bericht Gehe & Co. April, 1887.

coffee. The coffee leaf contains about one-half as much of caffeine as the beans.

MATTA.

This substance, which is used largely as an adulterant in spices, varies greatly in its composition according to the spice it is intended for. Hanausek²² found its chief constituent to be millet bran. Nevinny²⁶ finds the so-called pimento-matta to consist of powdered dried pears.

GALAZIMA.²⁴

This is said to be a milk preparation not unlike koumis and kephir, and is prepared as follows: four parts of yeast are dissolved in water with ten parts of sugar, and added to 1,000 parts of milk, the whole being thoroughly shaken. After standing twenty-four hours, the preparation is ready for use. It should contain about one per cent. of alcohol, and be saturated with carbonic acid gas.

COLORLESS HYDRASTIS.

Examination of commercial samples of the above preparation, by G. Steinmann,²⁵ shows it to be nothing but a solution of hydrastin in dilute sulphuric or hydrochloric acids. Boracic acid was also found in some samples.

CONDURANGO WINE.

Condurango bark, which fifteen years ago was highly recommended as a cancer remedy has now fallen into line again. This time as a stomachic, in the form of a wine. The best preparation is made according to G. Vulpinus,²⁶ by macerating one part coarsely-ground condurango bark in ten parts of sherry wine for eight days.

Clinical Memorandum.

A CASE OF BACKWARD DISLOCATION OF THE THUMB UPON THE METACARPAL BONE, IRREDUCIBLE BY MANIPULATION: REDUCED BY CUTTING DOWN ON THE JOINT.¹

BY J. W. ELLIOT, M.D.

The patient was a waiter, thirty-four years old. On April 29th, while engaged in packing a trunk, he fell backwards and doubled his right thumb back on his hand. His doctor tried in vain to reduce it, using much force in pulling. He came almost immediately to the Massachusetts General Hospital, where he was seen by Dr. Elliot. The right thumb was dislocated backwards upon the metacarpal bone. Two facts were noted as peculiar; first, *head of the metacarpal pointed almost straight out towards the palm of the hand*; second, a very rigid muscle could be seen and felt running across the metacarpal bone to the first phalanx.

After one or two ineffectual attempts to reduce the deformity, ether was given. Even under ether, both Dr. Harrington and Dr. Elliot found reduction impossible. All the known procedures were tried in vain.

On cutting through the skin and fat, the glistening head of the metacarpal bone appeared completely stripped of all its ligaments. It had pushed through between the heads of the flexor brevis pollicis muscle. In this position it was firmly held by tense muscular bands on both sides of the neck of the bone. The tendon of the flexor longus pollicis was round under the head of the bone in such a manner as to reinforce the posterior and deeper part of the flexor brevis. In this position every attempt at reduction, only locked it tighter.

The tendon of the flexor longus pollicis was first hooked up over the head of the metacarpal bone and even then it could not be reduced; but when the anterior head of the flexor brevis pollicis was pulled forward, the bones easily slipped into place.

The wound was closed with one cat-gut suture and a dry gauze dressing applied. The patient was treated as an out-patient. There was no pain and no swelling. The wound was first looked at at the end of ten days when it was found healed by first intention. The patient has now a perfectly useful thumb. The result is surprising when we remember that the joint was torn completely apart and that the tendon of the long flexor was pulled out of its sheath for at least an inch.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M. D., SECRETARY.

REGULAR meeting at 19 Boylston Place, Wednesday, November 2, 1887, Dr. J. COLLINS WARREN in the chair. In the absence of the Secretary, Dr. H. W. CUSHING acted in that capacity. On motion of Dr. BRADFORD, Dr. WARREN was elected Chairman for the coming year.

After thanking the members for their kindness in re-electing him, Dr. WARREN called for the first paper, which was

A CASE OF DISLOCATION OF THE THUMB REDUCED AFTER CUTTING DOWN UPON THE JOINT.¹

by Dr. J. W. ELLIOT. After reading his paper, Dr. Elliot said: When I did the operation I found the tendon of the long flexor wound about the head of the bone in such a way as to give the impression that this tendon was the principal obstacle to reduction. In point of fact, however, after I had slipped the tendon over the head of the bone, I could not reduce the dislocation, and I therefore concluded that the position of the long flexor tendon had little or nothing to do with the irreducibility, a fact which I verified by experimenting on the cadaver.

Dr. Elliot then presented the man on whom the operation had been done, and remarked that the use of strict antiseptics now enable the surgeon to explore at will and to open the joint if necessary; at all events to thoroughly see the condition of things before attempting to remedy it by some of the expedients recommended in the text-books, such as tenotomy or resection of the head of the bone.

DR. F. B. HARRINGTON then presented a boy who had suffered a similar dislocation of the thumb, and

¹ See page 625 of the Journal.

¹ Read before the Surgical Section of the Suffolk District Medical Society, November 2, 1887.

²² Zeit. für Nahr. Unters. und Hyg. I. Heft. 2 and 3.

²³ Zeit. für Nahr. Unters. und Hyg. I. Heft. 3.

²⁴ Drug. Circ. February, 1887.

²⁵ Amer. Jour. Pharm. July, 1887.

²⁶ Arch. Pharm. 1886. xxiv, 970.

said: This case as often happens, presented itself about two weeks after Dr. Elliot's case. It differed from the latter only in the position of the tendon of the long flexor which lay to the radial side of the head of the metacarpal bone. This position of the tendon is very unusual, but it is possible on the cadaver to dislocate it to that side. The dislocation had occurred on the previous day and its reduction had been attempted outside the hospital. The phalanx rested upon the dorsum of the metacarpal bone and was parallel to it. All efforts, with and without ether, failed to reduce the dislocation. An incision was made over the head of the metacarpal bone which projected toward the palm and which seemed subcutaneous. After cutting down where you could see the joint it was still impossible to reduce. Finally, by passing a director under the external head of flexor brevis, and dragging this head over the head of the metacarpal bone, the bones slipped into position. Nothing but the skin and subcutaneous tissues had been cut by the operation. The wound healed by first intention. Within three weeks the boy was using the thumb and it has given him no trouble since. The motion is good, nearly perfect it might be said. There is still a little thickening in the region of the incision.

I would like to say a word or two about the anatomy of the metacarpo-phalangeal joint of the thumb. Dr. E. O. Otis² has recently written an interesting paper on the same dislocation in the fingers.

The ligaments of this joint of the thumb are the anterior, the two lateral and the posterior. The anterior or "glenoid" ligament resembles that of the fingers. It ruptures at the metacarpal attachment almost without exception. This makes a long flap which may get between the ends of the bones and prevent reduction as in the fingers. In this anterior ligament are the two sesamoid bones which are also connected with the two heads of insertion of the flexor brevis muscle. These two muscular heads are joined one by the abductor pollicis on one side, the other by the adductor pollicis on the other side. The phalangeal portion of the anterior ligament is made up of tough, almost cartilaginous tissue which is quite thick and strong. The lateral ligaments are also stout bands which are connected with the sesamoid bones and the anterior ligament. By means of these muscles and the lateral ligaments, which do not usually rupture, the flap of the anterior ligament is dragged and held down behind the head of the metacarpal bone.

It is frequently possible to reduce this dislocation by proper manipulation, occasionally, however, the most experienced fail. An operation is then necessary. Resection is a severe operation which leaves at best, an imperfect finger. The subcutaneous operation is blind, unsatisfactory and sometimes unsuccessful. Important tissues may be injured and permanent disability result. The following are directions given by Dr. J. E. Kelly,³ for the use of the tenotomy knife in case of irreducible dislocation of the thumb. "If an intelligent trial of reduction by manipulation should fail, a subcutaneous operation upon the posterior surface might be adopted, which is rational, easy, and safe, and which should not be such a source of persistent weakness. To the outer side, of, or between

the extensor tendons, a tenotome might be passed through the skin down to the anterior margin of the base of the phalanx and through the intersesamoid space, until it would reach the back of the metacarpal bone, upon which might be divided all the structures forming the anterior wall of the articula fossa. Thus the 'button-hole' slit would be extended at least by half-an-inch in the most advantageous direction, and should reduction be still impossible, the structures lying to the outer side of the head of bone might be divided, and, if still more freedom be desired, the subcutaneous incision could be converted into an open wound, when the internal boundary of the 'button-hole' could be reached from the most advantageous aspect. A hook or lever might be applied to the metacarpal head and retractors also would aid the readjustment, a loop of wire passed through the 'button-hole' should make direct traction backwards on the metacarpal head, while separating the lateral margins of the aperture."

This certainly does not suggest a perfectly simple operation. The point which I wish to make is, that with an irreducible dislocation of the thumb, the best procedure is to carefully dissect down to the dislocation on the palmar side, and to reduce without farther injury to the important structures of the joint. That this can be safely and successfully done, is shown by the cases presented to-night.

DR. OTIS said: I have been exceedingly interested in the report of these two cases, and the exhibition of the patients showing such perfect results. The reduction of a dislocation of the thumb or fingers — a dislocation upon the metacarpus — is not always the simple and easy thing which many authors make out, and to go through life with an irreducible dislocation of this joint is a grave misfortune.

These two cases illustrate one of the three causes generally given by authors which prevent the reduction of the dislocation of the thumb by manipulation, namely, the catching of the head of the metacarpal bone between the two heads of the short flexor. The other two causes are the interposition of the glenoid ligament, and the locking of the head of the metacarpal bone between the two lateral ligaments. I know of but one other reported case, that of Ranke's,⁴ where a dissection was made on the palmar surface, as in these cases, for an irreducible dislocation of the thumb, and in this case the cause of the irreducibility was found to be the interposition of the glenoid ligament, which, as I have elsewhere shown, I believe to be generally if not always the cause of an irreducible dislocation of the fingers. In the case of the thumb, however, a new element comes in to prevent the reduction, namely, the two heads of the flexor brevis muscle. Previously, in irreducible dislocations either in the thumb or fingers, if operative interference has been attempted, it has been either a resection, or a groping about in the dark with a tenotome with no definite idea of what needed to be cut; not a clean dissection to discover the cause of the irreducibility, as in these cases.

In one of the cases of dislocation of the index-finger which I reported, some sort of an operation was attempted (the case having passed out of my hands prematurely), probably a subcutaneous cutting of something; the result, however, as I saw it some weeks after, was far from satisfactory, and there was

² Backward Dislocation of the Fingers upon the Metacarpus, by E. O. Otis, M.D., Boston Medical and Surgical Journal, September 2, 1886.

³ Notes on Dislocation of the Thumb, J. E. Kelly, F.R.C.S.L., M.R.I.A., Dublin Journal of Medical Science, May, 1883.

⁴ Berliner Klinische Wochenschrift, 1887.

but little motion in the joint. If a dissection had been made as in these two cases, or a subcutaneous section of the glenoid ligament as described in my paper, before referred to, probably the same happy result would have been obtained, as in these cases. I would like to ask Dr. Harrington if he saw anything of the glenoid ligament in his case?

DR. HARRINGTON: I did not. The opening I made was small. The phalanx was buried out of sight. The thing which I saw most markedly was the external head of the muscle.

DR. OTIS: In irreducible cases often, at least, with the thumb, and generally if not always with the fingers, the glenoid ligament is torn from its metacarpal attachment, reversed, and spread out over the head of metacarpal bone, forming an inseparable obstacle to the reduction, and all efforts made to this effect, even by backward flexion, only fasten the joint firmer, and there is no possibility of reduction except by operative means.

DR. WARREN illustrated the difficulties of reduction of this dislocation by thrusting his finger through a piece of paper and pushing before it a valve-like fragment. If, in the efforts at reduction, this flap turns in between the bones, it cannot be replaced by taxis and the dislocation can only be reduced by cutting down and pulling out this fragment from between the bones.

DR. F. S. WATSON then read a paper entitled

A COMPARISON OF GRADUAL DILATATION, DIVULSION, AND INTERNAL AND EXTERNAL URETHROTOMY IN THE TREATMENT OF URETHRAL STRICTURE.⁶

DR. GREENOUGH said: I have listened to Dr. Watson's very complete *résumé* of the statistics and opinions of those best fitted to give evidence on this subject, with great interest. There is only one point to which I would like to refer, and that is, the almost total immunity from relapse, which is claimed by others, if not by him, in internal urethrotomy. I doubt very much whether internal urethrotomy, or any other operation, can be considered, in itself, as an absolute cure for stricture. We have in a urethral stricture a fibrous tissue which when divided, either by divulsion, or cutting, must be replaced by tissue of the same character. I cannot conceive of any operation which will replace the fibrous tissue of an urethral stricture, by healthy mucous membrane. We all of us see cases that have been operated on by internal urethrotomy, which have relapsed, although the operator may not be aware of it. The clear cut of internal urethrotomy probably produces a better result than the tearing of the tissues by divulsion, but I do not believe that any operation can promise a permanent result, without after-treatment. That a stricture can be operated on by internal urethrotomy, divulsion, or any other method, and go from the operating table permanently cured, I doubt, that is to say, unless the treatment by electrolysis of which we are to hear later, is proved to cause an actual absorption of the contractile tissue, which would of course, be a permanent cure.

DR. CABOT said: I am very much interested in Dr. Watson's paper. It seems to me a very fair statement about the present state of our knowledge in regard to urethral strictures, so far as it applies to the pendulous urethra. In that part of the urethra the stricture

almost always involves the mucous membrane to a certain degree, as well as the connective tissue between it and the corpus spongiosum. When the mucous membrane is thus involved and puckered in the stricture, it seems to me that the cutting operation is by far the best. It has very little danger; hæmorrhage is not of very serious importance, and is easily controlled. I have no doubt it often produces cures. That it is as curative as Dr. Otis believes, I think almost no other man would claim.

In regard to the treatment of deep strictures, I may say that I am not yet converted to the opinion expressed by Dr. Watson, and quoted as expressed by Keyes. It seems to me that there are a great many strictures in the deep urethra, for which the external urethrotomy seems an absurdly grave operation. It has happened to me — I have no doubt it has happened to every one operating by divulsion — to meet with a stricture so tight that it is with the greatest difficulty that the finest filiform bougie can be gotten through it, where, if we finally get a divulsing instrument in, the first wedge driven through the stricture goes through with perfect ease. It is extraordinary with what ease it goes, and immediately the stricture vanishes.

If you then pass sounds, perhaps four, five, or six sizes larger than the divulsing instrument, they meet with no resistance. In short the stricture consisted of a little fibrous cord, surrounding the urethra, which was broken by the divulsion, and done away with. In a case of that sort (and some of these cases have seemed before operation to be very tight, difficult strictures), the divulsing operation is the best one. By subsequently passing large sounds the hope of a permanent result is very good.

One reason why divulsion has not had as good results as other operations, is that advocates of divulsion were not advocates of large sounds; whereas those operating by internal urethrotomy were advocates of large sounds, and stretched the urethra during the process of healing. The old operations were followed by sounds up to about 12 English — absurdly inadequate, according to our present ideas. It happened to me the other day to see a urethra about twelve or fourteen days after divulsion. The patient died from purulent peritonitis, starting from some trouble about the gall-bladder, as Dr. Fitz established by post-mortem examination. The seat of the stricture was not torn in any way. The urethral mucous membrane was smooth, and apparently had not been lacerated in the least. The stricture had been in the peri-urethral tissue, and had been ruptured with so little injury to the mucous membrane that all traces had disappeared in fourteen days. That is the only case where I have had the opportunity of examining the urethra soon after divulsion. It did not seem to indicate that the damage is so serious in these cases as has been imagined. In these deep strictures in the softer parts, I don't think the tearing is so severe as has been represented.

In regard to the external urethrotomy, it seems to me that that is a first-rate operation, but somewhat serious for the milder strictures in the perineum. I have seen fistula follow the operation in one or two cases. In one case the fistula is a permanent one. It troubles the man very little. By crossing his legs he can pass water without leakage, although there is a decided opening into the urethra.

⁶ See page 617 of the Journal.

In a case of perineal operation for division of a bar at the neck of the bladder, I have seen a persistent fistula for five or six months. That case has gone out of my observation, so that I cannot say that it existed longer. I think that the danger of fistula is somewhat greater than the gentleman advocating that operation (Dr. McBurney) stated.

DR. POST: To decide absolutely what is the best course to pursue can only be determined by knowing what course gives most lasting results. We have not at present the data to determine that point, perhaps we never shall have. But it does seem to me that in discussing the subject the matter of gradual dilatation is not given the importance that it ought to have. Whatever operative procedures we decide upon, there must be a very large number of strictures that must be treated by gradual dilatation, either because our patient is in such a condition physically that we ourselves are unwilling to operate, or because he is so situated that he is unwilling to give up even a few days. And I am fully convinced in my own mind that a great many strictures do wonderfully well for a long series of years after they have been thoroughly dilated by gradual dilatation, by the use of bougies in the old-fashioned method. But the same thing must be said of gradual dilatation that has just been said in regard to divulsion. Not long ago the rule was laid down as a positive one that a dilatation that was carried up to No. 12 English was all-sufficient; that was the size of the urethra. If the patient is treated nowadays by gradual dilatation the same size of urethra should be attained by that method as is sought by internal urethrotomy or divulsion, and when it is carried up to that size, I am sure that the retraction, in favorable cases of course, is much longer in taking place — very much longer — than when the surgeon is satisfied with the size of No. 11 or 12 English.

I don't wish to be considered an advocate of gradual dilatation alone; I simply wish to say that it must be resorted to in the great number of cases, and it seems to me that there is something more to be said in its favor than the paper would seem to indicate. There will always be found a large number of cases that for some reason or other, must be treated by the other more distinctly operative methods, and in the choice of operative procedure, I am practically in accord with the reader.

DR. TILDEN: In looking over Reybard's first pamphlet upon the subject of internal urethrotomy, published in the year 1833, I found that a certain Monsieur Turquet, had once ventured to use a cutting instrument in the urethra for the cure of stricture, and in consequence, had been condemned by the Faculty of Medicine in Paris, as unworthy to practice medicine "*propter temeritatem imprudentiam et ignorantiam.*" The evidence upon the subject to-day as presented by Dr. Watson's paper, would, I think, acquit Monsieur Turquet of any such charge. My own experience with the operation has been comparatively slight, but so far as it goes it has been favorable. I have eighteen cases upon my books, two of which were operated upon by Dr. Morse. Of these cases, only four have been seen again at a long enough period after the operation, to justify any conclusion as to permanence of result. Of these four cases, two were seen two years after the operation, one four years and one five years afterwards. In one instance, two years

after the operation there was found to be recontraction, in the other three cases there was no evidence of any recontraction whatever. In regard to strictures of the deep urethra, I have nearly always been able to get along very satisfactorily with gradual dilatation. I have been obliged to cut deep strictures in three instances, and one of these cases was the only one in which I have experienced any serious trouble. The patient was an old man, an unfavorable subject for any operation. He had enlarged prostate and small deep strictures of many years' standing. After the operation he had repeated chills, and rises of temperature accompanied by great prostration and by partial suppression of urine lasting thirty-six hours. He eventually recovered, however. In none of my cases has there ever been hæmorrhage to any extent, and only in my earlier cases has there been any chill or rise of temperature. During the last three years, and since I have washed out the urethra immediately after the operation with a solution of corrosive sublimate, there has been no rise of temperature in any of my cases. One or two words about the technique of the operation may not be out of place. The two most important conditions to be fulfilled in doing the operation in order to secure its best results are, *first*, to entirely divide the strictures which are cut, and, *secondly*, to so manage the wound made by the operation that it may heal with as little inflammation as possible. With regard to the first point, the common cause of early reconstrictions of stricture, after internal urethrotomy, is insufficient cutting, and Sir Henry Thompson has remarked that he had had often occasion to regret not cutting deeply enough, but never to regret cutting too deeply. The first thing to do then is to cut through the strictures. As to the second point, of course it is impossible that there should be no urethral inflammation at all after urethrotomy, but it should be restricted as much as possible, for this reason. The wound made by the operation, heals over from the edges and becomes covered with a thin supple layer of connective tissue, distinct from the tough connective tissue of which the stricture is formed. This thin layer of connective tissue is let into the strictured portion of the urethra like a "gore" so to speak, and in this way the calibre of the urethra is enlarged at the point of stricture. It is easy to see that if much inflammation attends the healing of the wound that a different and undesirable sort of cicatrix may result. If I remember aright, Dr. Shakespeare has examined, microscopically, this thin layer of connective tissue which results from the proper healing of the wound of the mucous membrane, made in urethrotomy, and has found that there is in it a large proportion of elastic fibres much larger than in cicatrices of the skin for instance. Any urethral discharge which may exist, should always be reduced to a minimum before operating, perfectly aseptic instruments should be used, and after the operation nothing should be introduced into the urethra, except the smooth conical steel sounds which are necessary to ensure a proper healing of the wound, and except the irrigator used to wash out the urethra with corrosive sublimate immediately after the operation, which I think is a good plan. With regard to divulsion, I have had no personal experience, but from what I know of the experience and opinion of others, I should prefer internal or external urethrotomy or gradual dilatation in any case to divulsion.

DR. NEWELL: I should like to say in connection with this subject in the first place, that I think Dr. Watson's paper very interesting and valuable, because it shows that since the technique of this operation has been understood, it is clearly demonstrated that whatever its advantages may be, it is certainly not more dangerous than other operations. In the "German Surgery," which so far as I know, is the best surgical work extant to-day, the forty-ninth volume is entirely devoted to the subject of stricture. The point made there which shows the difference between gradual dilatation and all other treatments, is this: Any treatment of the urethra by divulsion or cutting adds a cicatrix to the already existing organized exudation of lymph. The more this has become organized the more dense the stricture is.

I do not exactly understand why, if, as advocates of gradual dilatation claim, you can bring your band of organized lymph up to the desired calibre, and produce more or less absorption by the passage of sounds, the stricture is not cured without the addition of a cicatrix. It seems to me that if you are going to add a cicatrix, the cutting operation is the proper way to do it.

Perhaps Dr. Watson can tell why it is that if you bring a stricture up to the proper calibre with dilatation, you cannot keep it there. I think Professor Dittel claims that no stricture is ever permanently cured. In about twenty years the contraction untreated recurs anyway. I think it necessary to follow the course of strictures twenty years before we are justified in saying that they are cured. If we divide the web of the fingers with a knife, every one knows that there is a wide separation permitted by such a wound, but we know equally well that it is an absolutely certain fact that in the course of time the fingers will come back to exactly the same place. I don't know how cicatricial tissue in one place, differs much from that in another.

DR. GREENOUGH: Dr. Newell has brought out exactly what I referred to in the few remarks I made at the opening. What Dr. Tilden said interested me very much, but I would like to ask him how we know that the cicatrix which is formed in the healing of the cut is thinner and less fibrous than the original cicatricial tissue.

DR. TILDEN: It has been shown by autopsies.

DR. GREENOUGH: As we all know, strictures, excepting traumatic ones, are the result of the healing of a granular condition of the urethral mucous membrane. Exactly the same condition is seen by the oculists in old cases of granular conjunctivitis, and also chronic inflammatory conditions of the lachrymal ducts, where the same tendency to contract is seen. This tissue is, I believe, the same that we find in cirrhosis of the liver, and elsewhere as the result of chronic inflammatory processes, in cicatrices of the cutis, etc. When this fibrous tissue in the urethra is cut, there are only two ways in which the lesion can heal: either by first intention, that is, coming together and uniting, practically reproducing the condition previous to the operation, or by the process of granulation, which must result in a fibrous tissue of the same character, namely, one whose tendency is to contract.

In the remarks I have made, I have not meant to speak against the operation of internal urethrotomy, but only against the claim that this operation is in itself

a radical cure; that a man can be cut, and that is an end of his stricture. That such has not been the results in many cases, I know from personal experience. I believe that after-treatment, in the way of keeping the urethra dilated is necessary to prevent a relapse. The same thing is true, and perhaps even more so, after the treatment by gradual dilatation, which has, however, the advantage of comparative safety.

A mortality of one or two per cent., may not seem great to the hospital surgeon, but take the case of a man in private practice, who is able to attend to his business, and perfectly well, with the exception of a slight gleet; to kill that man would be a serious matter.

DR. E. W. CUSHING: I would like to ask what the mortality is supposed to be, of internal urethrotomy, in private practice. It seems to me that we are to distinguish a little between what is proper to do in a hospital, in cases who are suffering and are going away, perhaps to sea, and other cases, such as Dr. Greenough refers to, in private practice. I think most men would hesitate, if they were comfortably getting along, if any one were to tell them squarely that there is a mortality of one or two per cent. in stricture operations. I would like to know what the danger is in private practice, as distinguished from those old cases which bring up the mortality.

DR. WATSON: In the figures that I quoted, in some of the instances, I believe those of Otis, Weir, Bull, McBurney, in Dr. Tilden's cases and my own, and a number of others, the operation has been largely confined to private patients. I have never operated upon a patient without telling him he had two chances to die in a hundred. Some take it; some do not. Those that do, I operate upon, and those that don't, I dilate if I can.

DR. TILDEN: I would like to ask Dr. Watson what difference there is between the mortality of the French, English, and American cases.

DR. WATSON: The American cases show the better results in the majority of instances. It is not always so. Sir Henry Thompson has 340 cases, with six deaths. Otis says he has done 600 without a death. French cases have a higher mortality than any others.

DR. TILDEN: Dr. Watson's answer to my question brings out a point which is worthy of notice. The French have largely used a urethrotome which cuts upon the floor of the urethra, and such an incision is undesirable because in this way more spongy tissue is opened than by an upward or even by a lateral cut. I think that the practice of cutting upon the floor adds distinctly to the danger of the operation and that if the French statistics be omitted, its mortality would sink to a very low rate. The English use a bulb-pointed instrument, a modification of Civiale's urethrotome with which they cut in whichever direction they please. One advantage of the Otis instrument is that with it one cuts only upon the roof and in suitable cases, with proper care the operation is attended with as little danger as any operation I know.

DR. GREENOUGH: My own Maisonneuve instrument cuts upon the roof.

DR. TILDEN: All that I have seen cut upon the floor. My own did, and I had it changed.

DR. GREENOUGH: That would of course be a very serious objection.

DR. TILDEN: When I spoke of the operation to Ultzmann, he complained of the mortality of the operation, and showed me several French plates of enormous cuts upon the floor of the urethra.

DR. WARREN: In estimating the prognosis of these operations, it is well to remember that the cutting operation was in vogue fifty years ago, as the old instruments abundantly testify. The great advance of modern treatment lies in the degrees of dilatation and it is therefore probable that the improved results are due to this element rather than to the choice of a particular method of dividing the stricture.

DR. G. W. ALLEN then reported

FOUR CASES OF URETHRAL STRICTURE TREATED BY ELECTROLYSIS.⁶

DR. TILDEN said: My experience of electrolysis is limited to one case. A very bad urethritis resulted, and, so far as I know, no benefit whatever was derived from the use of the electrolysis.

DR. WATSON: I had one patient come to me who had had electrolysis performed—not by the gentlemen who have just spoken—where there was precisely the same appearance as that Dr. Tilden describes, and he had a chill in addition. Another one came from Dr. Allen. It is a rather significant fact that no practitioner or specialist of eminence has adopted this treatment after trial.

DR. KNAPP: I should think that Dr. Tilden's case of urethritis might be explained by the electrode. It seems to me that there is opportunity in these electrodes, which are made of hard rubber and metal? for dirt and germs to collect. It would be the best thing in the world to set up a urethritis.

DR. TILDEN: The electrode was brand new and had never been used before.

DR. PARKS: I believe nothing has been said about a method of rapid, gradual dilatation. Prof. Gross used to practice that method, but I don't know whether it is used at all now.

DR. WATSON: It may be stated that rapid, gradual dilatation is in the majority of cases, a divulsion. If the stricture is not divulsed, the method remains dilatation, only that it is accomplished at one sitting; this is sometimes possible, in strictures that yield readily without being split. Some operators habitually perform divulsion in this way. I have seen the late Dr. Charles Homans and Dr. Fifield do the operation a good many times; and have occasionally done it myself.

What Dr. Newell said seemed to me to be very pertinent about the length of time, although I don't see why twenty years should be set, because that is an arbitrary limit. Nevertheless, until after a long time no criterion can be set up. In regard to the question of why you cannot produce permanent cures by dilatation, there are two answers: one is that so far as is known, except in the beginning strictures, no absorption of connective tissue takes place under dilatation; and practical experience is that there are very few people who claim cures, no matter how far the dilatation is carried or how long continued.

DR. NEWELL: I said twenty years, because it is claimed that after twenty years there have been no untreated cases among those observed, that have not returned.

DR. WATSON: In regard to the remark of Dr.

Greenough about scars, I think there are one or two points to be considered. One is that so far as we know a linear cut in the urethra, *per se*, does not produce a stricture. That point has been experimentally tried, especially with dogs, and that result discovered, so far as animals are concerned. We sometimes see it also in exploration of the bladder by external urethrotomy, for example, in the human subject.

In regard to dilatation, perhaps Dr. Post misunderstood me a little. The first quarter of the paper was wholly devoted to dilatation. My experience is larger in that than in any other procedure; certainly five times as large. I do not wish to be misunderstood as not advocating dilatation where it is the only operation you have the choice of performing. I would advocate it always in the deep urethra, unless the stricture is intractable to dilatation, or the patient shows constitutional disturbance. Dr. Cabot said that he thought external urethrotomy should not be done for mild strictures in the deep urethra. I do not wish to imply that it should be so done, but merely offer the suggestion it might be done with better results if it were performed earlier, than is the custom, and not reserved for the emergency or desperate cases alone.

DR. NEWELL showed a pair of

ANTISEPTIC HÆMOSTATIC FORCEPS,

made by Codman & Shurtleff. They had been constructed with special reference to cleanliness and were perfectly smooth throughout. The catch, which is that so much used on purses, can also be attached to ordinary forceps.

Recent Literature.

The Curability of Insanity and the Individualized Treatment of the Insane. By JOHN S. BUTLER, M.D., Hartford, Conn. New York and London: G. P. Putnam's Sons. 1887.

This little book of forty-eight pages by one of the oldest insane-hospital superintendents living, is well worth reading as a record of more than fifty years experience in the care of the insane.

Its tone is cheerful and hopeful, and it should be read by the gloomy misanthropes who believe that insanity is practically an incurable disease.

A number of interesting cases are told in detail in the foot-notes.

The Modern Treatment of Diseases of the Heart. Part II. Diseases of the Aorta. By PROF. DUJARDIN-BEAUMETZ. Translated from the Fourth French edition by E. P. Hurd, M.D. Small quarto. pp. 181, 316. Detroit: George S. Davis. 1887.

This neat little volume—the fourth in the Physician's Leisure Library for the present year—is devoted to the treatment of diseases of the aorta, or rather to the chief disease of the aorta—aneurism. The writer begins by considering the treatment formerly considered the only one—Valsalva's method of starvation—and then considers the various methods of treatment that have risen since, compression, injections of ergotine, ice, external galvanization, acetate of lead internally, and iodide of potassium. Of these the only methods that have given good results are compression in abdominal aneurism, and ice and

⁶ See page 621 of the Journal.

iodide of potassium, and the results of treatment, even with these, are far from encouraging. In the second chapter the writer speaks of the various operative measures to procure coagulation in the sac, such as acupuncture, and the insertion of wire or horse-hair, and then comes to the chief method of treatment, to which the rest of the work is devoted, the production of coagula in the sac by electrolysis. It is too early to decide whether aneurism of the aorta can be cured by electrolysis, no case has yet been reported, but this treatment is certainly the most promising. Other forms of treatment have thus far proved of little avail; electrolysis has been shown to produce coagula in the sac, in certain cases it has succeeded in relieving for a time the distressing and urgent symptoms, and probably in prolonging life. More is to be hoped from it than from any other form of treatment now in vogue, and this little volume will be of service in widening our knowledge as to its use. It is needless to say that the translation is well done, and Dr. Hurd has also done the profession a service in adding a number of valuable notes.

The Principles of Antiseptic Methods Applied to Obstetric Practice. By DR. PAUL BAR. Translated by Henry D. Fry, M.D. 8vo. pp. 175. Philadelphia: P. Blakiston, Son & Co. 1887.

This book deserves to be read by all who practice obstetrics, especially by those ultra-conservatives who meet every advocate of antisepticism with the query, "What use have we for your antiseptic methods? We do not meet with puerperal fever; our patients always recover."

The author has traversed the subject very fully; and the translator, by occasional notes, has made some valuable additions from American authorities. The relation of the germ theory to the puerperium is carefully considered, the relative value of the various antiseptic agents is discussed in detail, and there is a convincing chapter on the influence of antiseptics on puerperal epidemics in European hospitals. After the chapters on hygiene of the puerperium and the application of antiseptics during labor and the lying-in period, there follow chapters on antiseptics in catheterization, rupture of the uterus, and in the Cæsarean operation. In an appendix the treatment of the foetal umbilicus and the prophylaxis of ophthalmia neonatorum receive satisfactory consideration. Throughout the book there are profuse references to authorities, yet the reader is never left in doubt as to the opinions of the author. Without prejudice, and without indifference to the labors of others, one may justly say that this work adds still another stone to the monument of Semmelweis.

—Dr. Blanc has, according to the *London Medical Record*, carried out a hundred observations on the influence of ergotine on involution of the uterus. The preparation employed was the Yvon solution of ergotine injected hypodermically, and the results were controlled by both external and internal measurements. During the ten days following delivery in healthy women after normal labor, he found that the process of involution did not take place more rapidly in the women to whom ergotine was administered than in those left to nature, and concludes that ergotine is without effect on uterine involution.

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ANNUS MEDICUS, MDCCCLXXXVII.

EPIDEMIOLOGY.

AT the beginning of the year cholera existed in South America, having been brought by ship from Italy. The disease was most prevalent at Rosario, a sea-port some two hundred miles from Buenos Ayres. It also was present in various parts of Austria-Hungary, in the earlier months of the year, but remained quiescent until the last of March, when it made its reappearance to a moderate degree at Budapest.

An outbreak of cholera appeared in the spring at Tonquin, which was promptly met by the French sanitary authorities, and which did not affect any but the native population, and these not to an alarming extent after the first. At Peshawur, in India, there were three hundred deaths from cholera in July. In northern India the disease raged extensively, there being seventy thousand deaths (one per cent. of the population), in the north-western provinces in June and July.

It is, however, in Southern Europe that its progress and history have, during the year, chiefly attracted the attention of American physicians. Here cholera became epidemic to a mild degree in March, the centre of the disease being for three months or more the eastern coast of Sicily. The town of Catania had up to July 1st, about two hundred cases with one hundred and forty deaths. Some cases also occurred in Messina and other towns, and also in the island of Sardinia. Early in July it broke out at Rocella, in Calabria, having, probably, been conveyed thither from Messina, or possibly Sardinia.

After the first of July the disease increased in frequency in the Sicilian towns, still having its maximum of violence at Catania. Early in August, it appeared at Malta and at Resina, in the Bay of Naples, also gradually increasing in a number of towns on the Calabrian coast. Numerous cases appeared at Naples, and in the province of Capua. September 4th, two cases were reported at Rome.

During September, the disease increased in southern Italy and Sicily, not only in the towns previously affected, but sporadically, here and there, including Rome. At Naples, the deaths in the middle of September, averaged five or six a day. In Sicily the increase was greater; at Messina the deaths averaged fifty-five a day. The type of the disease at Messina was fulminant, death sometimes occurring within an hour of the attack. From about the middle of October the disease rapidly declined.

September 23d, the Steamship *Alesia* of the Fabian line, from Marseilles, arrived at New York with eight cases of cholera aboard. These were doubtless taken on at Naples, among three hundred passengers who embarked there, and two of whom were sick at the time of embarking. A third case developed September 13th, four died on the voyage. The passengers and crew were quarantined at Hoffmann's Island, and though fifteen or more patients died there, the disease did not obtain any foothold. Soon after the *Alesia*, the *Britannia* and the *Independente*, arrived, the former bringing actual, and the latter suspicious cases, but the passengers of the latter were but briefly detained and those of the *Britannia* were allowed to come up to the upper quarantine; yet, despite these facts, and the unprepared state in which the quarantine station was found by the emergency of the *Alesia*, the disease was stopped on the threshold, and our greatest danger during the year from Asiatic cholera passed over, leaving us unscathed.

Yellow fever appeared at Key West, Florida, in June, there being thirty-one cases with eleven deaths in the first eighteen days of that month. On the 15th of July one case occurred at Egmont Key, Florida, a refuge station. In August and September, the focus of the disease shifted to Tampa, where in the ten days, October 14th to October 24th, one hundred new cases developed with fifteen deaths. The United States Revenue Hospital Bureau established at Tampa a hospital and brought thither a number of acclimated nurses from Savannah. During the last weeks the disease has practically died out.

Scarlet fever has been specially prevalent in Boston and vicinity during the last two or three months of the year, the number of deaths from this cause in Boston, rising some weeks to seventeen or more, out of totals of reported cases amounting to seventy and over. The Boston Board of Health has on this account adopted the rule of fixing a red card of warning to all houses in which cases of the disease exist.

The College of Physicians of Philadelphia celebrated January 2d, the centennial anniversary of its organization, with addresses by Dr. S. Weir Mitchell, President of the College and Dr. DaCosta, a banquet, and the bestowal of honorary membership on some of the numerous guests who were present from other cities.

Among the cases appealing to the hearts of physicians as well as to their professional interest, has been that of the Crown Prince, Frederick William, of Ger-

many. About a year ago the Prince began to suffer from hoarseness, and in March his physician discovered on the left vocal cord a sessile warty growth which was touched with the electro-cautery and reduced in size. It recurred, and May 21st, Dr. Morell Mac-keuzie, of London, excised a portion of it, which was examined by Virchow and pronounced a pachydermia verrucosa and not of cancerous nature. Further portions of the growth were removed by Dr. Mackenzie at subsequent times, and the prognosis given was good, the condition of the patient improving as the pieces of the growth were removed, and the galvano-cautery was subsequently applied. During the summer the patient visited England, and in the Scottish Highlands, after the subsidence of the congestion left after the operation, regained voice and spirits, though there remained a tendency to catarrhal congestion and relaxation. There was slight but fugitive thickening of the posterior end of the left vocal cord once or twice. September 14th a thickening three by five millimetres in dimension was seen, one-half inch below the centre of the left vocal cord, and not as will be noted, at the site of the original tumor. This ominous growth has continued, on the whole, to increase, and November 3d, it was a centimeter in diameter and had ulcerated. The unfavorable result of the clinical history, of course outweighs the verdict of the earlier pathological examination, (which, it should be said, was made upon a very small bit of tissue), and the doom of the patient seems to be sealed.

The Hydrophobia Commission appointed by the British Government to investigate the work and claims of Pasteur rendered their report early in the summer, after a delay commensurate with the magnitude of their labors. Three of the members, Sir Henry Roscoe, Dr. Burdon Sanderson, and Dr. Lauder Brunton, visited Paris, and a fourth, Mr. Victor Horsley, conducted experiments with virus brought back by these three, while the remaining four Sirs James Paget, Joseph Lister, and Drs. Quain and Fleming, made up their opinion on the evidence collected and presented by the rest. The report rendered was favorable to the claims of Pasteur, and was to the effect that inoculation with the attenuated virus of rabies confers an immunity from the disease; it further denies that Pasteur's inoculations have been the cause of death in those cases where there has been an unfavorable result. Meantime, there has been in the aggregate a considerable number of deaths after Pasteur's inoculations, though that proportion is small, *provided* all the persons inoculated would otherwise have had rabies. On that *proviso* hangs, as before, the whole question.

First in point of time and of interest, if not of value, among the therapeutic innovations of the year, came the Bergeon treatment of chronic lung diseases by the rectal injection of gases, notably sulphuretted hydrogen. Announced by its discoverer at the close of 1886, its trial in this country began with the new year. Welcomed, as is everything that gives

any promise of immunity from so grave a disease as phthisis, it was tried pretty generally, only to disappoint. Some trifling amelioration of symptoms, such as excessive expectoration, harassing cough, and occasionally a slight gain in flesh, were observed in a few cases, but the bacilli neither disappeared nor diminished sensibly in numbers, and the fatal march of the disease remained in general unchecked.

Pneumatic differentiation by the aid of the cabinet, while less heard of during the year than the Bergeon treatment, has survived the downfall of the latter treatment, and seems to have held its own as, at times, a valuable aid in treating early cases of phthisis when change of climate is unavailable.

Our French brethren have been playing with hypnotism to a very considerable degree. It is an edged tool which in non-medical hands and possibly even when controlled by professional men, is capable of doing mischief. The performances with hysteric women at the Salpêtrière are not calculated to inspire the therapist with hope, though it is claimed that attacks of hysteria have been by this agency postponed for months. Whether the remedy is better than the disease, is not quite clear. Just at present the craze is taking the form of "suggestion" of therapeutic aid to hypnotized patients, though the application to the body of corked bottles containing various drugs, or no drugs at all. The government has very properly restricted the position of hypnotism outside of the medical profession, and there may be those who think it would not have been amiss to extend the restriction a little further.

One positive therapeutic gain of the year is the discovery of the analgesic effects of the antithermics, antipyrine and antifebrin, in neuralgic and other pains, where they are often found to replace morphia, without the unpleasant effects of that drug.

Of other pharmaceutical novelties of the year we may refer to saccharine, a compound of certainly great sweetening power, whose chemical name is equally strong, namely, anhydroorthosulphamidobenzoic acid. Gleditschine, or stenocarpine, heralded as of powers superior to cocaine, obtained considerable attention at its first presentation to the profession, but was very soon discovered to be an arrant fraud, being itself nothing more nor less than a solution with an appropriate preservative of cocaine hydrochloride.

The Medical Congress, begotten of the American Medical profession, but "fathered" by the American Medical Association, after a stormy gestation of three years, threatened often with abortion, came to the birth last September. The 2,700 enrolled visitors, *ex facto* and *ex scripto*; the 150 visitors brought over the sea; the long lists of vice-presidents and the vacant chairs reserved for them; the papers, good and bad; the scant social cheer of a capital out of season; and lastly the flow of champagne, certified on oath to have been Mumm's own, and to have been bought with a price—are they not all written in the pages of the remittent daily Medical Journal?

It was a large meeting; and if hardly an "international episode," it yet reflects credit on the perseverance of the gentlemen of the South and West who organized and chiefly attended it.

Of the stated established lectures on medical subjects to which readers turn for the latest and soundest expression of medical science on the topics of which they treat, may be mentioned the following:

The Harveian Lectures on "Cancer of the Uterus," by J. Williams, M.D., London, F.R.C.P.; the Lettsonian Lectures on "Some of the Mental Affections of Childhood and Youth," by J. Langdon Down, M.D., London, F.R.C.S.; the Erasmus Wilson Lectures on "Evolution in Pathology," by J. Bland Sutton, F.R.C.S.; the Hunterian Oration, delivered before the Royal College of Surgeons of England, February 14th, by William S. Savory, F.R.S.; the Gullstonian Lectures on "The Nature of Fever," delivered at the Royal College of Physicians by D. Macalister, M.A., M.D., F.R.C.P.; the Croonian Lectures on "The Pulse," delivered at the Royal College of Physicians by W. H. Broadbent, M.D. F.R.C.P.; the Lumleian Lectures on "The Pathology of Intra-uterine Death," delivered at the Royal College of Physicians by W. O. Priestly M.D., F.R.C.P., LL.D.; the Cavendish Lecture on "A Speedy and sometimes Successful Method of Treating Hay Fever," delivered by Sir Andrew Clark, M.D., F.R.S.; the Bradshawe Lecture on "Pneumothorax," delivered at the Royal College of Physicians by Samuel West, M.D., F.R.C.P.; the Bowman Lecture on "The Relation of Ophthalmic Disease to Certain Normal and Pathological Conditions of the Sexual Organs," delivered before the British Ophthalmological Society by Henry Power, M.D., London, F.R.C.S.; the Morton Lecture on "Cancer and Cancerous Diseases," given at the Royal College of Surgeons of England by Sir James Paget, F.R.C.S. The first course of the Middleton-Goldsmith Lectures under the auspices of the New York Pathological Society was given by Dr. M. Allen Starr, "On Multiple Neuritis and its Relations to Peripheral Neuroses." [These lectures were published in the JOURNAL].

Among the national medical gatherings of importance during the year, we note the following:

The Medical Society of the State of New York held its eighty-first annual meeting at Albany, February 1st to 3d; the Sixth Annual German Medical Congress was held at Wiesbaden, April 13th to 16th, under the presidency of Professor Leyden, of Berlin; the Sixteenth Congress of German Surgeons met at Berlin, April 13th to 16th, Prof. von Volkmann presiding; the American Surgical Association held its annual meeting at Washington, May 11th to 14th; the American Association of Genito-Urinary Surgeons met for the first time at Lakewood, N. J., May 17th and 18th; the American Laryngological Society held its ninth annual meeting at New York, May 26th to 28th; the American Climatological Society

had its fourth annual meeting at Baltimore, May 31st and June 1st; the American Medical Association held its thirty-eighth annual session at Chicago, June 7th to 10th; the second annual meeting of the Association of American Physicians was held at Washington, June 2d and 3d; the thirty-sixth annual meeting of the American Association for the Advancement of Science was held at New York, August 10th to 16th; the National Orthopædic Association met for the first time in New York, early in July; the American Otological Society held its twentieth annual meeting at New London, Conn., July 9th; the American Ophthalmological Society held its twenty-third annual meeting at New London, July 20th and 21st; the American Neurological Association held its thirteenth annual meeting at Long Branch, July 20th and 21st; the fifty-fifth annual meeting of the British Medical Association was held at Dublin, August 2d to 5th, Dr. Withers Moore presiding; the eleventh annual meeting of the American Dermatological Society occurred at Baltimore, August 31st to September 2d; the Ninth International Medical Congress met at Washington, September 5th to 10th; the American Gynecological Society held its twelfth annual meeting in New York, September 13th to 15th; the German Congress of Physicians and Surgeons met September 20th to 22d: one of its most important features was the address by Virchow on "Transformismus"; the Sixth International Congress of Hygiene and Dermatology met at Vienna in the latter part of September. The importance of this meeting demands for it a word of further mention. The attendance was about 2,400, and the meeting was presided over by the Crown Prince Rudolph, of Austria. Professor Brouardel read a paper on "The Propagation of Typhoid Fever"; Professor Pettenkofer on "The Teaching of Hygiene in the Public Schools and Universities." In a notable discussion on "Cholera and Quarantine," the English delegates, with Pettenkofer, and notably an Italian, Dr. Mosso, of Turin, maintained strongly the uselessness of quarantine, and the importance of putting sole trust in sanitary reform. The seventh meeting of the Congress occurs in London in 1891.

GENERAL NECROLOGY.

While death has been as busy as ever during the year, it is somewhat remarkable that his hand has fallen with special force upon the medical profession in Italy. No other country has suffered so heavy a loss, proportionally to its size, of men of brilliant achievement in this branch of science.

We present briefly a list of the most prominent medical men who have died during the year.

William Perry, M.D., the oldest living graduate of Harvard College, a member of the class of 1811, long a successful practitioner in Exeter, N. H., died January 11, aged ninety-eight years and twenty-one days.

Nicola Gasparri, aged thirty-three, a medical officer of prominence in the Italian army, was killed January 26, while fighting in the ranks in a most desperate encounter at Dogali, between five hundred Italian

troops and many thousand Abyssinians. The fight was continued till of the five hundred Italians only eleven remained unwounded.

Francesco Magni, probably the leading ophthalmologist of Italy, died at San Remo, February 2, at the age of fifty-nine. He was made director of the anatomical school at Florence in 1859, and a year later was called to the chair of ophthalmic surgery at Bologna. He subsequently visited the United States, and made a brilliant reputation in many of the northern cities for his diagnostic and operative skill. He was Senator of the Kingdom of Italy 1876, and politically was a Liberal.

Prof. Carl Schroeder, of Berlin, died February 7, at the age of forty-nine, after a two weeks' illness, from brain fever. He was one of the leading gynecologists of Europe, and his hospital for women at Berlin attracted crowds of students and patients from all parts of the world. He had written numerous works on this subject, among them his *Manual of "Midwifery, including the Pathology of Pregnancy and the Puerperal State,"* which has been translated into English and widely read. His early death was attributed to overwork.

Jules Béclard, dean of the Faculty of Medicine of Paris, in which he succeeded Professor Vulpian in 1881, died February 16, at the age of sixty-nine. He was author of the "*Traité de Physiologie Humaine*," which was for thirty years the standard work on that subject in France, and which reached seven editions. In 1844 he defeated Claude Bernard in the competition for the assistant professorship of anatomy and physiology, and in 1871, on the death of Longet, became professor of physiology.

Dr. W. S. Little, an eminent Philadelphia oculist, died February 18.

Prof. T. Gaillard, of Paris, a prominent French gynecologist and obstetrician, died early in the year.

Alexander Porphyryvich Borodin, Professor of Organic Chemistry in the Military Medical Academy of St. Petersburg, died February 28, aged fifty-three.

Luigi Laurenzi, head of the Ospedale della Consolazione in Rome, and a surgeon of renown, died suddenly, in the prime of life, April 5.

Pietro Cipriani, of Florence, eminent in several departments of medicine, and Senator of the Kingdom, died April 5, aged seventy-nine. He was the first occupant of the chair of cutaneous diseases, established in Florence in 1840, and afterward was professor of clinical medicine, succeeding Bufalini.

Dr. James S. Jewell, of Chicago, a founder of the American Neurological Association, Professor of Nervous and Mental Diseases in the Chicago Medical College since 1872, and originator, two years later, of the *Journal of Nervous and Mental Diseases*, died April 18, aged fifty.

Nathaniel Lieberkühn, son of the discoverer of the "follicle," and himself professor of anatomy in Marburg, and an industrious student in subjects connected with development, died in April, aged sixty-five.

Alfred Meadows, M.D., F.R.C.P., at the time of his death physician-accoucheur to St. Mary's Hospital, and previously the holder of many obstetrical positions in connection with other London hospitals, died April 19, aged fifty-five.

Leon Gosselin, surgeon to the Paris Hospitals, professor of surgical pathology (1858), professor of clinical surgery (succeeding Velpeau in 1867), member of the Academy of Sciences, and president of the same, author of many surgical works, perhaps most prominent among them the "Clinique de l'Hôpital de la Charité," died April 29, aged over seventy.

E. T. Caswell, M.D., one of the surgeons to the Rhode Island Hospital, and a well-known practitioner of Providence, R. I., died April 17, aged fifty-four years.

Wilson Fox, M.D., F.R.C.P.L., F.R.S., died in London, May 3, aged fifty-six. He had been a student under Virchow, and in 1861, at the recommendation of the latter, was made Professor of Pathological anatomy in the University College of London. Six years later he became professor of clinical medicine. He was an industrious student and writer on various subjects connected with these departments, especially upon tuberculosis. He wrote the articles in Reynolds's "System of Medicine," on Diseases of the Stomach, and on Pneumonia.

Professor Vulpian, the noted French physiologist, died May 18, aged sixty. Known in his own country as a lecturer, and as dean of the Faculty of Medicine, his chief fame on this side of the water rested upon his writings, which covered almost all the subjects of physiology, and ended with his work, in two volumes, on the "Diseases of the Nervous System."

Dr. E. Darwin Hudson, of New York, formerly Professor of Medicine in the Woman's College of New York, and later a professor of the New York polyclinic, an active worker in medical science, author of a standard work on "Physical Diagnosis," died May 10, aged forty-four.

Karl Friedländer, pathologist, of Berlin, died in May, at the early age of thirty-nine. While he had never held exalted rank in the academic scale, being made professor only a few months before his death, and that without any official chair, he stood in the foremost rank of living pathologists. He discovered in 1882 a coccus which he claimed to be pathognomonic of pneumonia, and which is known to bacteriologists by his name.

Dr. Alexander Gordon, for many years the leading surgeon of Belfast and the north of Ireland, died July 28, aged sixty-nine. He was made professor of surgery at the opening of Queens College, Belfast, in 1849, and held that chair till shortly before his death.

Dr. Andrew Fergus, of Glasgow, a crown representative on the general medical council, President of the Glasgow Philosophical Society, and a practitioner of large experience and repute, died in July, aged sixty-five.

Dr. Gustavus Charles Philip Murray, a leading practitioner of Edinburgh, an original member of the London Obstetrical Society, a voluminous writer on obstetrical subjects, and a visitant to numerous hospitals for diseases of women, died August 7, aged fifty-six.

Adolph Pansch, Professor Extraordinary in the University of Kiel, author of many anatomical observations, a scientific member of the second German expedition to the North Pole (1869-70), was drowned at Kiel, August 14, at the age of forty-six.

Alonzo Clark, M.D., L.L.D., Professor of Physiology and Practical Medicine in the College of Physicians and Surgeons of New York since 1855, died September 13, aged eighty. He had previously held other professional chairs, the first being that of pathology and materia medica in the University of Vermont Medical School. His chief fame was as teacher and consultant rather than as author. He was connected with Bellevue, the New York, and other hospitals, was president of the Medical Society of the State of New York in 1853, and later of the New York Academy of Medicine.

Richard Quain, M.D., F.R.C.S., one of the founders of the London Pathological Society, the editor of Quain's "Dictionary of Medicine," and a well-known writer on medical subjects, died Sept. 16, aged seventy-one. He bequeathed almost the whole of his fortune, amounting to \$375,000 to University College, London, "for the promotion . . . of general education in modern languages (especially the English language and composition in that language), and in natural science."

Dr. Gaetano Pini, of Milan, of special prominence as one of the early cremationists, his society of 1876 having been followed by thirty-six others in Italy in the face of bitter opposition from the Roman church, died September 25, aged forty-one. He was also the founder of the Royal Italian Society of Hygiene.

Dr. J. C. Hutchinson, of Brooklyn, long and prominently connected with the Brooklyn Hospital, died in October.

Dr. Jas. A. Gray, of Atlanta, editor of the *Atlanta Medical and Surgical Journal*, died September 7, aged thirty-seven.

Dr. James Knight, Surgeon-in-chief of the Hospital for the Relief of the Ruptured and Crippled in New York, died in October, aged seventy-seven.

Dr. Wm. M. Chamberlain, of New York, of the staff of Charity Hospital, a specialist in the diseases of women, died October 31, aged sixty-one.

Leon Bassereau died at Paris, November 1, at the age of seventy-seven. In 1852 he published the work which definitely settled the fact that there existed a syphilitic and a non-syphilitic chancre. By repeated confrontations of infected and infecting individuals, he was able to formulate the law "That when an individual is attacked by a chancre which is followed by constitutional symptoms, generalization of symptoms is due to the fact that the individual from whom the

infection came was the victim of syphilis." Bassereau was thus the author of the doctrine of dualism.

Dr. Thomas R. Varick, of Jersey City, Visiting Surgeon of St. Francis Hospital, and one of the leading surgeons of New Jersey, died November 23.

Dr. Middleton Goldsmith, of Rutland, Vt., the founder of the Pathological and the Middleton-Goldsmith Lectures, in New York, died November 26, aged sixty-nine. He had been dean of the Kentucky School of Medicine at Louisville, and served as brigade-surgeon in the war. He was deeply interested as might be judged from the foundations above referred to, in the progress of medical science. Shortly before his death, he presented his library to the New York Academy of Medicine.

Sir William R. E. Smart, K.C.B., died on December 2, at the age of seventy. He joined the Royal Navy in 1841. When the Russian war began, and the siege of Sebastopol was determined on, his ship was converted temporarily into a hospital until huts could be erected on shore for the reception of the sick and wounded, who were placed in charge of Dr. Smart. The admirable efficiency of his arrangements, and the zeal, energy, and humanity he invariably displayed in the duties of the hospital, whither all the worst cases were sent from the front, were soon recognized by the eminent naval officers in command, and on their recommendation he obtained from Lord Raglan the rank and privileges of a first-class Staff Army Surgeon. He was an active member of the Epidemiological Society.

Professor Charles Langer, of Vienna, died on December 8. He was born in 1819, took his degree of M.D. at the University of Prague, was for a time an assistant of Professor Hyrtl, and when that distinguished anatomist died, was elected to the professorship.

Sir George Burrows, Bart., M.D., L.L.D., (Hon.), Cantab., D.C.L., Oxon., was born in 1801. He was a student, and later the son-in-law of Abernethy, and studied under Breschet and Scarpa. He had been physician to St. Bartholemew's Hospital, and had been lecturer on Medical Jurisprudence, and later, in conjunction with Dr. Latham, lecturer on Medicine. In 1862 he was President of the British Medical Association. In 1873 on the death of Sir Henry Holland, he became physician in ordinary to the queen. In 1871 he was elected President of the Royal College of Physicians, holding the office for four years.

NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY, 1887.

Preston Marshall Chase, of Danvers, died January 4, aged fifty-nine.

William Alexander Gordon, of New Bedford, died January 14, aged seventy-eight.

Jones Franklin Wakefield, of Everett, died January 14, aged sixty-two.

Joseph Thomas Odiorne West, of Princeton, died January 28, aged sixty-three.

Silas Emlyn Stone, of Walpole, died January 29, aged forty-eight.

Anthony Bernard Magee, of Lawrence, died January 31, aged thirty-five.

Jonas Augustus Marshall, of Fitchburg, died February 25, aged eighty-six.

John Beveridge Fulton, of East Boston, died March 19, aged fifty-two.

Ashman Hinckley Taylor, of Shelburne Falls, died April 13, aged sixty-four.

John Sydenham Flint, of Roxbury, died April 16, aged sixty-three.

Joshua Vincent Smith, of Melrose, died April 18, aged forty-one.

Gustavus Percival Pratt, of Cohasset, died April 29, aged forty-seven.

Marcus Bloomfield Leonard, of East Boston, died May 6, aged sixty-six.

George Augustus Warren, of Hopkinton, died May 6, aged sixty-eight.

Charles Warren Hackett, of Maplewood, died June, aged thirty-five.

Ebenezer Wade Drake, of Middleboro', died June 28, aged sixty-nine.

John Sullivan Bogg, of Springfield, died July 9, aged thirty-eight.

Charles Eliot Ware, of Boston, died September 3, aged seventy-three.

John Ambrose McArthur, of Lynn, died September 28, aged fifty-seven.

John Odoway French, of Hanover, died September 29.

George Otis Allen, of West Roxbury, died October 3, aged forty-eight.

David McCaire Parker, of Boston, died October 8.

James Wilde, of Duxbury, died October 15, aged seventy-five.

Pierre Le Breton Stickney, of Springfield, died November 5, aged seventy-three.

Charles Edward McGowan, of South Boston, died November 12, aged thirty-six.

James Henry Waterman, of Westfield, died November 23.

Nelson Briggs, of North Arlington, died November 25, aged seventy.

Charles Harrison Spring, of Boston, died December 9, aged fifty-five.

David Dana, of Lawrence, died December 10, aged sixty-four.

John Manchester Smith, of Vineyard Haven, died December, aged sixty-one.

MEDICAL NOTES

NEW YORK.

—An ambulance corps is to be established in the various regiments, batteries, and separate companies of the New York State Militia. For some time past the surgeons and assistant surgeons of the New York and Brooklyn regiments have had the mat-

ter under consideration, and having united upon a plan for the organization of such a corps they have submitted it to Surgeon-General Bryant, who will act upon their recommendations as soon as the necessary order has been issued by the Adjutant-General of the State.

—A burglar in Brooklyn, who was recently wounded in a conflict with the police while escaping, with two companions, after committing a robbery at night, has been identified in rather a curious way. When arrested it was found that his upper jaw was broken and several of the teeth were gone, a circumstance which he explained by stating that he had been assaulted by two men. A detective was sent, however, to the scene of the shooting affair with the police, and he there found a piece of jaw-bone with teeth attached, which exactly fitted the gap discovered in the man's mouth.

Miscellany.

SOME VASO-MOTOR PHENOMENA IN TYPHOID FEVER.

DR. ANGEL MONEY calls attention (*Lancet*, December 3d) to certain vaso-motor phenomena, which he has noted in cases of typhoid and of rheumatic fever. He divides them into classes, as follows: In the first class he places the *spontaneous vaso-motor phenomena*, by which he means those facts which may be witnessed without further irritation or stimulation than attends the mere exposure of a surface of the body or limb on which the observation may be made. If it be the surface of the abdomen, this may be found to be for the most part of a pinkish hue, such as tends to obscure the presence of rose spots, if such be present; but scattered here and there through the red tint, which they mottle, may be seen areas of whiteness, which present a distinct and striking contrast with the general tint, and are, moreover, characterized by varying in distinctness, being whiter or less white at one moment than at the preceding or succeeding moment. If to such a skin, under such circumstances, the additional condition be added of a slight mechanical — electrical or thermal — stimulation, certain further observations may be made, the purport of which he does not pretend to fathom, though it would be easy to offer plenty of hypothetical explanations. It generally happens that the stimulated area or line turns white or ivory-tinted after the lapse of a rather long latent period, variable in different cases and at different times for unascertained reasons, and measurable generally by seconds. The whiteness is not strictly limited to the irritated section, but spreads away from the part stimulated, and in a gradual, decreasing fashion. Moreover, the pallor does not appear abruptly after the period of latency, but the pinkness of the skin gradually gives way to the whiteness, and the changing hue is very perceptible. Thus, both in space and time the phenomenon has a graduation and a duration which are, comparatively speaking, of slow course, and remind one rather of the contraction of smooth, plain, nerveless muscular fibre, than the rapid, sharp contractions of the well-nerved voluntary muscle.

Again frequently, but not always, it will be found that exposure of the skin of the arm and forearm in the same subject presents a contrast with the previously or simultaneously exposed surface of the abdomen, the general tint being white with irregular patches, sometimes streaks, of pink or darker red. When this contrast is evident, and occasionally when there is no such general and spontaneous dissimilarity of appearance, mechanical, and sometimes (?always) electrical and thermic, irritation of the skin of the arm will be followed after a similar, but perhaps generally a trifle shorter, period of latency by the gradual development of the *tache cérébrale* or red streak, having the usual characters of that phenomenon. Sometimes the surface of the arm has a general pink tint on first exposing it to the atmosphere, and this may rapidly change to white, but the color of the written characters thereon may be deep red. The contrast in color may be still more remarkable, even in the same case; the writing may be white on the surface of the abdomen, red on the forearm, white on the legs. He lays considerable stress on the circumstance that the temperature of the skin and of the body is usually high in cases which present these vascular phenomena, and, further, I have most generally observed them in full perfection when the skin has not been perceptibly sweating. But, as proving that neither increased heat nor an especial dryness of the cutaneous tissues is necessary to the production of such phenomena, he observes that he has seen them very well marked in cases of epilepsy and chorea of uncomplicated and afebrile sort. It may be worth placing on record, also, in this connection that the majority of cases in which these observations were made the brain was certainly perturbed in its functions, for delirium was frequently present at some period of the twenty-four hours, mostly at night-time; still his observations were usually made during the day-time, and when the intellect of the patient, to all ordinary modes of investigation, did not seem to be abnormally affected.

Correspondence.

"THE DOCTOR'S WIFE."

Audi Alteram Partem.

CRANBERRY MEADOWS, Dec. 23, 1887.

MR. EDITOR, — I can keep my peace no longer, but must tell your readers the true story of Dr. Benedick's success. Of course you supposed that no one but doctors would read the letters you have published, and you were glad to let them smile at what they would graciously term the foibles of the doctor's wife; but I fear they do not realize that perhaps they owe more to her than even Dr. Cœlebs would admit in his bluest moment. I really think Dr. Benedick himself was a trifle afraid of hearing a personal opinion on the matter, for I have had difficulty in finding the *Journal* during these past few weeks, and only after a vexatious search has it been discovered at the bottom of a pile of papers which haven't been read for two months. And this leads me to say that, possibly the genial raillery in the first charming letter about the doctor's wife putting the baby with the fit into hot water, and soothing the terrified friends of the man with the broken leg, may have been an unconscious testimony of the writer to a knowledge which was far deeper than he knew.

Perhaps he is like Dr. Benedick, who probably does not know with what zeal his wife picks up scraps of knowledge

from those very books which he innocently supposes are never disturbed except on the rare occasions when he proudly pulls them down to dazzle the eyes of old Dr. Wormwood, whose library is said to consist of a dozen old volumes which have been lying on the top shelf of his closet for fifteen years. The most recent one among them was purchased back in the forties because it gave a description of the only operation the doctor ever performed, which exploit, as he tells of it whenever he has a chance, he very naturally mentions in his letter.

But, perhaps, your wives read more than you think, gentlemen; and perhaps there are some things they hear outside which might be worth a good deal to you. They get information from lips that to you are sealed. Confide in them and, my word for it, you will not be sorry.

True, the wife alone cannot bring success; yet compare these pictures and give your verdict. The patient who calls at Dr. Cælebs' door is met by a frowsy, sour-faced housekeeper, a look at whom would give anyone the dyspepsia. He is shown into an untidy, dismal room, smelling of cheap tobacco, and fairly littered with instruments suggestive of all manner of tortures. The doctor is patterned after the room. When he emerges to make a call the only button still clinging to his overcoat is half-way down; his unblackened shoes are well calculated to show the knots in his shoe-strings, which will come untied; his beaver shows three-years of style, and at least five of decrepitude; and the glove which still sports a button is ripped between the fingers. No one doubts that he knows more than old Gamboe ever did, but when he combats all the old women's theories, which the shrewd old doctor had assiduously nourished all these years, his learning goes for nought. Perhaps it isn't so in other places, but people here in Cranberry Meadows don't hire a doctor to show them how much he knows, but to make them satisfied with themselves.

If some one calls upon Dr. Benedick, a pleasant face greets him at the door, and he feels better already. A patient and sympathetic ear hears his story. Everything is neat and cozy. The doctor is never allowed to go out without a final survey, to see that all is right. A smile puts him in good humor before he leaves, and the reckless way in which he acquiesces in what has been done by the maiden aunt before his arrival, would make his medical instructors hold up their hands in horror; yet the aunt, and with her, the family, are his friends for life.

But there are secondary points. The true secret of success is this: *Dr. Benedick wears a full beard.* The doctor's strength varies diversely with the number of hairs on his face, and inversely with the number of those on his head. When Father Time shall have reaped the harvest from the crown of our neighbor, Dr. Cælebs, and gathered in the shocks, and shall have raised a new crop on the soil below, now lying fallow, then our friend will be too busy to write complaints to the JOURNAL, because there has not yet been dealt him that winning card which he calls

"THE DOCTOR'S WIFE."

MRS. BENEDICK HAS THE LAST WORD ON THE "DOCTOR'S WIFE."

CRANBERRY MEADOWS, December 26, 1887.

MR. EDITOR,—I noticed for three weeks that the *Medical Journal* was put away so that I could not find it, but I went to the Post Office myself when the last number came and then the whole thing came out, and I have seen your editorial and what Dr. Cælebs and Dr. Benedick and Dr. Wormwood have to say, and I must say, Mr. Editor, that time must hang pretty heavy on some people's hands. I think Dr. Cælebs is real mean. I don't know why he wants me to stop going to sewing society just because I'm married. I always have been to sewing society and amusements are not so numerous in the Meadows that one can neglect them. I wonder what he would have said if I had not returned my wedding calls. We do not stand on

ceremony here in the Meadows, but we are very particular about wedding calls, and you can't expect us to be *purposely* disagreeable to folks that may be patients, and you can't expect a girl who never had anything in her life to conceal, to learn all at once to hold her tongue. Folks here are interested in me, and of course they ask me questions about the sick people, and of course I have to tell them something. If *somebody* would remember that I don't tell *all* I know, I should think he would be thankful.

It certainly is real hard for a doctor's wife to know just what to say and what to do. Everybody takes it for granted that she knows just where her husband is, and what he said, and just how every patient is doing. It makes me ashamed sometimes when the doctor don't tell me about something, and I have to say I don't know about it. And it seems to me just right that the doctor's wife should be able to tell people about their sick friends. Now when the Prince of Wales and President Garfield were sick, there used to be bulletins from the doctors published in all the newspapers, and when young Bulwhacker was nearly killed, stopping the runaway horse down at the South Meadows, and lay for four weeks so near death that nobody dared speak, and my husband spent most of his time there, and finally pulled him through, people couldn't go four miles twice a day to inquire about him, but they used to come to me and find out what the doctor said, and I kept a list of all of them, and showed it to his poor mother when he was well again. Now wasn't that better than saying I didn't know?

Now that note of Dr. Benedick's is just like him, he is altogether too modest and he likes to make it appear as if it was all Mrs. Gamboe's doings. He always does belittle himself, and if anybody ever needed somebody to stand up for them, he does, and I think it is high time that some one who *knows* and who is *calm* and *reasonable* should correct the wrong statements that have been made.

In the first place, if my husband had showed me his letter before mailing it, I could have set right *one* error. I want it distinctly understood that Aunt Gamboe *never* made up *any* match between me and my husband. She told me often enough that if I *must* have one of them she knew which she should choose, but I was just throwing myself away to marry either of them and that is all the match-making she did. Perhaps if my choice had been different your correspondence would have been different too. When the doctor married me it was because he wanted to bad enough to ask me, and I did not say yes the first time either. He *is* doing beautifully in his practice since he married, and Mrs. — told me only yesterday that he was by all odds the coming doctor of the town, and our mare is not spared, whatever that hateful old Wormwood (gall and wormwood, *folks who like a joke*, call him) may say. It is just because my husband had to drive her so much that she went lame, and we wouldn't have had to give our note for him if we hadn't got him just the same time that the baby was coming. Fuller Wormwood never would have known about the note anyway if he hadn't been looking around for some way to invest his scrapings and scrimpings and bought it. If there is anybody that is just hateful, it is that old Wormwood. Everybody knows that the only thing that ever got him along at all was his being so cross and snappy. There are some folks that always think that a doctor doesn't know anything unless he is as savage as a bear. I always did hate an old bachelor that is a doctor. They get crustier and crosser than any other kind of an old bachelor, and they are all bad enough goodness knows, besides I think, and there are plenty more think as I do, that it isn't right for an unmarried man to be coming into houses and attending ladies. I should not dare to write this if I did not know where the money was coming from to pay our note.

One curious thing has happened since Cælebs took to drink. He has really got several good patients by it. They say if he can do anything at all when he is drunk, "what must he be when he is sober!" And the women of the temperance society have taken him up to try to reform him, "it is such a pity to see a man with such a brain

ruining himself with liquor," so that he is altogether doing better than ever before.

Now I think I ought to tell you about that "case," though I should not dare to if I was not a doctor's wife, but I guess I must be the only one left that knows about it unless Aunty Gamboge does, and I really feel that I ought to tell. Well grandpa went back to Uncle Gamboge and sorry enough he was he ever left him; for after the operation something was so bad that he was always taking medicine and every once in a while Uncle G. had to go out to see him and they used to have just awful times.

Respectfully yours,
BEATRICE JANE BENEDICK.

P. S.—If my husband should go down to the Legislature next winter couldn't you get him a place on the Board of Lunacy and Charity? He took a patient over to Taunton once, and the doctor there showed him round, and we have been reading up about *alcoholism*, so he is well up in that part of the subject. As for the charity, there are lots of such cases among the factory people. I hear board is high in Boston, and if you could get him into such a place it would be a great help. I hope you will be sure and keep your promise and not let anybody else write anything more.

B. J. B.

ADVERTISING CHAMPAGNE.

Boston, December 26, 1887.

MR. EDITOR,—I have received a few circular letters containing letters of endorsement from the chairmen of committees and officers of the International Medical Con-

gress at Washington, and I presume that other physicians may have had similar advertisements. The least that can be said about these endorsements is the want of dignity in lending apparent support to this means of advertising commercial firms. Though the enclosed refers to a brand of champagne, I have received other circulars of the same character and endorsements of medicinal trade compounds.

I hope that other physicians will forward these advertisements to the medical journals, that we may know our professional colleagues who appear in this public capacity.

Yours respectfully,
MODESTAS.

MATERNAL IMPRESSIONS ON THE FŒTUS IN UTERO.

Newport, R. I., December 16, 1887.

MR. EDITOR,—A few days since I attended Mrs. C., a robust Swedish woman during an easy and natural labor. Before leaving the house I examined the child, and found that it seemed to be totally blind. As a matter of curiosity, I inquired of one of their intimate friends if any thing had happened to bring this about, and learned that they had another girl about four years old who had remarkably beautiful eyes and of whom the mother was exceedingly proud, and during her pregnancy she would frequently in private and before visitors cause the child to close her eyes, and then tell her she had no eyes, they were gone, remarking also what a sad case that would be.

I remember her also asking at once after the birth of her child about the condition of the eyes, if they were perfect, etc. Very truly yours, T. A. KENEFICK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 17, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	677	249	21.17	19.05	2.40	10.80	3.75
Philadelphia	993,801	388	118	8.58	13.78	1.04	4.42	.52
Brooklyn	745,108	320	116	20.15	18.91	.93	13.64	3.14
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	141	49	18.43	8.51	—	7.79	—
Boston	400,000	208	52	12.96	12.48	1.92	4.80	2.40
New Orleans	242,750	126	44	22.12	9.48	—	8.69	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	69	27	18.85	7.25	4.35	4.35	—
Pittsburgh	210,000	82	27	30.50	12.20	—	3.60	1.22
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	53	22	17.01	11.34	—	5.67	3.78
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	15	4	26.66	6.66	6.66	13.33	—
Charleston	60,145	37	14	10.80	10.80	2.70	5.40	—
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	16	10	25.00	25.00	—	25.00	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	5	3.85	7.70	—	—	—
Fall River	56,863	20	9	20.00	5.00	5.00	10.00	—
Lynn	45,861	9	3	—	—	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	9	2	11.11	22.22	11.11	—	—
New Bedford	33,393	9	3	33.33	—	—	33.33	—
Somerville	29,992	17	2	23.52	17.64	—	11.76	11.76
Salem	28,084	10	3	—	20.00	—	—	—
Holyoke	27,894	4	0	—	—	—	—	—
Chelsea	25,709	7	1	14.28	14.28	—	—	14.28
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	11	2	18.18	9.09	—	18.18	—
Gloucester	21,713	4	0	50.00	—	—	25.00	—
Brockton	20,783	12	3	16.66	24.00	—	8.33	—
Newton	19,759	9	1	22.22	—	—	22.22	—
Malden	16,407	7	2	28.56	14.28	—	14.28	14.28
Fitchburg	15,375	7	2	14.28	—	—	14.28	—
Waltham	14,609	9	2	22.22	11.11	—	22.22	—
Newburyport	13,716	6	1	—	—	—	—	—
Northampton	12,896	8	—	—	37.50	—	—	—

Deaths reported 2,316; under five years of age 773; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 407, acute lung diseases 338, consumption 311, diphtheria and croup, 201, scarlet fever 48, diarrhoeal diseases 47, typhoid fever 43, malarial fever 21, measles 14, whooping-cough 10, erysipelas 10, puerperal fever seven, cerebro-spinal meningitis six. From malarial fever, New York and Brooklyn seven each, New Orleans five, Baltimore and Nashville one each. From typhoid fever, Pittsburgh seventeen, Philadelphia, and Baltimore six each, New York four, Boston and District of Columbia three each, Nashville two, Brooklyn and Charleston one each. From measles, New York six, Baltimore four, District of Columbia and Milwaukee two each. From erysipelas New York five, Boston three, Baltimore two. From whooping-cough, New York, Philadelphia and District of Columbia two each, Boston and Milwaukee one each. From puerperal fever, Milwaukee two, New York, Philadelphia, Boston, Cambridge and Gloucester one each. From cerebro-spinal meningitis, New York three, Philadelphia, Milwaukee and Fall River one each.

In the 21 cities and greater towns of Massachusetts, with an estimated population of 1,012,974, the total death-rate for the week was 21.14 against 21.50 and 22.08 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending December 3d, the death-rate was 22.2. Deaths reported 3,978: infants under one year of age 885; scarlet fever 108, whooping-cough 96, fever 59, diphtheria 48, measles 69, diarrhoea 37, small-pox (Sheffield 25, Bristol one) 26.

The death-rates ranged from 15.5 in Brighton to 35.6 in Newcastle-on-Tyne; Birmingham 21.1; Blackburn 30.4; Halifax 23.1; Hull 16.2; Leeds 20.0; Liverpool 22.5; London 21.1; Manchester 26.3; Nottingham 24.4; Sheffield 29.2; Sunderland 17.3.

In Edinburgh —; Glasgow —; Dublin 35.0.

The meteorological record for the week ending December 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, Dec. 17, 1887.																				
Sunday, ... 11	29.90	56.0	59.0	44.0	100.0	94.0	100.0	98.0	S.	S.	S.E.	11	6	1	R.	O.	G	14	.42	
Monday, ... 12	29.81	46.0	58.0	37.0	96.0	69.0	75.0	80.0	N.W.	W.	W.	8	14	14	O.	O.	C.	4	.12	
Tuesday, ... 13	30.17	37.0	58.0	32.0	72.0	54.0	77.0	68.0	W.	W.	W.	16	14	10	C.	C.	C.			
Wednes, ... 14	30.27	37.0	44.0	24.0	80.0	65.0	82.0	76.0	W.	S.E.	S.E.	6	5	6	C.	C.	C.			
Thursday, 15	29.85	39.0	46.0	32.0	92.0	100.0	100.0	97.0	W.	N.E.	N.	4	5	12	O.	R.	R.	24	.57	
Friday, ... 16	29.97	34.0	37.0	27.0	65.0	54.0	77.0	66.0	N.W.	N.W.	N.W.	30	36	14	O.	C.	C.			
Saturday, 17	29.64	35.0	41.0	26.0	56.0	39.0	56.0	50.0	N.W.	W.	S.E.	8	5	3	C.	O.	O.			
Mean, the Week.	29.944	40.6	49.0	32.0				76.4										42	1.11	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 17, 1887, TO DECEMBER 23, 1887.

BLART, VICTOR, captain and assistant surgeon. Relieved from further duty in the Department of Dakota. S. O. 293, A. G. O., December 17, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Ordered from Fort McIntosh to Camp Pina Colorado, Texas.

CLENDENIN, PAUL, first lieutenant and assistant surgeon. Ordered from Camp Pena Colorado, Texas, to Fort McIntosh, Texas. S. O. 143, Department of Texas. December 12, 1887.

SWIFT, EUGENE L., first lieutenant and assistant surgeon. Ordered for duty at Fort Spokan, Washington Territory. S. O. 293, A. G. O., December 17, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING DECEMBER 19, 1887.

MURRAY, R. D., surgeon. Granted leave of absence for fourteen days. December 8, 1887.

GASSAWAY, J. M., surgeon. Granted leave of absence for fifteen days, to take effect when relieved. December 17, 1887.

IRVIN, FAIRFAX, surgeon. Relieved from duty as Acting Chief Clerk, Office Supervising Surgeon General, and to await orders.

BROOKS, S. D., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved. December 15, 1887.

MCINTOSH, W. P., assistant surgeon. To proceed to Wilmington, N. C., for temporary duty. December 13, 1887.

MAGRUDER, G. M., assistant surgeon. Granted leave of absence for twenty-one days. December 19, 1887.

CARRINGTON, P. M., assistant surgeon. Ordered to examination for promotion. December 14, 1887.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, January 2, 1888. Dr. C. M.

Jones will present reports of a series of cases of empyema, treated by aspiration only.

CHARLES P. STRONG, M.D., Secretary.

THE HISTORY OF MEDICINE, LOWELL INSTITUTE LECTURES.

J. S. Billings, M.D., LL.D., (Harvard), of Washington, has commenced this week the delivery of a course of eight lectures on the History of Medicine, under the auspices of the Lowell Institute. The lectures will be given at Huntington Hall, Institute of Technology, Boylston Street, Boston, on Tuesdays and Wednesdays at 7.45 P. M.

BOOKS AND PAMPHLETS RECEIVED.

Some Observations on Headaches in Children and Their Relation to Mental Training. By William Henry Day, M.D., Member of the Royal College of Physicians of London. Physician to the Samaritan Hospital for Women and Children. London: J. & A. Churchill. 1887.

Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the fiscal year 1887.

Aerztlicher Bericht über die Thätigkeit des Carlsbader Fremdenhospitals in der Saison 1887. Erstattet vom Director der Anstalt Dr. August Herrmann.

A Manual of Medical Jurisprudence with Special Reference to Disease and Injuries of the Nervous System. By Allan MacLanc Hamilton, M.D., one of the Consulting Physicians to the Insane Asylums of New York City. With illustrations. New York: E. B. Treat. 1887.

Health Lessons; A Primary Book. By Jerome Walker, M.D., Lecturer on Hygiene at the Long Island College Hospital. New York: D. Appleton & Co. 1887.

Massage and its Applications. A Concluding Lecture delivered to Nurses and Masseuses. By Herbert Tibbits, M.D. London: J. & A. Churchill. 1887.

The Practice of Medicine and Surgery, Applied to the Diseases and Accidents Incident to Women. By W. H. Byford, M.D., A.M., and Henry T. Byford, M.D. Fourth edition. Revised, rewritten and very much enlarged, with three hundred and six illustrations. Philadelphia: P. Blakiston, Son & Co.

Six Hundred Medical Don'ts; or The Physician's Utility Enhanced. By Ferd. C. Valentine, M.D., etc. New York: G. W. Dillingham. 1887.





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